Jackson Town Council Regular Meeting

May 18, 2020
6:00 PM
Town Council Chambers

NOTICE: THE VIDEO AND AUDIO FOR THIS MEETING ARE STREAMED TO THE PUBLIC VIA THE INTERNET AND MOBILE DEVICES WITH VIEWS THAT ENCOMPASS ALL AREAS, PARTICIPANTS AND AUDIENCE MEMBERS. PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

I. WEBEX LINK FOR PUBLIC PARTICIPATION

Meeting ID: **967 499 042** Password: **toj** To join, click on the link or copy it to your browser:
https://townofjacksonwy.webex.com/townofjacksonwy/onstage/g.php?MTID=efd6afe3fc8c4d23f2cf4f365960586ff

If the link does not work, join through webex.com with the meeting ID and password provided above.

II. OPENING

A. Call to Order and Roll Call

B. Pledge of Allegiance

C. Announcements/Proclamations

III. PUBLIC COMMENT

This section is reserved for questions and comments from the public on items that are not otherwise included in this agenda. As a general practice, the Council will not hold discussion or debate these items. Nor will they make any decisions on items presented during this time but rather refer items to staff for follow-up. If you would like to communicate with the Council during the meeting, please address them during open public comment, when public comment is called for on a specific item, or send an email to *Council@jacksonwy.gov*.

IV. CONSENT CALENDAR

All matters listed in this section are considered to be of routine nature by the governing body and will be enacted in one motion, unless it is removed from the consent calendar and considered separately by Council. Public comment may be given on any item.

A. Meeting Minutes:
   1. May 4, 2020 special workshop
   2. May 4, 2020 regular meeting
   3. May 11, 2020 special workshop
   4. May 13, 2020 special workshop

B. Disbursements

C. Municipal Court Report for April 2020

D. Special Event Application for People's Market

E. Special Event Application for Touch A Truck

F. Temporary Sign Permit: JH Classical Academy (P20-084)

G. Memorandum of Understanding for Law Enforcement Services at the Airport

H. Encroachment Agreement at 174 N King for Canopies (P20-048)

V. PUBLIC HEARINGS, DISCUSSION AND/OR POSSIBLE ACTION ITEMS

A. Administration

   1. Jackson Hole Airport Board Budget

Please note that at any point during the meeting, the Mayor and Council may change the order of items listed on this agenda. In order to ensure that you are present at the time your item of interest is discussed, please join the meeting at the beginning to hear any changes to the schedule or agenda.

B. Housing

1. RFQ Award for Low-Income Multifamily Housing Developer (April Norton)

C. Planning

1. **Item P19-262, P20-069 & -070**: Amendment to Final Development Plan for Pine Glades PUD. *This item will be continued to June 1*.
2. **Item P20-009 & 010**: Development Plan and Hillside Conditional Use Permit for Bluffs Development at 984 Budge Drive. *This item will be continued to June 1.*
3. **Item P19-242**: Conditional Use Permit for Snow King Gondola, Zip Line, and Snow Making Pump House. *This item will be continued to June 1*.

VI. RESOLUTIONS

A. **Resolution 20-13**: A Resolution Adopting the Wyoming Region 8 Hazard Mitigation Plan (Rich Ochs)

B. **Resolution 20-14**: A Resolution Revoking the Delegation of Authority for COVID-19 Response Resolution #20-04

VII. ORDINANCES

A. **Ordinance P**: An Ordinance Amending the Jackson Municipal Code regarding Compensation for Mayor and Council (Presented for 3rd Reading and designated Ordinance 1252)

B. **Ordinance Q**: An Ordinance Prohibiting the Sale of Flavored Tobacco Products (Presented for 1st Reading)

C. **Ordinance R**: An Ordinance Amending Jackson Municipal Code regarding Prohibiting Smoking in Public Buildings (Presented for 2nd Reading)

D. **Ordinance S**: An Ordinance Adopting the 2020 National Electrical Code (Presented for 2nd Reading)

VIII. MATTERS FROM MAYOR AND COUNCIL

A. Board and Commission Reports

IX. MATTERS FROM THE TOWN MANAGER

A. Town Manager's Report

X. ADJOURN

Don't forget to complete the 2020 Census! Visit My2020Census.gov today.

Please note that at any point during the meeting, the Mayor and Council may change the order of items listed on this agenda. In order to ensure that you are present at the time your item of interest is discussed, please join the meeting at the beginning to hear any changes to the schedule or agenda.

TOWN COUNCIL PROCEEDINGS - UNAPPROVED

MAY 4, 2020 **JACKSON, WYOMING**

The Jackson Town Council met in special workshop session in the Council Chambers of the Town Hall at 150 East Pearl at 10:01 A.M. Upon roll call the following were found to be present:

TOWN COUNCIL: *In-person*: Mayor Pete Muldoon. *via Webex*: Vice-Mayor Hailey Morton Levinson, Jim Stanford, Jonathan Schechter, and Arne Jorgensen.

STAFF: Larry Pardee, Tyler Sinclair, Roxanne Robinson, Kelly Thompson, Zolo, Johnny Ziem, and Sandy Birdyshaw.

Town of Jackson Budget. Larry Pardee and Tyler Sinclair made introductory comments. The Council held discussion on a projected 50% decrease in revenue. Pardee and Sinclair commented on the Reserve Fund. Discussion was held on using reserves to supplement the budget and how that would affect the future. Pardee and Sinclair commented on reductions and options for the Council to consider. Discussion was held on how to move forward with the budget review.

Adjourn. A motion was made by Jonathan Schechter and seconded by Hailey Morton Levinson to adjourn. The vote showed all in favor and the motion carried. The meeting adjourned at 11:35 A.M. minutes:spb

TOWN OF JACKSON

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ATTEST: Pete Muldoon, Mayor

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Sandra P. Birdyshaw, Town Clerk

Published JH News & Guide: May 13, 2020

TOWN COUNCIL PROCEEDINGS - UNAPPROVED

MAY 4, 2020 **JACKSON, WYOMING**

The Jackson Town Council met in regular session in the Council Chambers of the Town Hall located at 150 East Pearl at 6:02 P.M. Upon roll call the following were found to be present:

TOWN COUNCIL: *In-person*: Mayor Pete Muldoon and Jim Stanford. *via Webex*: Vice-Mayor Hailey Morton Levinson, Arne Jorgensen, and Jonathan Schechter.

STAFF: Larry Pardee, Roxanne Robinson, Lea Colasuonno, Zolo, Paul Anthony, Michelle Weber, Johnny Ziem, and Sandy Birdyshaw.

Public Comment. Carl Pelletier made staff comment. Susan Durfee of Central Wyoming College made comment and requested reserving parking spaces for graduation from 2:00pm to 6:00pm on Friday.

A motion was made by Hailey Morton Levinson and seconded by Jim Stanford to approve the request from Central Wyoming College for twelve reserved parking spaces in the upper lot at Center for the Arts for their graduation on Friday, May 8. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Consent Calendar. A motion was made by Jim Stanford and seconded by Jonathan Schechter to approve the consent calendar including items A-E as presented with the following motions. There was no public comment on the Consent Calendar.

A. **Meeting Minutes**. To approve the meeting minutes as presented for the April 20, 2020 workshop and regular meeting.

B. **Disbursements.** To approve the disbursements as presented. 842-NCPERS Group Wyoming $112.00; Ace Hardware $1,051.71; Aflac $2,831.24; Amazon Capital Services $339.98; AT&T $1,321.84; C & A Professional Cleaning Serv LLC $75.00; Carquest Auto Parts Inc. $276.97; Caselle Inc. $1,725.00; Center Of Wonder $4,120.00; Centurylink $1,955.77; Climb Wyoming $1,250.00; Control System Technology, Inc. $57,434.50; Delcon Inc $3,564.58; Delta Dental Plan Of Wyoming $592.80; Exposure Signs Inc $2,196.00; HD Fowler Company $972.78; High Country Linen $465.13; Idaho State Tax Commission $3,578.00; Intellichoice, Inc $11,970.00; Jackson Hole Children's Museum $3,750.00; Jackson Hole Community Counsel $25,000.00; Jackson Hole Community Housing $6,250.00; Jackson Hole Historical Society $4,187.50; Jackson Hole Law, Pc $1,500.00; Jackson Hole News & Guide $1,260.86; Jackson Lumber Inc $11.20; Lincoln National Life $7,013.53; Local Gov't Liability Pool $1,000.00; Lower Valley Energy Inc $54.41; LSC Transportation Consultants $2,018.75; Miller Sanitation $455.00; Napa Auto Parts Inc. $116.60; Saltworks LLC $1,260.00; Senior Center Of Jackson Hole $48,285.00; Simon, Jennifer $1,500.00; Snake River Roasting $48.95; State Of Wyoming $342.59; Stinky Prints, Inc $95.20; Sublette County Sheriff's Office $5,610.00; Teton County Clerk $26,686.02; Teton County Historic $9,096.25; Teton Literacy Center $11,400.00; Teton Youth & Family Services $132,000.00; Valley Office Systems $98.00; Visa $21,050.95; Vision Service Plan - (Wy) $1,687.89; WPOA Secretary-Treasurer $340.00; Wy Child Support Enforcement $146.76; Wy Workers' Safety & Comp $7,901.30; Wyoming Department Of Employm $9,572.65; Wyoming Department Of Transpo $25,940.00; Wyoming Retirement System $105,451.71.

C. **Second Amendment to Lease Agreement with Vertical Harvest.** To direct town staff to finalize the Second Amendment to Commercial Lease Agreement with Vertical Harvest as presented, subject to any minor modifications necessitated by the Town Attorney and authorize the Mayor to execute that amendment.

D. **Contract Extension with Winter & Company.** To direct staff to amend the existing professional services contract for Winter & Company for the District 1 Town Square/Historic Preservation LDR update to extend the contract expiration date from June 1, 2020, to June 30, 2020.

E. **Wastewater Connection and Use Agreement with Mountain View Baptist Church (P19-209)**. To approve the Connection and Use Agreement, including any minor edits approved by the Town Attorney and Town Engineer, between Mountain View Independent Baptist Church and the Town of Jackson for connection to the Town's wastewater collection / treatment systems and authorize the Mayor to sign the agreement.

Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

May 2020 Events - Jackson Hole Rodeo. Roxanne Robinson and Lea Colasuonno made staff comment.

A motion was made by Hailey Morton Levinson and seconded by Jim Stanford to cancel the May 2020 rodeo dates and reinstate June 27, 2020 as a rodeo date in lieu of September 4, 2020. Hailey Morton Levinson withdrew her motion.

A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to reinstate June 27, 2020 as a rodeo date in lieu of September 4, 2020. Mayor Muldoon called for the vote. The vote showed 4-1 in favor with Stanford opposed and the motion carried.

Consideration of June 2020 Special Events. Carl Pelletier made staff comment.

A motion was made by Jim Stanford and seconded by Hailey Morton Levinson to direct the Town Manager to revoke the special event permits, and any associated permits, for Touch-A-Truck on June 7, 2020 and all Jackson Hole Live Concerts scheduled for June of 2020 because these special events, in light of COVID-19 and Statewide Public Health Order No. 2 present a clear and present danger to the participants and the public. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Downtown Parking Summer Implementation (P20-080). Paul Anthony and Johnny Ziem made staff comment.

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to continue this item to the May 18 workshop. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Item P20-063: Boundary Adjustment without Plat at 640 S Glenwood St for Base Camp. Tyler Valentine made staff comment.

Pursuant to the standards in Section 8.2.13.C.5. Partial Vacation Without Replat, a motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to approve the Partial Vacation Without Replat to vacate the lots line between Lots 4, 5, 6, and 7 and combine the lots into one lot (Lot 7a) in the Karns Second Addition to the Town of Jackson, subject to the Land Development Regulations and this staff report dated May 4, 2020, and the following condition of approval:

1. The applicant shall address the comments from the County Clerk's office within 30 days of approval of this Partial Vacation Without Replat application.

Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Item P19-262, P20-069 & -070: Amendment to Final Development Plan for Pine Glades PUD. A motion was made by Jonathan Schechter and seconded by Hailey Morton Levinson to continue these items to the regularly scheduled Town Council meeting on May 18, 2020. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Item P20-009 & 010: Development Plan and Hillside Conditional Use Permit for Bluffs Development at 984 Budge Drive. A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to continue these items to the Town Council meeting scheduled for May 18, 2020. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Item P20-035 & -036: Development Plan and Hillside Conditional Use Permit at 808 Upper Redmond. A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to continue the items to the next scheduled Town Council meeting on June 1, 2020. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Resolution 20-08: A Resolution Authorizing the Submission of an Application to the Community Foundation of Jackson Hole's Old Bill's Fun Run 2020 from Jackson-Teton County Animal Shelter.

Resolution 20-09: A Resolution Authorizing the Submission of an Application to the Community Foundation of Jackson Hole's Old Bill's Fun Run 2020 from START.

Resolution 20-10: A Resolution Authorizing the Submission of an Application to the Community Foundation of Jackson Hole's Old Bill's Fun Run 2020 from Victim Services.

A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to approve Resolutions 20-08, 20-09, and 20-10 authorizing the Jackson-Teton County Animal Shelter, START, and Jackson-Teton County Victim Services to apply to The Community Foundation of Jackson Hole's Old Bill's Fun Run 2020. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Ordinances. A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to read ordinances in the short title. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Ordinance O: An Ordinance Amending the Official Zoning District Map for 66 acres from Planned Resort-Snow King to Planned Unit Development-Planned Resort.

AN ORDINANCE AMENDING AND REENACTING SECTION 2 OF TOWN OF JACKSON ORDINANCE NO. 1074 (PART) AND AMENDING THE TOWN OF JACKSON OFFICIAL ZONING DISTRICT MAP TO CHANGE THE CURRENT ZONING DESIGNATION OF ALL PROPERTIES WITHIN 66 ACRES OF LAND CURRENTLY ZONED PLANNED RESORT – SNOW KING TO PLANNED UNIT DEVELOPMENT – PLANNED RESORT (P19-201) (PUD-PR (P19-201)); AND ESTABLISHING AN EFFECTIVE DATE. BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT:

Public comment was given by Patrice Kangas, Clare Stumpf, and David Navratil. Lea Colasuonno and Tyler Sinclair made staff comment.

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to approve Ordinance O on third reading and designate it Ordinance 1251. Mayor Muldoon called for the vote. The vote showed 4-1 in favor with Stanford opposed. The motion carried.

Ordinance P: An Ordinance Amending the Jackson Municipal Code regarding Compensation for Mayor and Council.

AN ORDINANCE AMENDING AND REENACTING SECTION 1 OF TOWN OF JACKSON ORDINANCE NOS. 787, 717, 326, AND 226 AND SECTIONS 1-3 OF TOWN OF JACKSON ORDINANCE NO. 1 AND SECTION 2.08.010 OF THE MUNICIPAL CODE OF THE TOWN OF JACKSON REGARDING COMPENSATION FOR MAYOR AND COUNCILMEN; AND PROVIDING FOR AN EFFECTIVE DATE. NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT:

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to approve Ordinance P on second reading. Mayor Muldoon called for the vote. The vote showed 4-1 in favor with Schechter opposed. The motion carried.

Ordinance Q: An Ordinance Adding Chapter 8.35 to the Jackson Municipal Code Prohibiting the Sale of Flavored Tobacco Products.

AN ORDINANCE ADDING CHAPTER 8.35 TO THE MUNICIPAL CODE OF THE TOWN OF JACKSON PROHIBITING THE SALE OF FLAVORED TOBACCO PRODUCTS AND PROVIDING FOR AN EFFECTIVE DATE. NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT:

Public comment was given by Jason Mincer with the American Cancer Society, Mike Mores with American Heart Association, Beverly Shore with Community Prevention Coalition, Tim Tibbles, and Skyler May. Roxanne Robinson and Lea Colasuonno made staff comment.

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to continue Ordinance Q to the next regular meeting and requested legal to work with representatives of the American Heart Association and American Cancer Society. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Ordinance R: An Ordinance Amending Jackson Municipal Code regarding Prohibiting Smoking in Public Buildings.

AN ORDINANCE AMENDING AND REENACTING SECTION 1 OF ORDINANCE NO. 461 (PART), AND CHAPTER 8.34 TO THE MUNICIPAL CODE OF THE TOWN OF JACKSON PROHIBITING SMOKING AND E-CIGARETTE USAGE IN PUBLIC BUILDINGS AND PROVIDING FOR AN

EFFECTIVE DATE. NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT:

Roxanne Robinson made staff comment.

A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to approve Ordinance R on first reading with the revision of adding the Airport to the Public Facility definition. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Ordinance S: An Ordinance Adopting the 2020 National Electrical Code.

AN ORDINANCE AMENDING AND REENACTING SECTION 2 OF TOWN OF JACKSON ORDINANCE NO. 313, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 325, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 413, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 633, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 706, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 803, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 886, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 899, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 990, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1057, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1101, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1171 AND SECTION 15.20.010 OF THE MUNICIPAL CODE OF THE TOWN OF JACKSON BY CHANGING THE VERSION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY REFERENCE FROM THE 2017 EDITION TO THE 2020 EDITION, WITH CERTAIN AMENDMENTS AND FOR ALLOWING ELECTRICAL PERMIT FEES TO BE SET BY RESOLUTION OF THE TOWN COUNCIL; AND PROVIDING FOR AN EFFECTIVE DATE. BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED, THAT:

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to approve Ordinance S on first reading. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Matters from Mayor and Council. Restaurant Outdoor Seating Discussion. Pete Muldoon made comment. A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to direct staff to work with the Economic Recovery Taskforce to study the feasibility of expanding retail and/or restaurant operations and bring back a wide range of potentials to the May 18 workshop. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Jim Stanford commented on excessive tree cutting in Snow King Estates and an update from the Board of Health meeting. Jonathan Schechter commented on the BUILD grant support letter. The Council asked staff to bring back an update on the Snow King Estates lot.

Pete Muldoon made comment on the 2020 Census. Pete Muldoon proposed a Resolution that would adopt rental housing guidelines during the COVID-19 Pandemic.

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to approve Resolution 20-12 as presented.

RESOLUTION 20-12: A Resolution Adopting Rental Housing Guidelines During COVID-19 Pandemic

WHEREAS, the Jackson Town Council desires that all residents have safe and secure housing and the livability and viability of Jackson is directly affected by our ability to house all our residents in safe, reliable housing; and

WHEREAS, housing matters. It is an essential aspect of our lives and society. A safe, secure and affordable living environment serves as a contributing factor for a high quality of life; and

WHEREAS, being late or behind on rent is strongly associated with an elevated risk of food insecurity, poor physical health, mental health issues, and educational delays in children; and

WHEREAS, the private and public sectors play an integral role in establishing rental housing throughout our community; and

WHEREAS, we recognize that we are living in extraordinary times, where our town and every community across the country is dealing with the effects of the COVID-19 pandemic including job losses, lower wages, uncertainty, and health and mental issues; and

WHEREAS, we acknowledge that renters and landlords alike share a common value in safe housing and a strong community; and

WHEREAS, we the Jackson Town Council acknowledge the struggles on both sides, that not every situation is the same, and hope that working together on rent payments – forgiving rents or portions of rents, where applicable – we will be able to continue to move forward as a strong, united community; and

WHEREAS, nonprofits throughout our community including One 22, Community Foundation of Jackson Hole, and more are working diligently to establish solutions to rental payments for our citizens throughout our community; and

WHEREAS, rent payments are a significant monthly expense for our working individuals and families; and

WHEREAS fostering a strong, united community is vital for Jackson to successfully emerge from our current economic crisis; and

WHEREAS, we acknowledge and salute the fact that many of our citizens across this community have already forgiven portions or totality of rents, recognizing that safe, secure housing is fundamental to a person or families' well-being and the community's well-being; and

NOW, THEREFORE, BE IT RESOLVED that the Jackson Town Council do herby adopt a resolution actively encouraging that all landlords work with tenants, nonprofits, and individuals throughout our community to ensure that housing remains a safe respite during these troubled times.

PASSED, APPROVED, AND ADOPTED this 4th day of May 2020.

Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Town Manager's Report. A motion was made by Arne Jorgensen and seconded by Hailey Morton Levinson to accept the Town Manager's Report into the record. The Town Manager's Report contained an update on the schedule of budget workshops. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Adjourn. A motion was made by Hailey Morton Levinson and seconded by Jim Stanford to adjourn the meeting. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried. The meeting adjourned at 7:55 p.m. minutes:spb

TOWN OF JACKSON

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Pete Muldoon, Mayor

ATTEST:

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Sandra P. Birdyshaw, Town Clerk

Publish JH News & Guide: May 13, 2020

TOWN COUNCIL PROCEEDINGS - UNAPPROVED

MAY 11, 2020 **JACKSON, WYOMING**

The Jackson Town Council met in special workshop session in the Council Chambers of the Town Hall at 150 East Pearl at 9:04 A.M. Upon roll call the following were found to be present:

TOWN COUNCIL: *In-person*: Mayor Pete Muldoon. *via Webex*: Vice-Mayor Hailey Morton Levinson, Jim Stanford, Jonathan Schechter, and Arne Jorgensen.

STAFF: Larry Pardee, Tyler Sinclair, Roxanne Robinson, Kelly Thompson, Zolo, Lea Colasuonno, April Norton, Johnny Ziem, and Sandy Birdyshaw.

Housing Trust 174 N. King Street Fee Pledge and Letter of Sufficiency. April Norton and Lea Colasuonno made staff comment. Anne Cresswell made comment on behalf of the Housing Trust.

A motion was made by Hailey Morton Levinson and seconded by Arne Jorgensen to approve the Fee Pledge and Lender's Letter of Sufficient Funding for the 174 N. King Street workforce housing partnership with the Jackson Hole Community Housing Trust, subject to the Town Attorney's approval of the final construction loan documents for the project. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Town of Jackson Budget. Larry Pardee and Tyler Sinclair made comment on options to consider, revenue projection options, reserve fund direction, joint department review, reductions, and additions. Staff comments were made by Kelly Thompson, Darren Brugmann, Floren Poliseo, and Johnny Ziem.

A motion was made by Jonathan Schechter and seconded by Hailey Morton Levinson to continue this to May 13 at 11:00am or another date. Mayor Muldoon called for the vote. The vote showed all in favor and the motion carried.

Adjourn. A motion was made by Hailey Morton Levinson and seconded by Jonathan Schechter to adjourn. The vote showed all in favor and the motion carried. The meeting adjourned at 12-Noon. minutes:spb

TOWN OF JACKSON

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ATTEST: Pete Muldoon, Mayor

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Sandra P. Birdyshaw, Town Clerk

Published JH News & Guide: May 20, 2020

TOWN COUNCIL PROCEEDINGS - UNAPPROVED

MAY 13, 2020 **JACKSON, WYOMING**

The Jackson Town Council met in special workshop session in the Council Chambers of the Town Hall at 150 East Pearl at 11:03 A.M. Upon roll call the following were found to be present:

TOWN COUNCIL: *via Webex*: Mayor Pete Muldoon, Vice-Mayor Hailey Morton Levinson, Jim Stanford, Jonathan Schechter, and Arne Jorgensen.

STAFF: Larry Pardee, Tyler Sinclair, Kelly Thompson, Roxanne Robinson, Zolo, Johnny Ziem, Todd Smith, Floren Poliseo, and Sandy Birdyshaw.

Town of Jackson Budget. Larry Pardee and Tyler Sinclair made comment on the budget direction given to date. Discussion turned to program adjustments.

Adjourn. A motion was made by Jim Stanford and seconded by Hailey Morton Levinson to adjourn. The vote showed all in favor and the motion carried. The meeting adjourned at 12:45 p.m. minutes:spb

TOWN OF JACKSON

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ATTEST: Pete Muldoon, Mayor

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Sandra P. Birdyshaw, Town Clerk

Published JH News & Guide: May 20, 2020

Report Criteria:
Detail report.
Invoices with totals above $0 included.
Paid and unpaid invoices included.

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
51	ACE HARDWARE	693586	pPE EQUIPMENT	04/08/2020	28.97	.00	
51	ACE HARDWARE	693594	pPE EQUIPMENT	04/08/2020	63.94	.00	
51	ACE HARDWARE	694722	This was for the historical sign inst	04/20/2020	47.94	.00	
51	ACE HARDWARE	694944	CREDIT	04/22/2020	15.98-	.00	
51	ACE HARDWARE	695005	penetrating lubricant for 174 King	04/22/2020	2.99	.00	
51	ACE HARDWARE	696775	Aqua Phalt product, specialized fo	05/06/2020	805.50	.00	
51	ACE HARDWARE	696776	To purchase PL400 adhesive, 12 t	05/06/2020	64.68	.00	
51	ACE HARDWARE	697008	painters taps, driver bit, spray pai	05/08/2020	36.83	.00	
51	ACE HARDWARE	697275	First, this is for the Water Division	05/11/2020	643.21	.00	
Total 51:					1,678.08	.00	
4730	ADVANCED PUMP & EQUIPME	10021	Pay app #2 for lift station project.	04/29/2020	47,452.46	.00	
Total 4730:					47,452.46	.00	
6664	ANGELIDIS, KONSTANTINOS	050620	BAIL REFUND CASE 20-02-0022	05/06/2020	1,740.00	1,740.00	05/06/2020
Total 6664:					1,740.00	1,740.00	
383	ANTLER MOTEL, INC.	050120	Employee Housing Amy Vieira	05/01/2020	1,600.00	.00	
383	ANTLER MOTEL, INC.	050120	Employee Housing - Kiah Aditi	05/01/2020	1,600.00	.00	
Total 383:					3,200.00	.00	
5619	ART ASSOCIATION	051220	REFUND EXPO PERMIT FOR JU	05/12/2020	600.00	.00	
Total 5619:					600.00	.00	
1783	AT&T	287279795460	Monthly AT&T Firstnet bill for acc	04/19/2020	251.88	.00	
Total 1783:					251.88	.00	
4920	BEST BEST & KRIEGER	873034	Franchise Renewal	03/24/2020	598.50	.00	
4920	BEST BEST & KRIEGER	873202	Wireless	04/02/2020	109.50	.00	
Total 4920:					708.00	.00	
3500	BISON LUMBER	2005-727658	This is for the water division, not listed in departments. This line ite	05/05/2020	1,060.80	.00	
Total 3500:					1,060.80	.00	
4485	BLISS CARGO	13709	freight charge on sweeper parts	05/03/2020	27.03	.00	
Total 4485:					27.03	.00	
1560	BLUE SPRUCE CLEANERS,INC	05012020	DRY CLEANING	05/01/2020	348.16	.00	
Total 1560:					348.16	.00	
2850	BMV LLC	7223	For shipping water samples, water	05/05/2020	57.63	.00	
2850	BMV LLC	8848	Shipping radios and equipment to	04/28/2020	115.81	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 2850:					173.44	.00	
6652	BROOKS, ANGELA	043020	RESTITUTION PAYMENT	04/30/2020	200.00	200.00	05/04/2020
Total 6652:					200.00	200.00	
4473	BROWER PSYCHOLOGICAL SE	2105	Psychological Exam for police can	04/29/2020	325.00	.00	
Total 4473:					325.00	.00	
4614	C & A PROFESSIONAL CLEANI	05112020GYM	Town Hall locker room cleaning	05/11/2020	473.20	.00	
4614	C & A PROFESSIONAL CLEANI	05112020PG	Parking Garage cleaning	05/11/2020	297.90	.00	
4614	C & A PROFESSIONAL CLEANI	05112020PW	PW cleaning	05/11/2020	2,079.79	.00	
4614	C & A PROFESSIONAL CLEANI	05112020TH	town hall cleaning	05/11/2020	3,901.56	.00	
Total 4614:					6,752.45	.00	
5	CARQUEST AUTO PARTS INC.	651404	915 simon sink repair	02/12/2020	2.31	.00	
5	CARQUEST AUTO PARTS INC.	663699	throttle control for PD vehicle	05/02/2020	254.51	.00	
Total 5:					256.82	.00	
544	CENTURYLINK	1490280529	Monthly bill for account 75912352	04/19/2020	485.36	.00	
Total 544:					485.36	.00	
5322	CHARGEPOINT, INC	INV73080	Cloud service for all chargepoint c	04/10/2020	11,168.00	.00	
Total 5322:					11,168.00	.00	
5967	CITY OF DRIGGS	BBSTART2020	BUS BARN RENT	05/04/2020	1,906.32	.00	
Total 5967:					1,906.32	.00	
50	CMI - TECO	46439	BREATHER, FRT	12/30/2019	39.53	.00	
Total 50:					39.53	.00	
4887	CONTROL SYSTEM TECHNOLO	9622	Update to Spring Gulch Lift station	04/28/2020	875.00	.00	
4887	CONTROL SYSTEM TECHNOLO	9626	spring gulch SCADA service work	05/05/2020	2,000.00	.00	
4887	CONTROL SYSTEM TECHNOLO	9627	WWTP SCADA service work	05/05/2020	2,000.00	.00	
Total 4887:					4,875.00	.00	
6475	CONVERGEONE, INC	2560542	Monthly bill for cloud backup stora	04/29/2020	6,384.48	.00	
6475	CONVERGEONE, INC	IE9053685	Annual maintenance for Rubrik ba	04/30/2020	19,640.00	.00	
6475	CONVERGEONE, INC	IE9053692	Conference phone system for Cha	04/30/2020	7,337.69	.00	
Total 6475:					33,362.17	.00	
65	DELCON INC	21711	FOR WATER DIVISION. This wa	03/31/2020	928.90	.00	
65	DELCON INC	21711	FOR WATER DIVISION. This wa	03/31/2020	928.90-	.00	
65	DELCON INC	21711	PROJ: WO1589- URGENT/LOSS	03/31/2020	928.90	.00	
65	DELCON INC	21712	PROJ: WO2098- ELECTRICAL-	03/31/2020	1,671.98	.00	
Total 65:					2,600.88	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
148	DELL	10391475693	Replacement laptop for Zolo; his d	05/06/2020	2,671.92	.00	
Total 148:					2,671.92	.00	
708	DELTA DENTAL PLAN OF WYO	04302020	APRIL CLAIMS	04/30/2020	3,875.60	.00	
Total 708:					3,875.60	.00	
2798	DPC INDUSTRIES, INC.	727000066-20	chlorine	04/28/2020	1,731.06	.00	
Total 2798:					1,731.06	.00	
1134	ENERGY LABORATORIES INC.	302552	water sampling, water division	03/18/2020	100.00	.00	
1134	ENERGY LABORATORIES INC.	310234	Wastewater weekly testing	04/28/2020	333.00	.00	
1134	ENERGY LABORATORIES INC.	312173	Water samples for location of new	05/08/2020	380.00	.00	
Total 1134:					813.00	.00	
1634	ENTENMANN-ROVIN CO	0151533-IN	Citizen Mounted badges. This will	05/05/2020	953.20	.00	
Total 1634:					953.20	.00	
81	EVANS CONSTRUCTION INC	204614	Top Soil for fixing plow damage	05/07/2020	254.59	.00	
Total 81:					254.59	.00	
4709	FLEETPRIDE	50480954	PURGE VALVE	04/27/2020	499.48	.00	
4709	FLEETPRIDE	50504733	Turbo clamps for street sweeper	04/27/2020	11.75	.00	
4709	FLEETPRIDE	50528107	AIR DRYER	04/27/2020	590.72	.00	
4709	FLEETPRIDE	50635463	AIR DRYER	04/29/2020	295.36	.00	
4709	FLEETPRIDE	50677730	Four AD9 cartridges for annual D	04/29/2020	233.40	.00	
Total 4709:					1,630.71	.00	
668	FREEDOM MAILING SERVICE I	38175	Utility billing Process for April 202	05/04/2020	895.07	.00	
668	FREEDOM MAILING SERVICE I	38175	Covid Inserts	05/04/2020	55.62	.00	
668	FREEDOM MAILING SERVICE I	38175	Utility Billing PRocess for April 20	05/04/2020	895.07	.00	
Total 668:					1,845.76	.00	
3521	FRIENDS OF PATHWAYS	1192	START BIKE APRIL 2020	05/01/2020	7,816.00	.00	
Total 3521:					7,816.00	.00	
1022	GALLS INC.	015562126	STRYKE PANT	04/28/2020	210.00	.00	
Total 1022:					210.00	.00	
6126	GARMIN USA	DL14935653	Monthly bill for Garmin communic	04/27/2020	64.95	.00	
Total 6126:					64.95	.00	
5968	GARRETT, ROBERT	051120	TRAVEL REIMB - RETURNED L	05/11/2020	31.39	.00	
Total 5968:					31.39	.00	
6464	GEITTMANN LARSON SWIFT LL	9784	Epstein Litigation	04/09/2020	1,430.00	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 6464:					1,430.00	.00	
1165	GRAFIX SHOPPE INC.	133695	K9 Unit Decals above 911 on rear	04/30/2020	40.00	.00	
1165	GRAFIX SHOPPE INC.	133695	Estimated shipping/handling	04/30/2020	30.00	.00	
1165	GRAFIX SHOPPE INC.	133695	Custom Reflective Graphic Kits fo	04/30/2020	950.00	.00	
1165	GRAFIX SHOPPE INC.	133695	Changes on proof: Misc. work to r	04/30/2020	370.00	.00	
Total 1165:					1,390.00	.00	
93	HACH CHEMICAL CO.	11930986	Lab supplies for testing	04/21/2020	425.25	.00	
Total 93:					425.25	.00	
6666	HANDY PLUMBING LLC	213	Winter plumbing service Snow Kin	03/23/2020	1,253.65	.00	
Total 6666:					1,253.65	.00	
3194	HARRINGTON, STEVE	051120	TRAVEL REIMB - RETURN LEAS	05/11/2020	22.69	.00	
Total 3194:					22.69	.00	
4988	HD FOWLER COMPANY	I5441896	FOR WATER DIVISION. Parts fo	04/22/2020	128.00	.00	
4988	HD FOWLER COMPANY	I5441900	FOR WATER DIVISION. 8x6 tap	04/22/2020	745.27	.00	
4988	HD FOWLER COMPANY	I5442966	FOR WATER DIVISION. This is f	04/23/2020	40.00	.00	
Total 4988:					913.27	.00	
96	HIGH COUNTRY LINEN	0187852	Home Ranch operating supplies	04/06/2020	25.31	.00	
96	HIGH COUNTRY LINEN	0189048	Home Ranch operating supplies	04/20/2020	25.31	.00	
96	HIGH COUNTRY LINEN	0189670	Home Ranch operating supplies	04/27/2020	7.50	.00	
96	HIGH COUNTRY LINEN	0190378	Home Ranch operating supplies	05/04/2020	25.31	.00	
96	HIGH COUNTRY LINEN	0190648	Rugs for Animal Shelter	05/06/2020	61.93	.00	
96	HIGH COUNTRY LINEN	P0183422-00	CREDIT TOWN HALL	03/05/2020	191.15-	.00	
96	HIGH COUNTRY LINEN	S0189461	Janitorial supplies for PW	04/24/2020	45.00	.00	
Total 96:					.79-	.00	
6455	HIRST APPLEGATE, LLP	197771	Tastebuds Litigation	05/04/2020	1,818.00	.00	
Total 6455:					1,818.00	.00	
6663	HOFFMAN, MARK	043020	BAIL REFUND CASE 20-03-0391	04/30/2020	1,740.00	1,740.00	05/04/2020
Total 6663:					1,740.00	1,740.00	
503	HUNT CONSTRUCTION INC	9025	crack sealing cottonwood flats	05/04/2020	3,021.00	.00	
Total 503:					3,021.00	.00	
106	INTERSTATE BATTERY	22247367	CREDIT	04/27/2020	105.00-	.00	
106	INTERSTATE BATTERY	22247368	batteries, this will be taken from a	04/27/2020	130.95	.00	
106	INTERSTATE BATTERY	22247444	vehicle batteries to restock suppli	05/04/2020	220.90	.00	
106	INTERSTATE BATTERY	22247512	battery purchase, used from our c	05/11/2020	157.95	.00	
Total 106:					404.80	.00	
5098	JACKSON ANIMAL HOSPITAL	32558	Vet visit x2 (Missy) K9 spay, rabies vaccination	05/12/2020	574.00	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 5098:					574.00	.00	
6474	JACKSON HOLE LAW, PC	1171	LEGAL SERVICES	02/29/2020	1,505.25	.00	
6474	JACKSON HOLE LAW, PC	1193	APRIL MUNI COURT SERVICES	04/30/2020	1,500.00	.00	
Total 6474:					3,005.25	.00	
131	JACKSON HOLE NEWS & GUID	310086	AD#377855 CENSUS AD	04/01/2020	518.84	.00	
131	JACKSON HOLE NEWS & GUID	310087	AD#377577	04/01/2020	216.44	.00	
131	JACKSON HOLE NEWS & GUID	310361	AD#378169	04/15/2020	25.05	.00	
131	JACKSON HOLE NEWS & GUID	310362	AD#378170	04/15/2020	50.10	.00	
131	JACKSON HOLE NEWS & GUID	310441	AD#378401	04/22/2020	37.58	.00	
131	JACKSON HOLE NEWS & GUID	310507	AD#378402	04/22/2020	50.10	.00	
131	JACKSON HOLE NEWS & GUID	310508	AD#378404	04/22/2020	29.23	.00	
131	JACKSON HOLE NEWS & GUID	310509	AD#378405	04/22/2020	29.23	.00	
131	JACKSON HOLE NEWS & GUID	310608	04-20 Regular Meeting Minutes	04/29/2020	847.53	.00	
131	JACKSON HOLE NEWS & GUID	310609	4/20 Workshop Minutes	04/29/2020	79.33	.00	
131	JACKSON HOLE NEWS & GUID	310610	AD#378047 JOINT COUNTY AD	04/29/2020	101.85	.00	
131	JACKSON HOLE NEWS & GUID	310686	AD#377858 CENSUS AD	04/30/2020	1,792.84	.00	
131	JACKSON HOLE NEWS & GUID	310687	water quality advertising AD#3775	04/30/2020	652.40	.00	
131	JACKSON HOLE NEWS & GUID	310996	AD#378047 JOINT COUNTY AD	05/06/2020	101.85	.00	
Total 131:					4,532.37	.00	
114	JACKSON LUMBER INC	00542702-001	construction materials for PW cha	04/02/2020	105.05	.00	
114	JACKSON LUMBER INC	00542716-001	materials for PW charging shed fo	04/16/2020	173.20	.00	
114	JACKSON LUMBER INC	00548037-001	Fein E-cut blades for Parking Gar	04/22/2020	41.99	.00	
Total 114:					320.24	.00	
239	JH20 WATER CONDITIONING &	I200428291	Purified water for lab testing at tre	04/28/2020	73.00	.00	
Total 239:					73.00	.00	
139	JORGENSEN ASSOCIATES, PC	44297	North King Streetscape project	04/20/2020	1,687.50	.00	
139	JORGENSEN ASSOCIATES, PC	44339	This is to provide an engineering r	04/24/2020	2,201.25	.00	
139	JORGENSEN ASSOCIATES, PC	44342	Budge Drive Inclinometer service	04/27/2020	1,451.25	.00	
Total 139:					5,340.00	.00	
5473	KELLERSTRASS ENTERPRISES	1183985	antifreeze for inventory	05/05/2020	165.36	.00	
5473	KELLERSTRASS ENTERPRISES	D23367	Fuel for resale at PW fuel island	04/28/2020	10,550.00	.00	
Total 5473:					10,715.36	.00	
5607	LINCOLN COUNTY SHERIFF	04302020	JH Airport contract services. 4/1/2	04/30/2020	5,390.00	.00	
Total 5607:					5,390.00	.00	
2224	LOCAL GOV'T LIABILITY POOL	12885	SETTLEMENT AA100040 SEAN	05/04/2020	1,000.00	.00	
Total 2224:					1,000.00	.00	
6487	LOGANSIMPSON	26140	JACKSON GROWTH MANAGEM	04/29/2020	14,949.80	.00	
Total 6487:					14,949.80	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
156	LOWER VALLEY ENERGY INC	043020	145 Hansen	04/30/2020	74.04	.00	
156	LOWER VALLEY ENERGY INC	043020	145 Hansen	04/30/2020	74.04	.00	
156	LOWER VALLEY ENERGY INC	145 WEST HA	145 Hansen	04/30/2020	74.04	.00	
156	LOWER VALLEY ENERGY INC	145 WEST HA	145 west hansen front	04/30/2020	74.01	.00	
156	LOWER VALLEY ENERGY INC	20593	electrical usage collection system	04/30/2019	777.60	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	915 Simon Lane	04/30/2020	164.01	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	174 King	04/30/2020	309.35	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	455 Vine Street	04/30/2020	64.38	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	930 simon lane	04/30/2020	147.71	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	55 Virginian	04/30/2020	64.56	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	55 Virginian Lane	04/30/2020	83.46	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	455 Vine Street	04/30/2020	81.05	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	455 Vine Street	04/30/2020	64.32	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	940 Simon Lane	04/30/2020	164.38	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	2022 Wildflower	04/30/2020	145.74	.00	
156	LOWER VALLEY ENERGY INC	20595 043020	455 Vine Street	04/30/2020	46.75	.00	
156	LOWER VALLEY ENERGY INC	92050-010 042	electrical usage for Ely Springs	04/30/2020	1,657.99	.00	
156	LOWER VALLEY ENERGY INC	92050-017 042	IPS electricity	04/28/2020	16.00	.00	
156	LOWER VALLEY ENERGY INC	92050-021 042	electrical bill for Town Hall	04/28/2020	1,484.01	.00	
156	LOWER VALLEY ENERGY INC	92050-025 042	electrical bill for SK West New Sh	04/28/2020	448.00	.00	
156	LOWER VALLEY ENERGY INC	92050-047 042	UV electricity	04/28/2020	16.00	.00	
156	LOWER VALLEY ENERGY INC	92050-049 042	WWTP Main electricity	04/28/2020	7,954.79	.00	
156	LOWER VALLEY ENERGY INC	92050-051 042	electrical usage well 5	04/28/2020	1,667.04	.00	
156	LOWER VALLEY ENERGY INC	92050-114 042	electrical bill for Home Ranch	04/28/2020	233.41	.00	
156	LOWER VALLEY ENERGY INC	92050-131 042	electrical bill for Deloney Restroo	04/28/2020	171.36	.00	
156	LOWER VALLEY ENERGY INC	92050-357 042	electrical bill for START Bus	04/28/2020	606.67	.00	
Total 156:					16,664.71	.00	
6662	LUTTON, JANE	043020	RESTITUTION PAYMENT CASE	04/30/2020	500.00	500.00	05/04/2020
Total 6662:					500.00	500.00	
677	MACY'S SERVICES	82317	COVID-19, Antler shed pick - park	04/30/2020	190.00	.00	
Total 677:					190.00	.00	
6614	MCBATH, DONNIE	051120	TRAVEL REIMB - RETURN LEAS	05/14/2020	306.17	.00	
Total 6614:					306.17	.00	
6668	MERLENE, NICHOLAS	051120	BAIL REFUND CASE # 20-02-01	05/11/2020	740.00	740.00	05/11/2020
Total 6668:					740.00	740.00	
4817	MOUNTAIN ELECTRICAL	04302020	electrical construction services ST	04/30/2020	13,406.00	.00	
Total 4817:					13,406.00	.00	
257	NAPA AUTO PARTS INC.	907431	AEROSOL TOUCH UP	03/07/2020	7.44	.00	
257	NAPA AUTO PARTS INC.	908586	W W VACUUM TUBING	03/13/2020	.30	.00	
257	NAPA AUTO PARTS INC.	911854	NAPAGOLD FUEL FILTER	04/07/2020	18.00	.00	
257	NAPA AUTO PARTS INC.	914685	fuel filter for a START Bus	04/28/2020	16.13	.00	
257	NAPA AUTO PARTS INC.	915080	3 headlamps	04/30/2020	62.52	.00	
257	NAPA AUTO PARTS INC.	915550	oil filters for inventory.	05/04/2020	19.56	.00	
257	NAPA AUTO PARTS INC.	915904	four headlamp bulbs for police/sh	05/06/2020	100.04	.00	
257	NAPA AUTO PARTS INC.	916158	bulbs for dump trucks	05/07/2020	19.10	.00	
257	NAPA AUTO PARTS INC.	916178	strobe for street truck 1458	05/07/2020	59.90	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 257:					302.99	.00	
187	NELSON ENGINEERING	51967	2020 Capacity Study Sewer	03/27/2020	13,418.25	.00	
187	NELSON ENGINEERING	51967	2020 Capacity Study Water	03/27/2020	13,418.25	.00	
187	NELSON ENGINEERING	52066	2020 Capacity study water	04/30/2020	5,629.50	.00	
187	NELSON ENGINEERING	52066	2020 Capacity study water	04/30/2020	5,629.50	.00	
Total 187:					38,095.50	.00	
1504	ONE CALL OF WYOMING	55546	One Call locates (water and sewe	05/07/2020	165.00	.00	
1504	ONE CALL OF WYOMING	55546	One Call for locates (water and se	05/07/2020	165.00	.00	
Total 1504:					330.00	.00	
6483	PREMIER TRUCK- SALT LAKE C	775184818	START Bus 210 sensor and gask	05/05/2020	163.94	.00	
Total 6483:					163.94	.00	
6138	QA BALANCE SERVICS INC.	12058	Yearly quality control service on la	05/05/2020	430.00	.00	
Total 6138:					430.00	.00	
6613	QUADIENT, INC DEPT 3689	042920	Postage for machine	04/29/2020	1,000.00	.00	
Total 6613:					1,000.00	.00	
6069	RAFTELIS	14749	PROJ: R-JAWY1910.00- JACKS	04/07/2020	10,990.43	.00	
6069	RAFTELIS	14749	PROJ: R-JAWY1910.00- JACKS	04/07/2020	10,990.44	.00	
6069	RAFTELIS	14945	2020 rate study sewer	05/07/2020	12,634.61	.00	
6069	RAFTELIS	14945	2020 rate study water	05/07/2020	12,634.61	.00	
Total 6069:					47,250.09	.00	
4198	RESPOND FIRST AID SYSTEMS	194166	Nitrile gloves	05/05/2020	89.95	.00	
Total 4198:					89.95	.00	
2291	ROCKY MOUNTAIN APPRAISAL	04062020	Appraisal for alley east of Town S	04/06/2020	1,700.00	.00	
2291	ROCKY MOUNTAIN APPRAISAL	TOJPLAN/A	COMMERICAL APPRAISAL OF 1	04/06/2020	1,700.00	.00	
Total 2291:					3,400.00	.00	
4723	RON'S TOWING	20-6285	Roxanne approved moving aband	05/04/2020	150.00	.00	
4723	RON'S TOWING	20-6336	Towing costs for patrol car on 5/1/	05/01/2020	312.50	.00	
Total 4723:					462.50	.00	
13	SAFETY SUPPLY & SIGN CO., I	172393	PATHWAY SIGNAGE	03/27/2020	4,392.38	.00	
Total 13:					4,392.38	.00	
4699	SNAKE RIVER ROASTING	625659	Coffee for breakroom	05/03/2020	97.90	.00	
4699	SNAKE RIVER ROASTING	625759	COFEE	05/12/2020	21.28	.00	
4699	SNAKE RIVER ROASTING	625760	"Jack'D" Ground Coffee, 5 lb.	05/12/2020	48.95	.00	
4699	SNAKE RIVER ROASTING	625773	1 Bag of Coffee	05/12/2020	48.95	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 4699:					217.08	.00	
1505	SPRING CREEK ANIMAL HOSPI	624981464	DOG FOOD SULLY	04/07/2020	27.18	.00	
1505	SPRING CREEK ANIMAL HOSPI	624981464	DOG FOOD CIGY	04/07/2020	227.98	.00	
Total 1505:					255.16	.00	
3989	STINKY PRINTS, INC	54116	SPET COLOR REPRODUCTION	08/26/2019	108.00	.00	
3989	STINKY PRINTS, INC	56701	construction signs for water projec	04/01/2020	1,152.00	.00	
Total 3989:					1,260.00	.00	
4990	Swagit Productions, LLC	15218	Monthly bill for Swagit	04/30/2020	1,775.00	.00	
Total 4990:					1,775.00	.00	
4514	TEAM LABORATORY CHEMICA	INV0020418	cold mix patching for potholes	04/30/2020	862.50	.00	
Total 4514:					862.50	.00	
1443	TETON COUNTY CLERK	050120	May 2020 Park and Rec	05/01/2020	133,068.50	.00	
1443	TETON COUNTY CLERK	050120	May 2020 Housing Authority Oper	05/01/2020	21,527.00	.00	
Total 1443:					154,595.50	.00	
581	TETON COUNTY INTEGRATED	05142020	2019 4th QUARTER - DISPOSAB	05/14/2020	14,878.80	.00	
Total 581:					14,878.80	.00	
996	TETON COUNTY SPECIAL FIRE	043020	April 2020 Special Fire Fund	04/30/2020	1,106.17	.00	
996	TETON COUNTY SPECIAL FIRE	043020	April 2020 Special Fire Fund	04/30/2020	23,383.82	.00	
996	TETON COUNTY SPECIAL FIRE	050120	May 2020 Fire/EMS Operations	05/01/2020	128,274.00	.00	
Total 996:					152,763.99	.00	
1614	TETON COUNTY-FUND 10	042420	April 2020 Dispatch	04/24/2020	28,060.30	.00	
1614	TETON COUNTY-FUND 10	042920	April 2020 Kristi Malone	04/29/2020	5,710.20	.00	
1614	TETON COUNTY-FUND 10	042920	April 2020 Pathways	04/29/2020	8,856.43	.00	
Total 1614:					42,626.93	.00	
3027	TETON COUNTY-FUND 13	042920	April 2020 Fire Fund 13 - Capital	04/29/2020	29.69	.00	
Total 3027:					29.69	.00	
268	TETON MOTORS INC	5094017	ordered Coil part on 3/12/20. Ret	03/12/2020	102.18	.00	
268	TETON MOTORS INC	5094370	CREDIT	05/08/2020	102.18-	.00	
268	TETON MOTORS INC	8017200	PAINT AND MATERIAL, LABOR	12/10/2019	4,006.88	.00	
Total 268:					4,006.88	.00	
5846	TETON TOOLS LLC	05052023236	tool repair	05/05/2020	113.00	.00	
Total 5846:					113.00	.00	
3162	TETON TRASH REMOVAL, INC.	20 MAY 696	145b Hansen	05/01/2020	45.50	.00	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 3162:					45.50	.00	
3955	THOMSON WEST	841743248	WEST GROUP WESTLAW CHA	02/01/2020	446.92	.00	
3955	THOMSON WEST	841743248	WEST GROUP WESTLAW CHA	02/01/2020	446.93	.00	
Total 3955:					893.85	.00	
70	THYSSEN KRUPP ELEVATOR C	3005003702	vertical harvest 1 year contract for	01/01/2020	2,871.97	.00	
Total 70:					2,871.97	.00	
5067	TITAN MACHINERY	13755476 GP	BREATHER FILTER, ADAPTER	03/26/2020	184.19	.00	
Total 5067:					184.19	.00	
5038	TREFONAS LAW, P.C.	05072020	Public Defender - 3/6/2020-5/3/20	05/07/2020	908.82	.00	
Total 5038:					908.82	.00	
4649	ULINE	119462592	jumbo cable ties	04/29/2020	194.29	.00	
Total 4649:					194.29	.00	
777	UPPER CASE PRINTING INK	15804	COVID LETTER INSERT IN WAT	05/01/2020	220.80	.00	
Total 777:					220.80	.00	
1949	VERIZON WIRELESS	9853731295	Monthly Verizon Bill for account 8	05/01/2020	5,640.79	.00	
Total 1949:					5,640.79	.00	
6494	WELLER TRUCK PARTS	402064510	Retarder temp sensor	05/04/2020	71.33	.00	
Total 6494:					71.33	.00	
6160	WEST FORK CONSTRUCTION	1050003-002	Pay app for wastewater garage pr	05/05/2020	199,257.66	.00	
Total 6160:					199,257.66	.00	
563	WESTBANK SANITATION	3399241	940 simon lane	05/01/2020	48.09	.00	
563	WESTBANK SANITATION	3399981	trash collection WWTP	05/01/2020	655.31	.00	
Total 563:					703.40	.00	
2802	WESTWOOD CURTIS	05122020	Center Street water pay ap	05/12/2020	156,348.90	.00	
2802	WESTWOOD CURTIS	05132020	Cache Creek Tube Phase 2C pay	05/13/2020	156,204.13	.00	
2802	WESTWOOD CURTIS	05132020	Cache Creek Tube Phase 2C pay	05/13/2020	94,006.49	.00	
Total 2802:					406,559.52	.00	
6669	WILLIAMS, DAVID	051120	BAIL REFUND CASE #20-01-004	05/11/2020	1,240.00	1,240.00	05/11/2020
Total 6669:					1,240.00	1,240.00	
3619	WY CHILD SUPPORT ENFORCE	05062020	case #209790	05/06/2020	146.76	146.76	05/06/2020

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total 3619:					146.76	146.76	
479	WYOMING ASSOC OF CHIEFS	001	WASCOP Yearly Dues: 1/1/20-12/	04/30/2020	350.00	.00	
Total 479:					350.00	.00	
406	WYOMING LAW ENFORCEMEN	043020	OFFICER EDUCATION TRAININ	04/30/2020	15.00	15.00	05/04/2020
Total 406:					15.00	15.00	
2179	XEROX CORPORATION	010213240	Monthly bill for Planning Xerox	05/01/2020	56.83	.00	
2179	XEROX CORPORATION	010213241	Monthly Xerox bill for PD	05/01/2020	43.04	.00	
2179	XEROX CORPORATION	010213242	Monthly bill for Admin Xerox	05/01/2020	79.76	.00	
2179	XEROX CORPORATION	010213243	Monthly Xerox bill for PW	05/01/2020	10.39	.00	
2179	XEROX CORPORATION	010271175	Monthly Xerox bill for START copi	05/03/2020	90.24	.00	
Total 2179:					280.26	.00	
3767	XYLEM CCI	822932	wastewater lab supplies WWTP	04/22/2020	782.00	.00	
Total 3767:					782.00	.00	
5539	Y2 CONSULTANTS, LLC	16239	Center Street Water Project	04/21/2020	250.50	.00	
Total 5539:					250.50	.00	
2842	YELLOW IRON EXCAVATION, L	46120	174 North King	04/30/2020	57.00	.00	
2842	YELLOW IRON EXCAVATION, L	46120	940 Simon Lane	04/30/2020	48.09	.00	
2842	YELLOW IRON EXCAVATION, L	46120	455 vine street	04/30/2020	17.50	.00	
2842	YELLOW IRON EXCAVATION, L	46120	455 vine street	04/30/2020	17.50	.00	
2842	YELLOW IRON EXCAVATION, L	46120	455 vine street	04/30/2020	17.50	.00	
2842	YELLOW IRON EXCAVATION, L	46120	915 Simon Lane	04/30/2020	32.00	.00	
2842	YELLOW IRON EXCAVATION, L	46120	455 vine street	04/30/2020	17.50	.00	
2842	YELLOW IRON EXCAVATION, L	46239	155 EAST PEARL	04/30/2020	120.00	.00	
2842	YELLOW IRON EXCAVATION, L	46240	Animal Shelter waste removal pay	04/30/2020	120.00	.00	
2842	YELLOW IRON EXCAVATION, L	46241	Waste Removal Town Hall	04/30/2020	200.00	.00	
Total 2842:					647.09	.00	
3077	YSI INCORPORATED	822932	lab testing supplies	04/22/2020	782.00	.00	
Total 3077:					782.00	.00	
Grand Totals:					1,322,581.94	6,321.76	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid

Dated: _____

Mayor: _____

City Council: _____

_____

_____

_____

_____

_____

City Recorder: _____

City Treasurer: _____

Report Criteria:

Detail report.

Invoices with totals above $0 included.

Paid and unpaid invoices included.

TOWN OF JACKSON
MUNICIPAL COURT
MONTHLY REPORT TO THE MAYOR AND THE TOWN COUNCIL
FOR THE MONTH OF APRIL, 2020

During the month of April, the court received $5564.00 in fines, fees, bonds, and forfeitures.
12 new cases were docketed: 4 parking citations, 8 summons
13 cases were dismissed: 7 parking violations

The abbreviations used below are: BF=forfeiture, GP=pled guilty, NC= nolo contendere, G=found guilty at trial, NG=found not guilty at trial, R=restitution, CS=community service, DP=deferred prosecution, D=dismissed, D-TS=dismissed for traffic school, DA=deferred adjudication

CLOSED CASES

NAME	CITATION	OFFENSE	DISPOSITION	$
Culp, William C	03187L	Marijuana: use and/or possession	DA- In accordance with W.S.S. 35-7-1037	0
Fields, Cameron	186000288AC	Use of cell phone while driving prohibited	BF	65
Hanley, Sarah Beth	186000451AC	Driving/Control of vehicle while intox	D- Per Town's Motion	0
Hoffman, Mark	186000539AC	Marijuana: use and/or possession	D- Per Town's Motion	0
Kowalsky, Michael David	186000649AC	No display of current registration	BF	125
Lett, Hannah	186000203AC	Speed too fast for conditions	D- Per Town's Motion	0
Montes Potrero, Carlos	186000531AC	Use of cell phone while driving prohibited	BF	65
Mseleku, Anna M	186000143AC	No display of current registration	BF	125
Mseleku, Anna M	186000144AC	Failure to maintain liability coverage	BF	222.5
Reilly, Caleb	186000392AC	Speed too fast for conditions	BF	75
Revercomb, Maxwell A	186000428AC	Urinating in Public	BF	120
Reyes Alatoree, Luis Octavio	186000431AC	Speed Limits Generally	BF	259
Riener, Zachary Ellis	186000290AC	No display of current registration	BF	125
Tebay, Harry Talbott	186000530AC	Unsafe Turning Movement	BF	75
Wenzel, Warren	CI:20-02-0123	Public intoxication	D- Per Town's Motion	0
White, James Miles	01004M	Public intoxication	BF	110
Yates, Natalie M	186000393AC	Speed too fast for conditions	BF	75

TOWN OF JACKSON
TOWN COUNCIL
AGENDA DOCUMENTATION

PREPARATION DATE: May 8, 2020
MEETING DATE: May 18, 2020

SUBMITTING DEPARTMENT: Town Clerk
DEPARTMENT DIRECTOR: Roxanne DeVries Robinson
PRESENTER: Carl Pelletier

SUBJECT: Special Event- Jackson Hole People's Market

STATEMENT/PURPOSE

The Mayor and Council approve all special events, including parking closures, the use of Town equipment and services from Town Personnel.

BACKGROUND/ALTERNATIVES

The applicant, Slow Foods in the Tetons (a Wyoming non-profit), requests Council permission to host the Jackson Hole People's Market in Phil Baux Park, Snow King ballfield, and the Snow King parking lot each Wednesday from June 10th to September 23th, 2020. The market will be open to the public from 4:00 P.M. to 7:00 P.M. Set-up time will begin at 11:00 A.M. Tear down will be concluded by 8:00 P.M.

Significant changes for 2020 include adjustments for hosting the People's Market with protocols addressing the COVID-19 pandemic. The organizer has been working with town staff and the Teton County Health Department to come up with a multi-phase plan to operate this year. The People's Market has presented town staff and the Teton County Health Department a 3-phase plan to operate. The first phase is a market with only grocery items. The second phase is a market with grocery items and prepared food (to go only). The third phase is a market that we are traditionally accustomed to with grocery items, prepared food, alcohol, live music and kids cooking classes. For each of these phases, protocols and requirements have been established by the organizer following the best practices from other outdoor markets throughout the country as well as following state and local public health guidelines.

This staff report has been prepared to reflect approval of a traditional People's Market that our community has grown accustomed to over the years; however, the weekly operations would be subject to approval of the Teton County Health Department. The remainder of this staff report reflects a People's Market with a phase three operation plan. The rationale behind this approach is to grant approval for full use (phase three operations), but the weekly operations would need approval by the Teton County Health Department. The operations would start at phase one and could be scaled up (or back) depending on removal (or implementation) of state and local health orders. Any exception requests to current state and local health orders would need to be approved by the Teton District Health Officer.

Parks and Recreation Department has agreed to allow the applicant to utilize the newly renovated bathrooms adjacent to the Phil Baux baseball field. Parks and Recreation has indicated that they would monitor use of the bathrooms and assess the use as the season progresses. The applicant will work with Parks and Recreation in regards to payment for additional cleaning necessary to handle this use. If the Parks and Recreation Department determines that the use of port-o-potties would better serve this event then the applicant would supply two port-o-potties at each event. If port-o-potties are used, the applicant has requested to keep these portable toilets on-site for the duration of the summer. They would be located in the southwest corner of the Snow King ballfield parking lot. Macy's would clean and maintain the portable toilets throughout the summer. The portable toilets would be locked for the duration of the week and only utilized on Wednesdays for this event.

The applicant will be responsible for removing any trash generated by this event at the end of each market. The applicant provides receptacles for landfill materials at this event. The applicant covers the trash bins located within Phil Baux Park. Trash generated by the attendees of the People's Market will be removed by the applicant. Following each People's Market the applicant will remove the covers from the trash bins located in Phil Baux Park. The applicant will be responsible for assuring the trash bins do not overflow during their event.

The applicant has indicated that they will supply recycling receptacles that will be emptied following each event. The applicant covers the recycling containers in Phil Baux Park so all recyclable materials collected at the People's Market will go through the applicant's recycling system and not add to the Parks and Recreation recycling containers. The applicant will be responsible for assuring the recycling receptacle does not overflow during their event.

Electricity will be accessed through the Parks and Recreation Department.

The applicant requests the following in association with each market:

- Permission to close the Phil Baux parking lot from approximately Noon until 8:00 P.M. for the event including booth space located in the east parking lane facing towards the park so that purchases are made from the sidewalk. Where the sidewalk ends near the south end of Phil Baux Park, booths will be offset from the sidewalk so that purchases are made from the parking lot. The closure will also be used for bike parking, a pedestrian walkway during the event, the band, and for vendor set up and breakdown.
- Permission to use cones for the parking lot closure. The applicant will be responsible for the production, posting, and removal of the associated no parking signage. Posted signage cannot be on posts that are driven into the ground to avoid damage to the irrigation system. The Town is able to provide cones to use for posting the signage should the applicant wish to use them.
- Permission for amplified music associated with live or recorded music.
- Permission to display onsite vendor banners and/or logos on the booths. The applicant will submit temporary sign permit applications for all off-site banners they wish to erect.
- Permission for relief from the open container law so that alcohol consumption may occur within the parking lot closure and on the sidewalk along Phil Baux Park. (Alcohol consumption is currently permitted in Phil Baux Park). The applicant will post *no alcohol consumption beyond this point* signs with barricades at either end of the market.
- A catering permit from Town staff.
- An expo permit from Town staff.
- Permission to utilize the outfield of the Snow King ballfield for attendees. This is a new request in an effort to allow more spacing between people attending the market. This would allow appropriate physical distancing space for attendees.

COMPREHENSIVE PLAN ALIGNMENT

This event aligns with our Quality of Life which is important to our community. We have always been a diverse community that supports a variety of lifestyles and employment opportunities, and we welcome others to share in the enjoyment of our ecosystem and western mountain lifestyle. Residents and visitors have become accustomed to high-quality social, cultural, and recreational services. Continuing to provide these services in a manner that better achieves our Vision will enhance the livability and appeal of our community.

STAKEHOLDER ANALYSIS

The application has been submitted for review and comment to all Town departments.

FISCAL IMPACT

Fiscal impact is minimal. Fees collected for each market including a catering permit ($20), an expo permit ($200) and a Park and Recreation pavilion rental fee ($200) for kids cooking classes.

STAFF IMPACT

Staff impact is minimal but includes processing the catering permits and expo permits and proving barricades and access to electricity.

LEGAL REVIEW

On-Going

RECOMMENDATION

Should Council wish to approve this application, staff recommends that approval be subject to the following conditions and restrictions:

1. Market operations will be subject to the approval of the Teton County Health Department.
2. The applicant shall coordinate with the Parks and Recreation Department regarding any requests for power located near the Snow King chairlifts and/or on the Snow King ballfields.
3. The applicant shall clean up immediately after each market and shall be responsible for the removal of recycled material generated by the event or any overflow trash. Should the trash cans overflow the applicant shall provide additional trash cans for all future markets.
4. Insurance: An insurance certificate that names the "Town of Jackson as an additional insured including its Officers, Officials, Employees, and Volunteers" and states that coverage is primary and non-contributory is required at least ten days prior to the event. Insurance limits must be at least $1,000,000/occurrence and $1,000,000 aggregate. The additional insured language on the certificate may not include any limitations or exclusions. Insurance certificates are subject to the review and approval of the Town Attorney.
5. A sales tax permit must be obtained from the Wyoming Department of Revenue. A vendor list with tax ID numbers must be submitted to both the Wyoming Department of Revenue and the Town of Jackson at least two weeks prior to the event to obtain a sales tax permit. Please contact the Wyoming Department of Revenue at (307) 734-9354 with any questions.
6. The applicant shall coordinate the use of electricity with the Parks & Recreation park manager at least three (3) business days prior to the event.
7. No exhibits, tables, chairs, or other equipment shall be placed on walkways along Snow King Avenue that will obstruct pedestrian traffic.
8. Any power cords that cross walkways or turf where event goers walk shall be taped or covered and secured as to avoid a tripping hazard.
9. An adequate number of designated handicapped parking spaces shall be established in the vicinity of the market.
10. The applicant shall be responsible for the closure of the parking lot and for the production, posting, and removal of no parking signage and handicapped parking signage. Signage cannot be on posts that are driven into the ground to avoid damage to the irrigation system. The Town is able to provide cones to use for posting the no parking signage should the applicant wish to use them.
11. No trees or other forestry may be moved, modified, damaged or destroyed to set up booths, tents, or exhibits. No ropes, exhibits, signs, banners or booths may be secured to any live forestry.
12. The applicant shall obtain the necessary food service permits from Teton County Environmental Health.
13. The applicant shall take all measures necessary to comply with applicable alcohol dispensing laws and regulations, including the prevention of sales to and consumption by minors and the prohibition of consumption off the authorized premises. An ID bracelet system or stamp system shall be utilized and all ID's checked.
14. Vendors may not sell more than 16 oz. in the mugs, regardless of mug size.

15. The applicant may sell mugs for alcoholic beverages that are approved by the Police Department.
16. The applicant will post *no alcohol consumption beyond this point* signs with barricades at either end of the market.
15. The applicant shall apply and pay for all licenses and/or permits prior to each market.
16. Booths shall not be placed in a location such that they are on turf or purchases are made on turf, unless the applicant is permitted to utilize Phil Baux Park.
17. Tents, canopies or membrane structures shall not be located within 20 feet of lot lines, buildings, other tents, canopies or membrane structures, parked vehicles or internal combustion engines (IFC 3103.8.2)
18. Any tents larger than 400 square feet will require approval through the Fire Department. A Temporary Tent Permit Form will need to be completed and approved prior to the start of the event. This Temporary Tent Permit can be found on the Jackson Hole Fire / EMS website.
19. Tents must meet the flame propagation performance criteria of NFPA 701 (IFC 3104.2).
20. Combustible materials shall not be located within any tent, canopy or membrane structure in use for public assembly (IFC 3104.5).
21. Smoking shall not be permitted in tents, canopies or membrane structures. Approved "No Smoking" signs shall be conspicuously posted (IFC 3104.6).
22. All open flame devices are strictly prohibited within tents unless approved by the fire code official (IFC 3104.7)
23. Portable 2A:10B-C fire extinguishers shall be provided, one minimum, for tents requiring permits with a 75 foot travel distance (IFC 3104.12).
24. Any cooking performed within tents shall require advance approval by the Fire Department (IFC 3104.15.3 – 3104.15.7).
25. Generators and other internal combustion power sources shall be separated from tents, canopies or membrane structures by a minimum of 20 feet and shall be isolated from contact with the public by fencing, enclosure or other approved means (IFC 3104.19).
26. All electrical/temporary power shall be in accordance with the 2011 National Electric Code and subject to inspection from this Department (IFC 605.9).
27. Public Safety Plan: Where the fire code official determines that an indoor or outdoor gathering of persons has an adverse impact on public safety through diminished access to buildings, structures, fire hydrants and fire apparatus access roads or where such gatherings adversely affect public safety services of any kind, the fire code official shall have the authority to order the development of, or prescribe a plan for, the provision of an approved level of public safety (IFC403.2).
28. Review and follow all of the guidelines listed on the Jackson Hole Fire/EMS website regarding Special Event Rules, based on the 2012 International Fire Code. These rules can be obtained from the Town of Jackson website.
29. The Fire Department recommends that the parking lot maintain and clear and unobstructed width of 20 feet to allow for emergency vehicle traffic along ALL areas of open and closed streets (IFC 503.2.1).
30. Closure of the parking lot shall not displace any scheduled ball games and the field shall be cleaned up prior to any scheduled ball games and the event organizers shall work with Snow King Mountain Resort in regards to visitor access to the summer chairlift rides.

SUGGESTED MOTION:

I move to approve the special event application made by Slow Foods of the Tetons for the People's Markets, subject to the conditions and restrictions listed in the staff report.

Special Event Application

Submit Completed Document To:

Town Hall
Town of Jackson - Special Events
150 East Pearl Street
P.O. Box 1687
Jackson, Wyoming 83001

cpelletier@townofjackson.com
(307) 733-3932 ext. 1112 (phone)
(307) 739-0919 (fax)

A completed application must be submitted at least 21 days prior to your event.

Non-Profit Fee: $25
For-Profit Fee: $150

APPLICANT INFORMATION

Name of Event: The People's Market

Name of Organization: Slow Food in the Tetons

Type of Organization: ☒ Non-Profit ☐ Public Agency ☐ For-Profit Business

Mailing Address: PO Box 7290

City: Jackson State: WY Zip Code: 83002

Name of Person Completing Application: Gretchen Cherry

Email Address: gretchen@tetonslowfood.org

Work Phone: 307-690-5465 Cell Phone: 307-690-5465

EVENT INFORMATION

Type of Event: ☐ Run / Walk ☐ Concert ☐ Filming ☐ Assembly
☐ Parade ☐ Festival ☐ Biking ☐ Education
☒ Other: Farmer's Market

Description & Purpose of Event *(Attach additional sheets if necessary):*

A farmer's market that supports local farmers, food and non food producers and the

Location of Event: Snow King Parking Lot Alternative Location:

Date(s) of Event: Every Wed from 6/10-9/23 Event Operating Hours: 4-7pm

Event Set Up Begins Date: Time: 11am

Event Clean Up Ends Date: Time: 8pm

Special Event Application

EVENT INFORMATION (Continued)

Estimated Event Attendance (Spectators and Participants) Per Day: 1000 Total Event: 1000

Special Considerations (check all that apply):

- [x] Alcoholic Beverages
- [x] Cooking/Grilling
- [x] Electricity Requested
- [x] Food Sales
- [x] Merchandise Sales
- [x] Recurring Event
- [ ] Ticketed Admission
- [x] Sound Amplification
- [ ] Pets or Animals
- [x] Tents
- [ ] Street Closure
- [ ] Sidewalk Closure
- [ ] Overnight Parking
- [ ] Overnight RV Camping
- [ ] Use of Town Square

Event Co-Sponsor (s): _____

All for-profit organizations must submit a letter of event sponsorship from a non-profit organization if sales are requested on public property.

Will you be charging admission or a fee for your event? ☐ Yes ● No

Alternative Contact Information During the Event (someone besides applicant who will be on site and available for Town personnel or Police to contact during the event):
Name: Scott Steen Cell Phone: 406-579-7852

EVENT SITE PLAN

On a separate sheet of paper, provide a Site Plan sketch of the event. Include maps or a diagram of the entire event including the names of streets or areas that are part of the venue and the surrounding area. The plan should include the following (if applicable):

- [x] Tents (X)
- [x] Beverage Vendors (BV)
- [x] Portable Toilets (T)
- [x] Stages or Amplified Sound (SO)
- [x] Garbage Receptacles (G)
- [x] Retail Merchants (RM)
- [x] Fire Lane (FL)
- [ ] First Aid / EMS (FA)
- [x] Electricity / Generator (EL)
- [x] Food Vendors (FV)
- [x] Alcohol Vendors (A)
- [x] Hand Washing Sink (HWS)
- [ ] Bleachers (BL)
- [x] Recycling Receptacles (RR)
- [ ] Security (P)
- [ ] Fire Extinguishers (EX)
- [x] Barricades (B)
- [x] Trailers, Vehicles, Storage (TR)

Fire hydrants or sidewalk curb breaks that are used for ADA accessibility may not be blocked at any time.

Special Event Application

STREET / SIDEWALK / PUBLIC PARKING LOT - CLOSURE REQUESTS

Will the event close any street, sidewalk, alley or public parking lot? ☑ Yes ☐ No

Area of Closure Request	Date(s)	Start Time	End Time
Snow King Ballfield Parking Lot	Every Wed 6/10 - 9/23	10am	8pm

The applicant will be responsible for production, posting and removal of "No Parking" and "Handicap Parking" signs along Town streets where public parking spaces exist within the event site. If the event involves a closure this will be need to be coordinated with the Jackson Police Department at least 2 weeks prior to the requested closure date. Jackson Police Department: (307) 733-1430. All parking signs, road signs, cones and barricades must be taken down immediately following the event's ending time.

Will the event restrict / close access to any public parking spaces? ☑ Yes ☐ No

If "Yes", how many parking spaces will be unavailable due to the event: 30 parking spaces

Will the event closure requests impact any START Bus routes? ☐ Yes ☑ No

If "Yes", which routes will be impacted? Has START Bus been contacted about this impact?

Route Description: n/a START Bus contacted? ☐ Yes ☐ No

RESIDENT AND/OR BUSINESS NOTIFICATION

Events that require road closures, parking space closures, or sidewalk closures or may cause disruption for the Town of Jackson residents, businesses, churches, etc. may be required to mail or hand deliver notification to the affected parties within a two block radius at least one week prior to the event's Town Council consideration meeting. Notices must reflect the date(s), day(s), time(s) and location(s) of the event, types of activities taking place at the event, the event coordinator's contact information and the date and time of the Town Council meeting.

Have you provided a sample of the notice and a proposed list of recipients?

☑ Yes ☐ No

Special Event Application

TOWN EQUIPMENT REQUESTS

Indicate the type and the quantity of items that you are requesting:

_____ Large Street Barricades	_____ "Road Closed" Street Signs
6 _____ Small Sidewalk Barricades	_____ "Local Traffic Only" Street Signs
_____ 28 Inch Street Cones	_____ "Detour" Street Signs
_____ Candlestick Cones	_____ 32-Gallon Recycling Bins

- The equipment above can be arranged through the Public Works Department (307) 733-3079. A $500 deposit will be required at the time of pick-up for equipment. The applicant is responsible for arranging the pick up of equipment from the Public Works Department as well as returning equipment immediately following the event. The Town of Jackson will only deliver equipment to parades and Town sponsored events.

- The Town of Jackson has a very limited number of recycling bins that can be utilized as part of your event's recycle plan. The applicant will be responsible for emptying the recycle containers and cleaning the bins before they are returned to the Public Works Department.

- If you are uncertain of the exact number of equipment needed please feel free to contact either the special event coordinator or the Public Works Department for additional information.

- Additional equipment such as bleachers, electrical spiderboxes, etc., can be requested through the Parks and Recreation Department (307) 732-5753.

TOWN SERVICES REQUESTS

Indicate the Town services that you are requesting. *Please note: you will need to coordinate services with individual departments and a fee may be associated with your request.*

POLICE DEPARTMENT (307) 733-1430

☐ Event Security	☐ Mounted Horse Patrol	☐ Traffic Control
☐ Race Lead Vehicle	☐ Parade Lead Vehicle	☐ General Presence
☑ Towing / Ticketing	☐ Assistance with Parking Closures	☐ Assistance with Street Closures

Please describe in detail your request: _____

We will only need help with towing if cars are not removed by the requested time.

The Chief of Police determines if police services will be needed at the special event for public safety concerns. The Chief of Police will also determine the number of police officers to staff the event. Fees may be associated with the need for additional police services at the event.

Special Event Application

TOWN SERVICES REQUESTS (Continued)

PUBLIC WORKS DEPARTMENT (307) 733-3079

☐ Street Sweeping ☐ Snow Removal ☐ Street Marking

Please describe in detail your request

PARKS AND RECREATION DEPARTMENT (307) 732-5753

☐ Irrigation Locates - Any event placing stakes in turf must obtain irrigation locates.

☑ Electricity Access

☐ Turf / Tree Care - Any additional mowing, raking, trimming or spraying needs.

☐ Additional Public Restroom Cleaning

Please describe in detail your request: _____

Please note: if you are requesting the use of a public park or public ball field you must confirm and reserve your space through the Parks and Recreation Department. The only exception is George Washington Memorial Park (Town Square), which does not require a reservation form.

Is the requested event site a public park or ball field? ☐ Yes ☐ No

If "Yes", has the site been reserved with Parks and Recreation? ☐ Yes ☐ No

FIRE / EMS DEPARTMENT (307) 733-4732

☐ Foot Patrol ☐ Ambulance ☐ Fire Engine

☐ Rescue Truck ☐ Bicycle Patrol ☐ Event Site Inspection

Please describe in detail your request: n/a

Special Event Application

TOWN SERVICES REQUESTS (Continued)

START BUS **(307) 732-8651**

☐ Event Specific Shuttle(s)

Please describe in detail your request: n/a

VOICE / MUSIC AMPLIFICATION REQUESTS

Will your event have any amplified sound? ☑ Yes ☐ No

If "Yes", please indicate times: Start Time: 4pm Finish Time: 7pm

Will your event feature any musical entertainment? ☑ Yes ☐ No

If "Yes", please attach the schedule of any music or entertainment proposed to occur during event.

SIGN or BANNER REQUESTS

Are you requesting to hang signs or banners? ☑ Yes ☐ No

If "Yes", have you completed a sign permit application? ☑ Yes ☐ No

A Sign Permit Application will need to be submitted along with this application if signs are requested. This permit can be accessed on the Town of Jackson website or through the Planning Department.

INSURANCE REQUIREMENTS

An insurance certificate is required prior to the start of your event. This certificat must name the "Town of Jackson as an additional insured including its Officers, Officials, Employees, and Volunteers" and must also state that coverage is primary and non-contributory is required for every event. Insurance limits must be at least $1,000,000/occurrence and $1,000,000 aggregate. **The additional insured language on the certificate may not include any limitations or exclusions.** Insurance certificates are subject to the review and approval of the Town Attorney. Please be sure to include alcohol liability if there will be alcohol at the event. You must supply insurance before your event.

A certificate of insurance is attached: ☑ Yes ☐ No

Special Event Application

PORTABLE RESTROOMS AND SINKS

The Town of Jackson requires the applicant to provide additional chemical toilets or portable toilets for all events with an anticipated peak time attendance exceeding 75 people.

You are required to provide portable restroom facilities at your event unless you can substantiate the sufficient availability of both ADA accessible and non-accessible facilities in the immediate area of the event site which will be available to the public during your event. The Town of Jackson may determine the total number of required restroom facilities required on a case-by-case basis based on the presence of food and drink at the event and the maximum number of attendees at your event during peak time. The Town of Jackson may determine that you need to coordinate with Parks and Recreation for additional public restroom cleanings if you intend on using a public restroom as part of your restroom facility plan.

Do you plan to provide portable restroom facilities? ☐ Yes ☒ No

If "Yes", please indicate the total number of portable toilets and number of ADA accessible toilets.

Total Number of Portable Toilets:_____ Number of ADA Accessible Portable Toilets:_____

If "No", please explain: use of the public restrooms next to Snow King ballfield

Portable restrooms may not be located within 50 feet of any food vendor.

Restroom Company:_____

Restroom Drop off / Pick Up Date for Drop Off:_____ Time for Drop Off:_____

Date for Pick Up:_____ Time for Pick Up:_____

ALCOHOL

Will there be alcoholic beverages at the event? ☒ Yes ☐ No

Will you be offering any alcoholic beverages besides beer? ☒ Yes ☐ No

If "Yes", what will be offered in addition to beer? Jackson Hole Stillworks

If you are planning on serving alcoholic beverages at your event, then either a completed Malt Beverage Permit (beer only) or Catering Permit (beer, wine and/or spirits) must be submitted. You can access these applications on the Town of Jackson website.

Special Event Application

VENDORS / MERCHANTS / SALES

Will anything be sold at your event? ● Yes ☐ No

If you are planning on selling items at your event then you will need to complete either an Exposition Business License (for 2 or more vendors) or a Transient Merchant License (for 1 vendor). A complete list of vendors, including a vendor tax ID, must be submitted to the Town of Jackson and to the State of Wyoming's Department of Revenue prior to the event. Both the Exposition License and the Transient Merchant License are on the Town of Jackson's website.

Please describe any sales activity at your event:
Each vendor will be selling their own items.

Will any food or beverages be sold at your event? ● Yes ☐ No

If "Yes", you will need to contact the Teton County's Department of Environmental Health prior to the event (307) 732-8490.

TRASH REMOVAL PLAN

All events are required to have a plan for the collection removal of trash during and after the event. The trash receptacles located in the Town parks, parking lots, ball fields, sidewalks and public restrooms should not be included in the waste removal plan. ***For assistance with formulating a Trash Removal Plan please contact Integrated Solid Waste and Recycling at (307) 732-5771.***

Will you be using a waste company for your waste removal plan? ☐ Yes ● No

If "Yes", which company will you be using? _____

How many trash receptacles will be supplied for your event? 2, but we will provide them

When will the trash receptacles be delivered? We will bring to the venue every week

When will the trash receptacles be picked up and removed from site? 8pm, same day as event

Describe your plan for the collection and removal of trash during your special event:
As part of our Zero Waste Initiative, vendors are required to use our reusable plates, bowls, cups, and utensils. We collect all food waste and give it to Haderlie Farms (vendor) to take home to feed pigs/compost. We cover all the public trash cans during our event and divert people to discard trash at our Zero Waste Station. After the event we recycle all materials that can be recycled and remove trash from the site.

Applicants are responsible for cleaning and restoring the site immediately following the event. Please pick up all trash associated with your event including, but not limited to paper, bottles, cans, signs, course markings, etc. The cost of any employee overtime incurred because of an applicant's failure to clean / restore the site following the event will be borne by the applicant and will be considered in future application requests. If you believe that no litter will be generated during your event please state this in your plan.

Special Event Application

SUSTAINABLE EVENT PLANNING

The Town of Jackson encourages all special events to strive to be sustainable in our community and for our environment. We have partnered with the ***Teton County Integrated Solid Waste and Recycling (ISWR)*** *to offer opportunities to help your special event to be as "green" as possible. Opportunities available:*

- ☐ Rental / Use of Recycling Bins for Special Events
- ☐ Use of JH20 Water Bottle Refilling Station for Special Events
- ☐ Consultation on Conducting Green Special Events

Please contact the Waste Diversion and Outreach Coordinator at ISWR at 307-732-5771.

RECYCLING PLAN

All events are required to have a plan for the collection and removal of recyclable materials during and after the event. The recycling receptacles located in the Town parks, parking lots, ball fields, sidewalks and public restrooms should not be included in the recycling collection and removal plan. ***For assistance with formulating a Recycling Plan please contact Teton County Integrated Solid Waste and Recycling (ISWR) at (307) 732-5771.***

Will you be using a company for your recycling plan? ☐ Yes ● No

If "Yes" which company will you be using? _____

How many recycling receptacles will they (or you) supply for your event? 1, we will provide

When will these recycling receptacles be delivered? We bring every week, we have old ISWR slim

When will recycling receptacles be picked up and removed from site? 8pm, same day as event

Describe your plan for collection and removal of recyclable materials during your special event:
We have a Zero Waste Station with four clearly marked bins (landfill, recycling, compost and reuse) and we station one person with Zero Waste knowledge in the area to talk to market attendees about both Teton County and the Market's Zero Waste efforts, as well as what can and cannot be recycled. After each market, an employee takes the bin and sorts the contents and recycles appropriately.

Applicants are responsible for cleaning and restoring the site immediately following the event. If you believe that no recyclable materials will be generated during your event please state this in your plan. For a list of recyclables and how they need to be sorted, or for information about where the recycling bins are located call ISWR (307) 732-5771.

Special Event Application

SIGNIFICANT EVENT CHANGES

Has this event been approved in the Town of Jackson in previous years?

☑ Yes ☐ No

If "YES" please indicate any significant changes to the event request since its last approval:

No changes since last year.

STANDARD CONDITIONS OF APPROVAL

Please review the following standard list of conditions and restricts for events. Initial the bottom of each page indicating that you have read, understand and agree to these conditions and restrictions.

GENERAL

The event shall be conducted in a timely, safe and professional manner.

All town ordinances, including, but not limited to noise, possession and use of weapons, open fires and animals (including the prohibition of dogs in any town park) shall apply to all events except where specifically granted relief by the Town Council.

The applicant shall advise and instruct all participants, volunteers, vendors, merchants and spectators on event conditions, restrictions, prohibitions and responsibilities as indicated by the Town Council in the staff report.

Initials: GC

Special Event Application

STANDARD CONDITONS FOR ALL EVENTS (continued)

TRASH / CLEAN UP

The applicant shall clean up immediately following each event and shall be responsible for the collection and removal of all refuse generated by the event.

If trash will be generated from the event, then the applicant must supply extra trash and containers and dispose of all trash generated by the event. Trash containers shall not be permitted to overflow.

If recyclable materials are generated from the event, then the applicant is required to provide recycling containers and provide for the removal of all recycled material. Recycling containers shall not be permitted to overflow.

STREETS

Fire department access roads shall have and maintain a clear and unobstructed width of 20 feet and unobstructed vertical clearance of not less than 13 feet 6 inches to allow for emergency vehicle traffic along ALL areas of open and closed streets (IFC 503.2.1). Booths and tents may be erected on either side of street, however, a 20 foot straight path must be provided.

SIDEWALKS

The applicant shall not block walkways or otherwise obstruct pedestrian traffic.

All walkways, boardwalks, entrances and ADA ramps must be kept open and unobstructed at all times

All power and sound cords that cross walkways shall be taped and secured to avoid a tripping hazard.

POWER / ELECTRICAL

Electrical power is available from Town Square. The applicant shall coordinate all power needs with the Parks & Recreation Department's Park Manager (307-733-5057) at least three (3) business days prior to the event.

All power and sound cords that cross walkways shall be taped and secured to avoid a tripping hazard.

All electrical/temporary power shall be in accordance with the 2011 National Electric Code and subject to inspection from this Department (IFC 605.9).

ADDITIONAL PERMIT & LICENSE FEES

The applicant shall apply and pay for all licenses and/or permits prior to the events.

Initials: GC

Special Event Application

STANDARD CONDITONS FOR ALL EVENTS (continued)

TOWN EQUIPMENT

The use of the Parks & Recreation Department bleachers shall be coordinated through that department (307) 732-5753.

Barricade, road sign, cone and recycle bin use shall be coordinated through the Public Works Department. The applicants shall be responsible for pick up, setup, placement and disassembly and return. All equipment use require a $500 damage deposit that must be submitted at the time of pick up at the Public Works Department to protect against any loss or damage.

All barricades, cones, bins and road signs must be removed immediately following the event. These items must be returned the same location as they were picked up.

PORTABLE RESTROOMS

If applicable, the applicant shall provide an adequate number of port-a-potties at the event site and shall arrange for their removal immediately at the conclusion of the event.

The applicant shall ensure all port-a-potties are placed on paved areas.

INSURANCE

The applicant and all participating organizations are required to maintain liability insurance in the amount of $1,000,000.00. Prior to the event, each organization shall provide a certificate of insurance naming the Town of Jackson as an additional insured including its Officers, Officials, Employees, and Volunteers and must also state that coverage is primary and non-contributory. The Town Attorney shall approve all certificates of insurance.

FOOD / VENDING

The applicant shall obtain the necessary food service permits from Teton County Environmental Health.

The applicant shall provide additional trash receptacles in the food service areas.

Per Section 5.20 of the Municipal Code: The applicant shall be responsible for ensuring that all sales tax receipts are remitted to the Wyoming Department of Revenue and in no event later than the thirtieth day of the month following the exposition [and] acquire and keep on file names, addresses and phone numbers of all participants.

In addition to providing a list of all participating vendors, artists, and merchants, along with their social security numbers and addresses, to the Wyoming Department of Revenue, pursuant to Jackson Municipal Code Section 5.20.020 A.1.b., the applicant shall also provide that same list to the Town of Jackson Finance Department.

Vendors shall not dump hot water or other liquids on the turf. Initials: GC

Special Event Application

STANDARD CONDITONS FOR ALL EVENTS (continued)

ALCOHOL

The applicant shall take all measures necessary to comply with applicable alcohol dispensing laws and regulations, including the prevention of sales to and consumption by minors and the prohibition of consumption off the authorized premises. All ID's must be checked and ID bracelet system may be required.

Only 16oz or small plastic cups are used for beer and alcohol sales.

No alcohol shall be served in bottles or glass containers.

The applicant shall be responsible to be alert to and report any instances of underage drinking to the Jackson Police Department.

It is recommended that servers be TIPS trained prior to serving alcohol. No "over serving" shall be allowed to occur or serving to obviously intoxicated persons.

Participants shall not be permitted to leave the event with open containers.

No more than two beers shall be sold to any person at any one time.

TOWN PARKS

The applicant shall coordinate the use of any public park (including the Town Square), including reservations, paperwork and applicable fees, with the Parks and Recreation Department.

The applicant shall coordinate park reservation and the payment of Parks & Recreation fees at least 30 days prior to the event.

The applicant is required to provide turf protection in front of and behind any table or other exhibit where crowds will stand. The applicant shall abide by all Parks & Recreation Department recommendations with regards to turf protection.

Vehicles are prohibited on all turf areas of any park or anywhere within the Town Square.

No trees or other forestry may be moved, modified, damaged or destroyed to set up booths, tents, or exhibits. No ropes, exhibits, signs, banners or booths may be secured to any live forestry.

Use of Town Square shall be subject to the submission to and approval of staff of a detailed site plan, indicating set-up, safety procedures and turf protection, and the imposition of such other conditions or restrictions deemed necessary.

Irrigation locates are required if stakes are placed in the ground. Applicant may forfeit damage deposit if an irrigation locate is not conducted and irrigation equipment is damaged.

Per Municipal Code, dogs are not allowed in Town Parks.

Initials: GC

Special Event Application

STANDARD CONDITONS FOR ALL EVENTS (continued)

TENTS

Irrigation locates are required before any tents may be erected or stakes or any other items are placed in any public park, including the Town Square. The applicant shall coordinate all water locates with the Parks & Recreation Department's Park Manager (307-732-5793) at least three (3) business days prior to the event.

All tents having an area in excess of 200 square feet shall require advance permitting through the Fire Department unless open on all sides (IFC 105.6.43).

Tents which can hold over 50 or more occupants must provide the Fire Department with a detailed site and floor plan detailing means of egress, seating capacity, location and type of heating and electrical equipment (IFC 3103.6).

Tents, canopies or membrane structures shall not be located within 20 feet of lot lines, buildings, other tents, canopies or membrane structures, parked vehicles or internal combustion engines (IFC 3103.8.2).

Tents must meet the flame propagation performance criteria of NFPA 701 (IFC 3104.2).

Combustible materials shall not be located within any tent, canopy or membrane structure in use for public assembly (IFC 3104.5).

Smoking shall not be permitted in tents, canopies or membrane structures. Approved "No Smoking" signs shall be conspicuously posted (IFC 3104.6).

All open flame devices are strictly prohibited within tents unless approved by the fire code official (IFC 3104.7)

Portable 2A:10B-C fire extinguishers shall be provided, one minimum, for tents requiring permits with a 75 foot travel distance (IFC 3104.12).

Any cooking performed within tents shall require advance approval by the Fire Department (IFC 3104.15.3 – 3104.15.7).

Generators and other internal combustion power sources shall be separated from tents, canopies or membrane structures by a minimum of 20 feet and shall be isolated from contact with the public by fencing, enclosure or other approved means (IFC 3104.19).

FAIR GROUNDS / RODEO GROUNDS

All use of the Rodeo Grounds shall be coordinated through and subject to the approval of the Fair Manager under the authority of the Parks and Recreation Department.

Anyone camping at the Rodeo Grounds shall indicate that they are affiliated with the group by placing a card in the windshield of their vehicle. Campers are reminded that fires are not permitted.

Initials: GC

Special Event Application

STANDARD CONDITONS FOR ALL EVENTS (continued)

ROAD CLOSURES / PUBLIC PARKING CLOSURES

The applicant shall notify all business, residences, churches, etc. affected by the street closures and public parking closures prior to the public hearing.

The applicant shall notify, in advance, all business, residences, churches, etc. affected by the street closures and public parking closures and shall provide advance community radio and/or newspaper announcements regarding the event and the closures.

The applicant shall coordinate all road closures with the Police Department and shall provide an adequate number of volunteers to assist with traffic control and barricade setup/removal during each event.

The applicant shall coordinate all road closures with START, Fire/EMS, Public Works and the Police Department. Volunteer placement and assignments shall be reviewed and approved in advance with the Police Department.

The applicant shall be responsible for producing, posting and removing the temporary No Parking signs. No Parking signs must be posted two days prior to the parking closures. The applicant should meet with the Police Department two weeks prior to the event to discuss the procument, posting and removal of the signs.

Emergency vehicle access lanes shall be maintained during the event.

FIREWORKS

All fireworks displays must be approved by the Fire Chief prior to the event.

The Fire Department will monitor the firing area potential for wildfire. The Department will make recommendations directly to the applicant for mitigation and will give final approval the day of the event.

The application shall be subject to the review and approval of the Fire Department and any additional conditions or restrictions placed by such Department.

Please note, that the conditions and restrictions listed above are standard for special events held in Town, additional conditions or restrictions may be required by the Town Council and/or staff upon further review of the application.

I have read and understand the standard conditions for events. I have answered all of the questions in this application truthfully and to the best of my knowledge.

APPLICANT: eSigned via SeamlessDocs.com Gretchen Cherry Key: d006bb9c9987956c6be92b86b94d9294
Signature

APPLICANT: Gretchen Cherry
Printed Name

DATE: 03/23/2020

TITLE: DPP

Protocols and Requirements

Phase I: Grocery Items ONLY

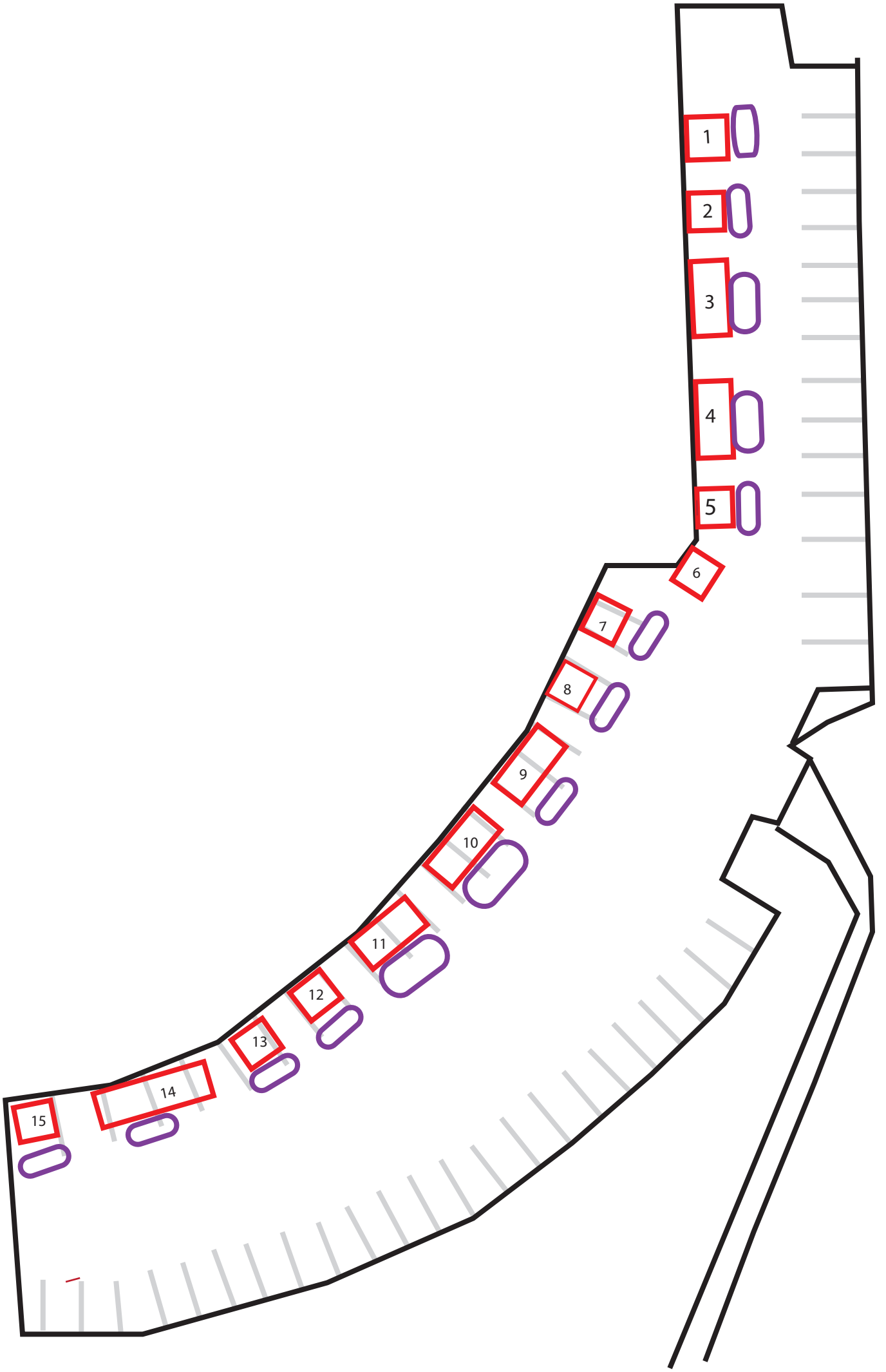
- Required masks or face cover for vendors
- Recommend masks or face cover for shoppers
- Booth spacing, 8-10 feet apart
- Send one member of household to market, leave kids and dogs at home if possible
- Customers do not touch food, vendors bag it
- Booth chalking/paint/cones to show 6-foot tick marks in each vendor line
- SF Booth and staff or volunteer at the market entrance to remind people to use hand sanitizer
- SF Booth have additional masks available to the public
- Vendors required to have hand sanitizer at their booth
- Vendors recommended to have hand washing station
- Vendors, staff, and volunteers will wear gloves whenever able.
- Vendors recommended to you vinyl tablecloths for ease of cleaning
- Vendors recommended to put additional table in front of merchandise to act as a barrier
- No eating at the market
- No food samples.

Phase II: Grocery Items + Prepared Food (TO GO ONLY)

- Required masks or face cover for both vendors
- Recommend masks or face cover to shoppers
- Booth spacing, 6-8 feet apart
- Send one member of household to market, leave kids and dogs at home if possible
- Customers do not touch food, vendors bag it
- Booth chalking to show 6-foot tick marks in each vendor line
- Vendors required to have hand sanitizer at their booth
- Vendors recommended to have hand washing station
- Vendors, staff, and volunteers will wear gloves whenever able.
- Vendors recommended to you vinyl tablecloths for ease of cleaning
- Vendors recommended to put additional table in front of merchandise to act as a barrier
- No eating at the market
- No food samples

Phase III: Grocery Items + Prepared Food + Alcohol + Live Music + Kids Cooking Classes

- Hand sanitizer offered throughout the market.
- Frequent cleaning of high-touch areas.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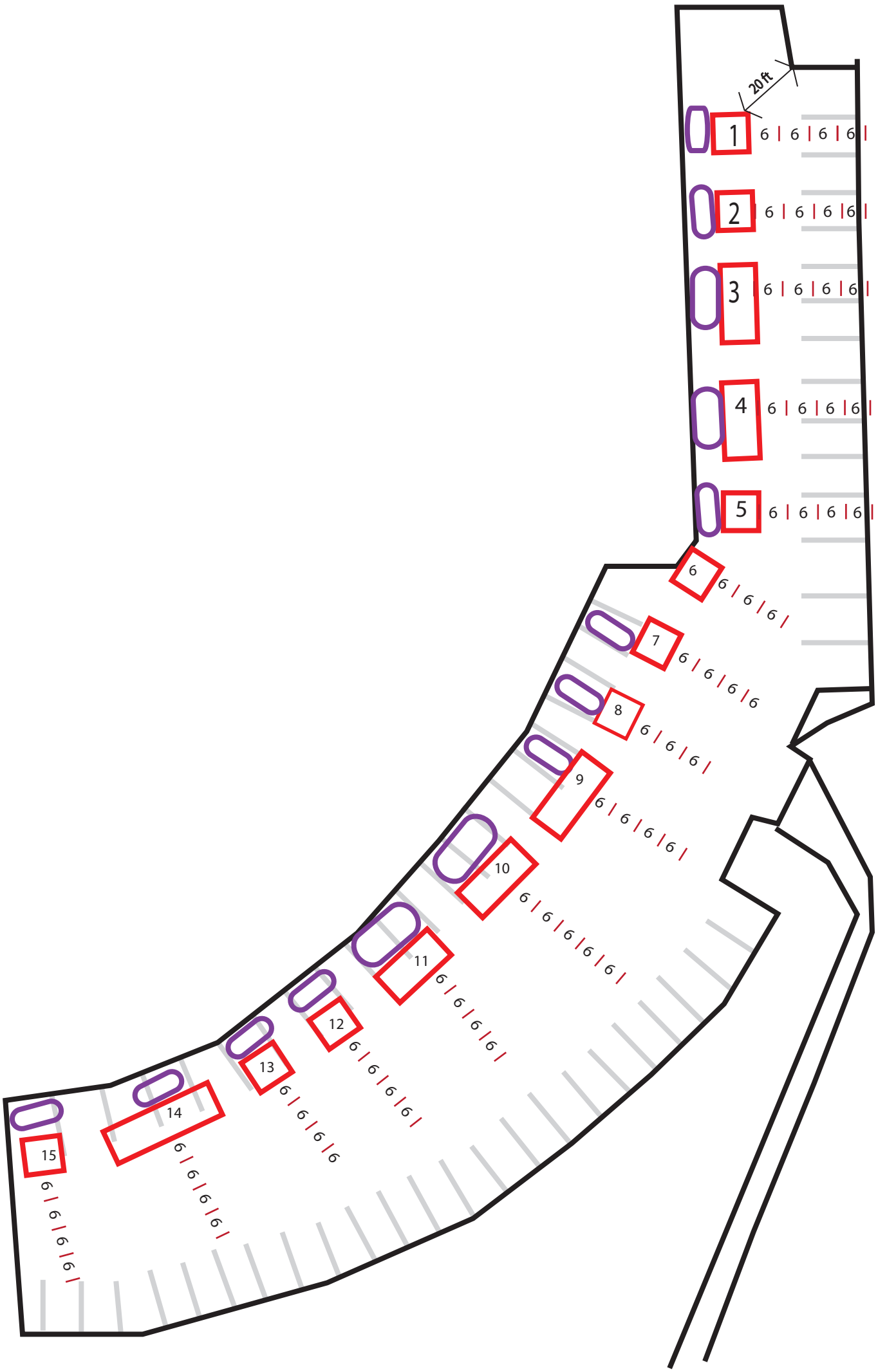
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TOWN OF JACKSON
TOWN COUNCIL
AGENDA DOCUMENTATION

PREPARATION DATE: May 11, 2020
MEETING DATE: May 18, 2020

SUBMITTING DEPARTMENT: Town Clerk
DEPARTMENT DIRECTOR: Roxanne DeVries Robinson
PRESENTER: Carl Pelletier

SUBJECT: Touch-a-Truck Traffic Control Request

STATEMENT/PURPOSE
Approve special events including street closures, use of Town Equipment, and services of Town personnel.

BACKGROUND/ALTERNATIVES
The Jackson Hole Children's Museum (a local non-profit), requests Council permission to utilize CMU riders to briefly hold traffic at several intersections in town to allow the Touch a Truck Parade to move through town in a complete group.

As you may be aware, the organizers of Touch a Truck have opted not to hold the standard large gathering on Sunday, June 7, 2020. Instead, they will have a procession of 8-12 vehicles on a 20 mile loop throughout the Town of Jackson between 11am and Noon.

The organizers have requested the Police Department to provide traffic control at some of the major intersections in town to allow the procession to remain together throughout the parade.

The Police Department indicated that this request would not impact the patrol staff, rather the Police Department could assign two volunteer CMU riders to major intersections on the town route. It is estimated that 20 riders would be needed. (2 per intersection). There would be little to no impact to the traffic flow within town. CMU would hold traffic when the "parade" reached their intersections and would direct them through the intersections.

SUGGESTED MOTION
I move to approve the traffic control request made by the Jackson Hole Children's Museum for the Jackson Hole Children's Museum Touch-a-Truck special procession.

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: PLANNING & BUILDING **PRESENTER**: PAUL ANTHONY

MEETING DATE: May 18, 2020

SUBJECT: TEMPORARY SIGN PERMIT – Merit Scholarships to Jackson Hole Classical Academy

STATEMENT/PURPOSE

To approve or deny relief from the Town's sign ordinance for the use of temporary signage not requiring a special event or exposition license.

BACKGROUND/ALTERNATIVES

The applicant has requested a temporary banner under Section 5.6.1.C.4.d of the LDRs to be located at:

105 Buffalo Way, Albertsons during:
May 19, 2020 to June 2, 2020

Section 6.5.1.C.4 of the Town's Land Development Regulations allows Council to approve up to four (4) off-site banners. The event does not require any Town services; therefore, a special event license is not required. Staff recommends approval, as the Town has permitted such signs in the past, as long as all other regulations for signage are complied with.

COMPREHENSIVE PLAN ALIGNMENT

Staff finds that the proposal is consistent with Comprehensive Plan.

STAKEHOLDER ANALYSIS

None

FISCAL IMPACT

None

STAFF IMPACT

None

LEGAL REVIEW

N/A

ATTACHMENTS

Applicant Submittal

RECOMMENDATION

The Planning Director makes no recommendation for the banners to be located in one location subject to the following conditions:

1. The use of the site shall be granted by the property owner.
2. The sign shall not be located on the sidewalks or in the public right of way.
3. The site shall state the date(s) of the advertised “virtual shadow day.”
4. The sign for Merit Scholarships may be installed at:
105 Buffalo Way, Albertsons during:
May 19, 2020 to June 2, 2020

SUGGESTED MOTION

I move to **approve** the temporary banner in conjunction with Jackson Hole Classical Academy subject to four (4) conditions of approval.

(Although Staff is not making a recommendation of the application, the motion is made in the affirmative.)

From: Andrew Pino
To: Tiffany Stolte
Subject: Re: Temp Sign - Albertsons
Date: Monday, May 04, 2020 10:22:42 AM

Hi Tiffany,

That's bizarre! Attached, please find it as an image.

Thank you,
Andrew

Mr. Andrew Pino, *Director of Marketing*
Mobile: 804-405-3405
Jackson Hole Classical Academy
www.jhclassical.org • 307-201-5040

TEMPORARY SIGN PERMIT APPLICATION

Planning & Building Department

150 East Pearl Ave.
P.O. Box 1687
Jackson, WY 83001

ph: (307) 733-0440
www.townofjackson.com

First**, go to www.townofjackson.com/245/Temporary-Sign-Permit **for process and other necessary information.

EVENT NAME:

Event Name: _____ Physical Address of Event: _____

Description of Event: Merit Scholarships to Jackson Hole Classical Academy

Grand Opening _____ Yes _____ No X

EVENT SPONSOR/APPLICANT: Name:

Mailing Address: 2500 South Park Loop Road Phone: 804-405-3405

E-mail: andrewpino@jhclassical.org ZIP: 83001

Non-Profit: X For Profit: _____

TEMPORARY BANNER LOCATION: Consent from Property Owner Required

Business/Description: Albertsons
Physical Address: 105 Buffalo Way
Dates of Display: May 17-31, 2020 New Dates: May 19 - June 2
Consent from Owner Obtained? Yes X No

Business/Description: _____
Physical Address: _____
Dates of Display: _____
Consent from Owner Obtained? Yes____ No____

Business/Description: _____
Physical Address: _____
Dates of Display: _____
Consent from Owner Obtained? Yes____ No____

Business/Description: _____
Physical Address: _____
Dates of Display: _____
Consent from Owner Obtained? Yes____ No____

SUBMITTAL REQUIREMENTS. Have you attached the following? Please answer accordingly.

Yes X No ____ Illustration of each proposed sign that includes dimensions, colors, materials and type of sign.

Yes ____ No ____ Installation specifications, and any structural details or specifications required for freestanding signs.

Under penalty of perjury, I hereby certify that I have read this application and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of the Town of Jackson to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

Signature of Authorized Event Applicant — 4/30/2020 Date

Andrew Pino — Applicant Name Printed

Director of Marketing — Title

On May 4, 2020, at 10:20 AM, Tiffany Stolte <TStolte@jacksonwy.gov> wrote:

Hello Andrew – The application that you sent me only contains a signature. Can you please try to re-send it?

Thanks!

Tiffany Stolte
Town of Jackson
Planning and Building Office Manager
307-733-0440 x1304

IMPORTANT NOTICE: The Town's Planning and Building Department office is closed temporarily to the public to protect against the spread of the Coronavirus. However, all building permits and development permits are still being accepted and processed and we will return all phone calls and emails as soon as we can. Please see the Planning and Building Department's website for more details on how to submit your application and for other important information. Also, please check the website frequently for updates.

From: Andrew Pino [mailto:andrewpino@jhclassical.org]
Sent: Thursday, April 30, 2020 2:13 PM
To: Tiffany Stolte <TStolte@jacksonwy.gov>
Subject: Temp Sign - Albertsons

Afternoon Tiffany,

Please find attached our completed form and design mockup for our upcoming banner placement at Albertsons. FYI, the design will likely adjust a bit but primarily only in text reduction.

Thank you so much for your help!

Best regards,
Andrew

Mr. Andrew Pino, *Director of Marketing*
Mobile: 804-405-3405

Jackson Hole Classical Academy
www.jhclassical.org • 307-201-5040

Jackson Hole Classical Academy

is offering

MERIT SCHOLARSHIPS

K-12 GRADE STUDENTS FOR THE 2020-2021 SCHOOL YEAR

EACH ACADEMY SCHOLARS WILL BE AWARDED $10,000

TO APPLY VISIT: JHCLASSICAL.ORG

PROSPECTIVE STUDENTS ARE ENCOURAGED TO JOIN US FOR A "VIRTUAL SHADOW DAY"

QUESTIONS: MS. MAJOLA KOCI AT MKOCI@JHCLASSICAL.ORG

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Administration **PRESENTER**: Roxanne Robinson

MEETING DATE: May 18, 2020

SUBJECT: **Airport Law Enforcement Memorandum of Understanding (MOU)**

STATEMENT/PURPOSE

The Town Council approves all major agreements on behalf of the Town of Jackson and the Mayor executes these agreements.

BACKGROUND/ALTERNATIVES

The Town of Jackson has been providing law enforcement services at the Jackson Hole Airport since May 20, 2009 under a Memorandum of Understanding. The current agreement expires June 30, 2020. The current agreement contains a base fee increase from $44,327 monthly to $46,136.25 monthly. This increase in the base fee is to cover wage increases for officers.

A sworn law enforcement officer is required to be in attendance at the Airport during each departure.

An updated Memorandum of Understanding with the Airport is needed in order for the Town to formally adopt the change. These changes have been discussed with Jim Elwood at the Airport and the Airport Board and they are comfortable with the changes and have signed the MOU. The updated agreement is attached to this staff report. Aside from the dollar figure and the dates of the agreement, there are no other changes to this agreement and the agreement has been previously reviewed and approved by the Town Attorney and the Airport Attorney. The Airport Board approved the updated agreement and signed it and the document is now ready for Council approval and execution.

The Town Council has many options available to them.

1. Approve the updated MOU as presented and authorize the Mayor to execute the document on behalf of the Town of Jackson.
2. Discuss the updated MOU and continue action on it until further information can be provided or questions can be addressed.
3. Other.

Staff is recommending the MOU be approved as presented.

COMPREHENSIVE PLAN ALIGNMENT

The ability of the Airport to operate is contingent upon sworn law enforcement services. The Airport is critical to a diverse and balanced economy.

STAKEHOLDER ANALYSIS

Stakeholders include the Jackson Hole Airport, the Jackson Police Department and Town of Jackson overall, residents and guests of the community utilizing airport services, local businesses relying on the airport to bring in tourists to the community, and the State of Wyoming relying on Teton County and the Town of Jackson to generate sales and lodging tax dollars from tourists to the community arriving through the Jackson Hole Airport.

FISCAL IMPACT

The fiscal impact of this agreement is that the Airport will continue to provide a reimbursement to the Town of Jackson at a new rate of $46,136.25 per month for three years into the future. This amount provides sufficient funding to continue the current service level within the department of 2 officers on duty at all times as well as coverage at the Jackson Hole Airport that includes leave time.

STAFF IMPACT

The staff impact of approving the updated arrangement is a positive one. It provides a comfort level in terms of staffing for the Jackson Police Department and the Town of Jackson. It allows the department to maintain a complement of officers the Chief of Police and Lieutenant deem appropriate for a minimum level of service in the community and at the Airport.

LEGAL REVIEW

Complete. The only change from the previous agreement is the dollar figure.

ATTACHMENTS

Updated MOU with Airport Board signatures.

RECOMMENDATION

Staff recommends the Council approve the MOU as presented and authorize the Mayor to execute the agreement.

SUGGESTED MOTION

I move to approve the Law Enforcement MOU between the Town of Jackson and the Jackson Hole Airport Board and authorize the Mayor to execute the agreement.

Memorandum Of Understanding
Between Town of Jackson and Jackson Hole Airport Board
For The Provision of Law Enforcement Services to the Jackson Hole Airport

1. Parties. This Memorandum of Understanding Between Town of Jackson and Jackson Hole Airport Board for the Provision of Law Enforcement Services to the Jackson Hole Airport ("**MOU**") is made and entered into by and between the Town of Jackson, whose address is P.O. Box 1687, Jackson, WY 83001 ("**Town**"), and Jackson Hole Airport Board, whose address is P.O. Box 159, Jackson, WY 83001 ("**Board**"), together "**Parties**.".

2. Purpose. The Town is providing certain law enforcement services at the Jackson Hole Airport ("**Airport**") on a reimbursement basis. The purpose of this MOU is to establish the working relationship and responsibilities of the Town and the Board relative to the provision of such services.

3. Term. This MOU shall be effective for the period commencing July 1, 2020 and shall remain in full force and effect for three (3) years, through and including June 30, 2023. This MOU may be terminated, without cause, by either of the Parties hereto upon one hundred and eighty (180) days written notice, and such notice shall be delivered by hand or by certified mail, return receipt requested as follows:

   Town:
   Town of Jackson
   Attn: Town Manager
   P.O. Box 1687
   Jackson WY 83001

   Board:
   Attn: Executive Director
   P.O. Box 159
   Jackson, WY 83001

4. Responsibilities of Town. The Town will provide law enforcement services at the Airport. This will be done by providing Jackson Police Department police officers to be present at and/or patrol the Airport from 5:00 a.m. to 11:00 p.m. (at least eighteen (18) hours per day) and during all air carrier departures, during each day of the term of this MOU. The Town reserves the right to fulfill this requirement by entering into one or more mutual aid agreements pursuant to Wyo. Stat. Ann. §7-2-106, as amended. All services will be in accordance with the requirements of 49 U.S.C. §44903(C) and the regulations and standards of the United States Transportation Security Administration promulgated pursuant thereto ("**TSA Requirements**"). All personnel matters including, but not limited to wage, paid time off, and disciplinary actions are the responsibility of the Town. Officers working at the Airport will utilize the Airport's time clock to log in upon reporting for airport duty and shall use it to log out at the end of their shift. The Town understands that if it fails at any time to provide services necessary to meet the TSA Requirements, the security screening checkpoint cannot function, and departing airline passengers cannot be boarded at the Airport. Upon notice to the Board, the Town may reduce the number of hours which officers are present at or patrol the Airport, so long as TSA Requirements continue to be met and officers remain at the Airport until all air carrier flights have

actually departed. If the Town reduces the number of such hours, the amount payable under Paragraph 5 below shall be reduced pro-rata, based on the per-hour rate paid by the Board to the Town for such services.

5. Responsibilities of the Board. The Town is providing officers on a reimbursement basis. The Town Finance Department will submit monthly invoices for all law enforcement services rendered at the Airport pursuant to this MOU. The monthly billing for the first year of the Term will be for the fixed sum of Forty-Six Thousand One Hundred Thirty-Six Dollars and Twenty-Five Cents ($46,136.25) per month. The fixed sum for monthly billing for year 2 and for year 3 of the Term will include, if any, the wage percentage increase the Town Council authorizes for police personnel for the applicable fiscal year. The Board will convert the officers' time clock hours into the appropriate format for federal reimbursement purposes. Although the Town will do its utmost to preclude the use of overtime to cover shifts, if overtime is required as a result of law enforcement services being required in excess of eighteen (18) hours in any day, the Board agrees to reimburse the Town for actual expenses as a result of said overtime. The Board shall pay in advance or reimburse after the Town's expenditure all costs associated with specialized training necessitated to provide services under this MOU, including but not limited to, those required to meet TSA requirements with respect to security screening at the Airport and any applicable Airport or Board rules and/or regulations.

6. General Provisions.

a. **Amendments.** Either party may request changes to this MOU. Any changes, modification, revisions or amendments to this MOU, which are mutually agreed upon by and between the Parties to the MOU, shall be incorporated, in writing, and effective when executed and signed by both of the Parties to this MOU.

b. **Applicable Law; Venue.** The construction, interpretation and enforcement of this MOU shall be governed by the laws of the State of Wyoming. The Courts of the State of Wyoming shall have jurisdiction over any action arising out of this MOU and over the Parties, and the venue shall be the Ninth Judicial District, Teton County, State of Wyoming.

c. **Entirety of Agreement; Binding Effect.** It is mutually agreed that this MOU shall supersede any and all prior memorandums of agreement which have been heretofore executed by the Parties on this subject matter herein and that all the terms of said other agreements, including any previous oral agreements, have been incorporated herein. It is further agreed that this MOU shall be binding upon the Parties hereto, their heirs, executors, administrators and assigns.

d. **Severability.** Should any portion of this MOU be judicially determined to the illegal or unenforceable, the remainder of the MOU shall continue in full force and effect, and the Parties may renegotiate the terms affected by the severance.

e. **Sovereign Immunity.** The Town does not wave its sovereign immunity by entering into this MOU and fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this MOU.

f. **Third-Party Beneficiary Rights.** The Parties do not intend to create in any other individual or entity the status of third-party beneficiary, and this MOU shall not be construed so as to create such status. The rights, duties and obligations contained in this MOU shall operate only between the Parties to this MOU, and shall inure solely to the benefit of the Parties to this MOU. The provisions of this MOU are intended only to assist the Parties in determining and performing their obligations under this MOU. The Parties to this MOU intend and expressly agree that only parties signatory to this MOU shall have any legal or equitable right to seek to enforce this MOU, to seek any remedy arising out of either Party's performance or failure to perform any term or condition of this MOU, or to bring an action for the breach of this MOU.

g. **Signatures.** In witness whereof, the Parties to this MOU through their duly authorized representatives have executed this MOU on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU as set forth herein.

h. **Section and Paragraph Headings**. The section and paragraph headings in this MOU are for reference purposes only and shall not affect the meaning or interpretation of this MOU.

i. **Force Majeure**. No Party shall be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to acts of God, public enemy, civil war, strikes or labor disputes, or any other cause beyond the Parties' reasonable control. Each Party agrees to notify the others promptly of the occurrence of any such cause and to carry out this Agreement as promptly as practicable after such cause is terminated.

The effective date of this MOU is the date of the signature last affixed hereto.

TOWN OF JACKSON, WYOMING:

_____
Mayor

Date: _____

Print Name: _____

Attest:

_____
Clerk

Date: _____

Print Name: _____

JACKSON HOLE AIRPORT BOARD:

Jerry Bland, President

Date: 4/23/20

Attest:

Date: 4/23/20

Ed Liebzeit, Secretary

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Public Works **PRESENTER**: Brian Lenz

MEETING DATE: May 18, 2020

SUBJECT: **P20-048:** Encroachment Agreement with Jackson Hole Community Housing Trust, for Property Located At 174 North King Street – Canopy Within the Public Right-of-Way.

STATEMENT/PURPOSE

The purpose of this item is to present to the Town Council for its consideration of an Encroachment Agreement with the Jackson Hole Community Housing Trust for proposed canopies that extend approximately 1 to 2 feet into the Town right-of-way for 110 feet along the west side of North King Street, legally known as PT SW1/4SW1/4 SEC.27, TWP. 41, RNG. 116.

LOCATION

Jackson Hole Community Housing Trust is leasing the property owned by the Town of Jackson described as 174 North King Street (please see the following vicinity map).

BACKGROUND/ALTERNATIVES

The subject property is located within the Town of Jackson Lodging Overlay zoning district and is approximately 0.40 acres in size.

The property was formerly occupied as Town of Jackson Employee Housing. The existing structure is being redeveloped into a condominium building including commercial/retail space and 24 residential units. The new building form consists of three stories above grade and basement storage. Specific to this project and the allowed setbacks, a new canopy is proposed along the east and south property lines with balconies above. Designed to complement the size and scale of the addition, the canopy extends 1 to 2 feet off the property boundary with 10 feet of clearance above the proposed grade. Storm drainage has been included in the canopy design to control runoff while providing cover at the building's main entry. The canopy is proposed within the Town right-of-way on North King Street as part of Application P20-048. The application was approved with conditions documented in the Recommendations section of this report.

STAKEHOLDER ANALYSIS

Included are the residents and visitors to the Town of Jackson and the applicant/business owner. The Town Council is the final decision maker on all policy decisions regarding the public right-of-way.

FISCAL IMPACT
None.

STAFF IMPACT
Town Planning, Legal, and Engineering staff coordinate to process and produce the encroachment agreement, 8-12 hours of staff time.

LEGAL REVIEW
The legal review is ongoing as needed.

ATTACHMENTS
Proposed Encroachment Agreement.

RECOMMENDATION
Staff recommends approval of the Encroachment Agreement between the Town of Jackson and Jackson Hole Community Housing Trust to allow canopies to encroach into the Town's North King Street public right-of-way, subject to the following conditions:

1. Encroachment Agreement obtains required Town Council approval.
2. Applicant shall provide all the required exhibits for the Encroachment Agreement. Exhibits shall be to scale on 8.5"X11" paper in black and white without aerial photographs, or as approved by the Town Engineer.
3. Stormwater drainage shall be into the building or collected and conveyed toward the building and not towards the street. No runoff onto the sidewalk or landscaping strip is allowed.
4. Applicant is responsible for all Teton County Clerk recording fees.
5. The owner must agree not to erect any signs obstructing or otherwise compromising the usefulness and/or effectiveness of any traffic control devices or restricting sight distance in the vicinity.
6. When necessary the Town reserves the right to use the canopy or posts in lieu of street sign posts.

SUGGESTED MOTION
I move to approve the Encroachment Agreement between the Town of Jackson and Jackson Hole Community Housing Trust to allow encroachment of canopies into the Town right-of way at 174 North King Street subject to the recommended conditions, approval by the Town Engineer and Town Attorney, and further authorize the Mayor to execute an Encroachment Agreement.

TOWN OF JACKSON
ENCROACHMENT AGREEMENT

THIS ENCROACHMENT AGREEMENT ("Agreement"), by and between Jackson Hole Community Housing Trust, with an address of P.O. Box 4498, Jackson, WY, 83001, hereinafter referred to as "Encroaching Party" and the TOWN OF JACKSON, a municipal corporation of the State of Wyoming, with an address of P.O. Box 1687 Jackson, WY 83001 hereinafter referred to as "Town," together "Parties," provides as follows:

WHEREAS, Encroaching Party is the owner in fee simple of that certain real property in Teton County, Wyoming, described as follows:

Street Address: 174 North King Street

Location: PT. SW1/4SW1/4 SEC.27, TWP. 41, RNG. 116

PIDN: 22-41-16-27-3-00-021

WHEREAS, the Town is the owner of that certain public right-of-way known as North King Street, which public right-of-way adjoins Encroaching Party's property; and

WHEREAS, the Encroaching Party shall encroach in a portion of the above-noted public right of way as set forth in Exhibits A, B, and C, attached hereto and made a part hereof, for:

> Third story roof and first story entry canopies that extend approximately 1 to 2 feet into the Town right-of-way for 110 feet along the west side of North King Street, as approved in Building Permit B20-0143 plans, (hereinafter "Encroaching Property"); and

WHEREAS, on May 18, 2020 the Jackson Town Council voted to approve an Encroachment Agreement between the Town of Jackson and the Encroaching Party for the Encroaching Property subject to final review and approval by the Town Engineer and Town Attorney and subject to the following conditions:

1. Encroachment Agreement obtains required Town Council approval.
2. Applicant shall provide all the required exhibits for the Encroachment Agreement. Exhibits shall be to scale on 8.5"X11" paper in black and white without aerial photographs, or as approved by the Town Engineer.
3. Stormwater drainage shall be into the building or collected and conveyed toward the building and not towards the street. No runoff onto the sidewalk or landscaping strip is allowed.
4. Applicant is responsible for all Teton County Clerk recording fees.
5. The owner must agree not to erect any signs obstructing or otherwise compromising the usefulness and/or effectiveness of any traffic control devices or restricting sight distance in the vicinity.
6. When necessary the Town reserves the right to use the canopy or posts in lieu of street sign posts.

WHEREAS, Encroaching Party recognizes that it cannot acquire any right, title, or interest in and to the said public rights-of-way by adverse possession or otherwise due to the encroachment.

NOW, THEREFORE, IT IS HEREBY AGREED that for and in consideration of the aforesaid premises and good and valuable consideration, the receipt of which is hereby acknowledged, paid by each of the said parties to the other, Encroaching Party and the Town do mutually covenant and agree as follows:

1. ACKNOWLEDGMENT OF TOWN'S RIGHTS:

Encroaching Party acknowledges the Town's exclusive rights, title, and interest in the public rights-of-way and that it cannot acquire any right, title, or interest in the afore-referenced public right-of-way now or hereafter.

2. AGREEMENT TO ALLOW ENCROACHMENT:

The Town agrees that Encroaching Party shall have the right to have the Encroaching Property extend beyond the boundary line of the Property and to encroach within the Town right-of-way to the extent set forth herein.

3. ENCROACHING PARTY OBLIGATIONS:

Encroaching Party must maintain the Encroaching Property in a safe and structurally sound manner. All repairs and reconstruction work must be completed such that thereafter the Encroaching Property meets the standards of the Building Code of the Town of Jackson adopted at the time of repair and reconstruction.

Encroaching Party must maintain the Encroaching Property such that it does not allow water to leak onto the sidewalk.

Any snow removed from the Encroaching Property to the Town right-of-way must be removed from the Town right-of-way by the Encroaching Party at the time of removal from the Encroaching Property. Encroaching Party is responsible for obtaining any required permits for the snow removal.

4. RIGHT TO MAINTAIN:

Encroaching Party shall have the right from time to time to go upon the adjoining Town right-of-way for the purpose of maintaining the Encroaching Property, provided that any damage occurring to the property of the Town as a result of such maintenance shall be corrected or repaired at the sole expense of Encroaching Party or its successors and assigns. Under no circumstances shall the Encroaching Party be allowed to increase the existing encroachment, absent written approval (including applicable regulatory approval) from the Town. Notwithstanding the foregoing, no provision in this Agreement shall limit or prohibit the Town from pursuing its right of eminent domain with regard to the Encroaching Property and no provision of this Agreement shall limit or prohibit Encroaching Party from defending its property therefrom.

5. RELEASE OF CLAIMS:

Encroaching Party, and its successors or assigns hereby releases and holds harmless the Town from any and all damage, claim, cause, or right of action which may arise from normal Town use, maintenance, construction, repair or replacement activities by the Town associated with the Town rights-of-way (or easement) in its present configuration and alignment and any of the present utilities within the Town rights-of-way and which may arise due to the proximity of the Encroaching Property to the work activity being conducted by the Town.

6. INDEMNIFICATION:

Encroaching Party, and its successors in interest and assigns, hereby agrees to indemnify and hold harmless the Town of Jackson from any and all losses, damages, claims, causes of action, or rights of action, including reasonable attorney's fees, which the Town may incur as a result of or in any way related to the construction, use, and/or maintenance of the Encroaching Property. The Town will give the Encroaching Party prompt notice of any claims against it arising from or related to such Encroaching Property and the Encroaching Party will be kept fully informed and advised of material matters relating to the defense and handling of such claim by the Town, its insurers, or its attorneys. Nothing in this Agreement shall alter, amend, modify, or diminish the existing statutory, constitutional, or legal defenses of the Town in relation to such claims under the Wyoming law.

7. BINDING COVENANT:

The provisions of this Agreement shall operate as a covenant running with all parcels of land above described and shall bind both parties hereto and their respective successors and assigns in ownership.

8. TERM OF AGREEMENT:

This instrument and all the undertakings, promises and covenants contained herein shall remain in full force and effect until such time as the Encroaching Property is removed, demolished or destroyed, whether intentionally or by casualty loss, such as fire, earthquake, or other unforeseen occurrence, in which event all of the rights of the Encroaching Party hereunder to the encroachment shall cease. Provided, however, if, within a reasonable time (not to exceed two (2) years) after such event, the Encroaching Party at their sole cost initiates repairs, replacements, or reconstruction of the structure in essentially the same outside dimensions and configurations as the original Encroaching Property, then all its rights shall be reinstated nunc pro tunc, and in the case of replacement or reconstruction to the extent allowed by development regulations at the time of replacement or reconstruction, and preserved on the same terms set forth in this Agreement. Upon the development of compelling municipal interests with which the Encroaching Property may interfere, Encroaching Party, its successors and assigns agree to cooperate with the Town to the fullest extent possible under then existing circumstances to accommodate and/or mitigate such interference by its Encroaching Property.

9. NO THIRD-PARTY BENEFICIARY:

This Agreement is made solely and specifically among and for the benefit of the parties hereto, and their respective successors and assigns, and no other person or entity will have any rights, interest, or claims hereunder or be entitled to any benefits under or on account of this Agreement as a third party beneficiary or otherwise.

10. HEADINGS:

Headings used in this Agreement are for convenience only and shall not be deemed to constitute a part hereof, or shall not be deemed to limit, characterize, or in any way affect the provisions of this Agreement.

11. MODIFICATION IN WRITING:

No modification, waiver, amendment, addition or cancellation of this document shall be effective unless in writing and signed by both parties.

12. BINDING EFFECT AND SEVERABILITY:

This Agreement shall be binding upon and inure to the benefit of the parties hereto, their heirs, legal representatives, successors, and permitted assigns unless voluntarily terminated upon agreement by all parties or their heirs, legal representatives, successors, and permitted assigns. If a Court finds any provision of this Agreement to be invalid or unenforceable, such finding shall not render the entire Agreement void or unenforceable. If feasible, the offending provision shall be deemed modified within the limits of enforceability or validity. If the offending provision cannot be modified, it shall be stricken and all other provision of this Agreement in all other respects shall remain valid and enforceable.

13. RECORDING:

This Agreement shall be executed upon its approval by the Jackson Town Council and shall thereupon be filed with the Town Clerk and recorded in the Land Records of Teton County, Wyoming at the Encroaching Party's sole cost.

14. GOVERNING LAW AND FORUM:

This Agreement shall be construed, performed and enforced in accordance with, and governed by, the laws of the State of Wyoming, without giving effect to the principles of conflict of laws thereof. The parties hereto irrevocably elect as the sole judicial forum for the adjudication of any matters arising under or in connection with this Agreement, and consent to the jurisdiction of, the courts of the County of Teton, State of Wyoming, or the United States of America for the District of Wyoming. This Agreement was negotiated by both parties hereto. As such, this Agreement shall not be construed against or in favor of any party by virtue of which party drafted it or any portion thereof.

15. COUNTERPARTS:

This Agreement may be executed in multiple counterparts, each of which shall be an original but all of which together constitute one and the same instrument.

16. SOVEREIGN IMMUNITY:

The Town of Jackson does not waive its sovereign immunity by entering into this agreement, and fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this Encroachment Agreement.

17. WAIVER:

A waiver by the either party regarding the breach of any of the provisions of this Water Agreement shall not bar the right of the parties to enforce the terms of this Agreement.

18. ENTIRE AGREEMENT:

The parties agree that this Agreement reflects the entire agreement between the parties as to the subject matter hereof, and no amendment of such agreement shall be effective unless in writing and signed by both parties.

IN WITNESS WHEREOF, the effective date of this agreement is _____

[*signatures follow on next page*]

ENCROACHING PARTY

By:_____

Print Name:_____

Its:_____

STATE OF WYOMING)
) ss
COUNTY OF TETON)

The foregoing instrument was acknowledged before me by _____, as its property owner, who is personally known to me or has established their identity and authority to me by reasonable proof, this___day of_____, 2020.

Witness my hand and official seal.

_____
Notary Public

My commission Expires:

TOWN OF JACKSON,
a municipal corporation
of the State of Wyoming

By: _____
Pete Muldoon, Mayor

Date: _____
ATTEST: Sandra P. Birdyshaw, Town Clerk

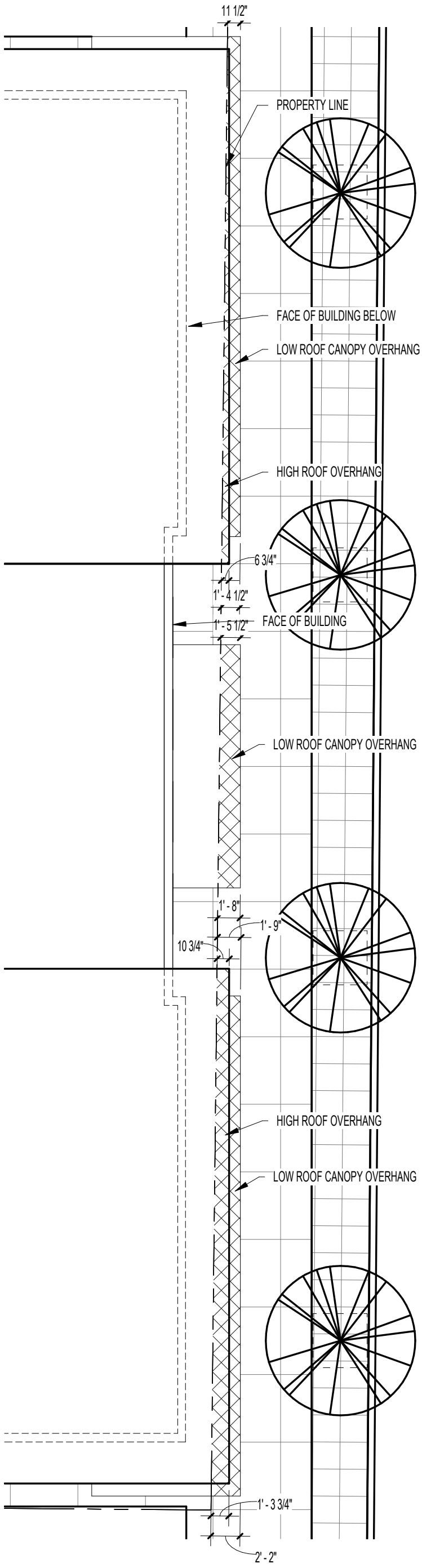
STATE OF WYOMING)
) ss.
COUNTY OF TETON)

The foregoing instrument was acknowledged before me by Pete Muldoon, as Mayor of the Town of Jackson, and Sandra P. Birdyshaw, as the Town Clerk, who are each personally known to me or has each established their identity and authority to me by reasonable proof, this_____day of _____, 2020.

Witness my hand and official seal.

My commission Expires:

_____
Notary Public



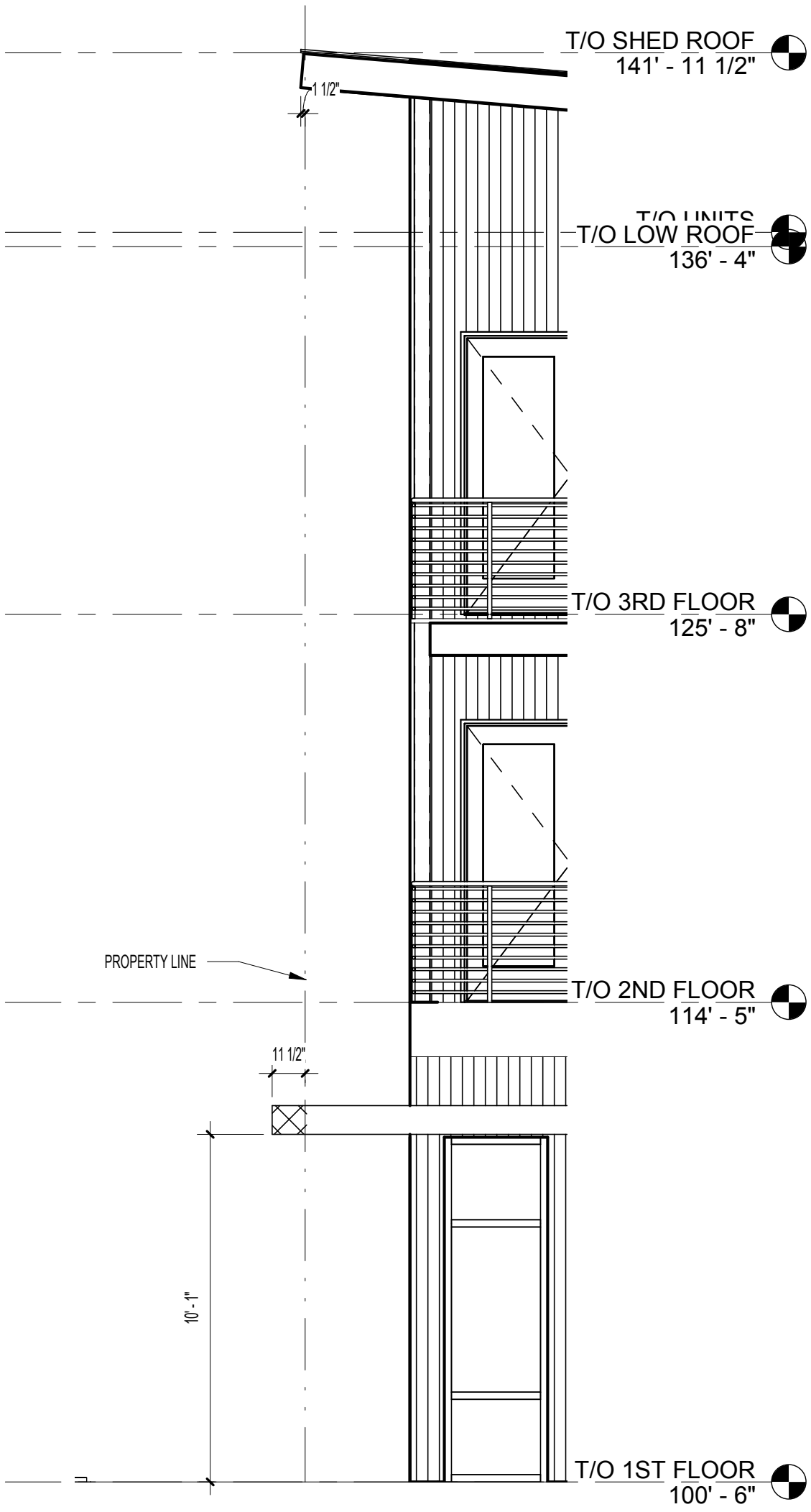
1 SITE - ENLARGED PLAN
1/8" = 1'-0"

ENCROACHMENT AGREEMENT - EXHIBIT A

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

174 N. KING ST.

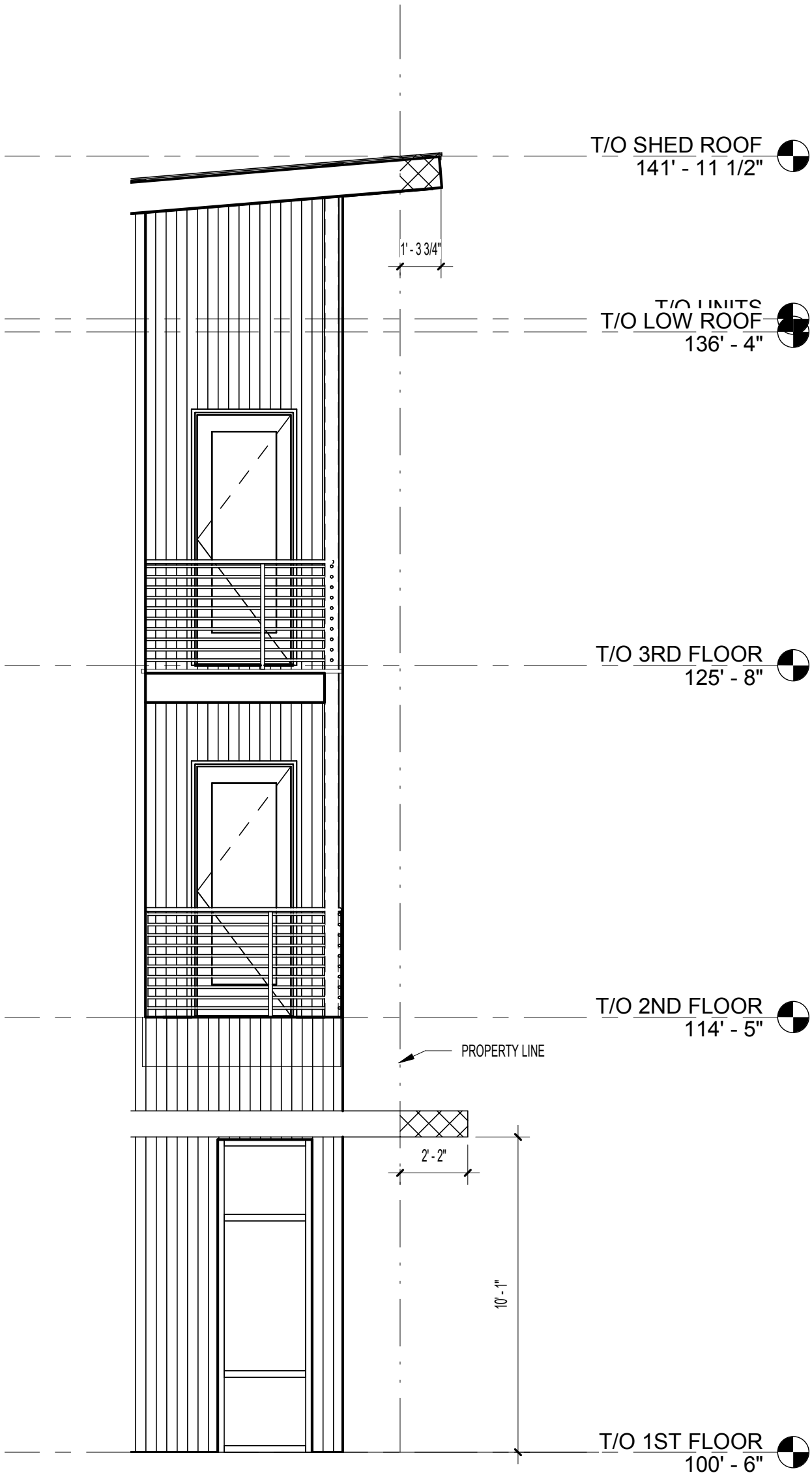
04/15/20



2 BUILDING ELEVATION NORTH - ENLARGED
1/4" = 1'-0"

ENCROACHMENT AGREEMENT - EXHIBIT B

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA



3 BUILDING ELEVATION SOUTH - ENLARGED
1/4" = 1'-0"

ENCROACHMENT AGREEMENT - EXHIBIT C

NORTHWORKS
CHICAGO | JACKSON HOLE | SAN FRANCISCO | PHILADELPHIA

BOARD OF COUNTY COMMISSIONERS

TOWN COUNCIL

JOINT INFORMATION MEETING
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Administration **PRESENTER**: Roxanne DeVries Robinson

MEETING DATE: May 4, 2020

SUBJECT: **Airport Budget**

STATEMENT/PURPOSE

The Jackson Municipal Code and the Joint Powers Agreement between the Town and County requires Town Council and County Commission approval of the Airport budget.

BACKGROUND/ALTERNATIVES

The Joint Powers Agreement between the Town and County indicates that the Airport Board must submit their budget on or before May 1st of each year to the Town Council and the County Commissioners (June 1st for Municipal Code). The budget is then subject to alteration, modification or revision, and approval by the Town Council and the Board of County Commissioners.

The purpose of this agenda item is for the Town Council and County Commission to receive the budget and consider whether they are ready to adopt the budget as proposed, ask questions and discuss any issues of concern, or whether they would like to postpone discussion on the budget until the June 1 Joint Information Meeting.

An excerpt from the Municipal Code is below:

2.36.080 Budget submission – Funding.

The board shall submit on or before the first day of June of each year, to the town council, and to the board of county commissioners, Teton County, a proposed budget for the ensuing fiscal year which will be from July 1st of each year until June 30th of the ensuing year. Said budget shall be subject to alteration, modification or revision by the town council or board of county commissioners and after being approved by them shall be adopted as the fiscal plan of the board for the subsequent year. Such fiscal plan as approved by the board of county commissioners and town council shall be funded from revenues derived from the Jackson Hole Airport operation, supplemented by additional appropriations on an equal basis from the county of Teton and the town of Jackson.

An excerpt from the JPA is below:

> 8(d) Budget Approval. The board shall submit on or before the 1st day of May of each year to the Teton County Board of County Commissioners and the Jackson Town Council a proposed budget for the fiscal year of July 1 through June 30. Said budget shall be subject to alteration, modification or revision by the Teton County Board of County Commissioners and the Jackson Town Council acting jointly, and after being approved by them, shall be adopted as the fiscal plan of the Board for the subsequent year. Such fiscal plan shall be funded from revenue derived from the operation of the Jackson Hole Airport, state and federal grants and passenger facilities charges, supplemented if necessary by additional appropriations on an equal basis from Teton County and the Town of Jackson.

As noted in the budget, the Airport does not receive any direct funding from the Town of Jackson or Teton County. Representatives from the Airport will be at the meeting to answer questions.

The Town Council and County Commission have many options available to them in regards to this discussion of the Airport Budget.

1. Adopt the proposed budget as presented.
2. Ask questions, and then either adopt or postpone action on the budget.
3. Ask the Airport Director for further information or clarification of issues to be presented at the June 1, Joint Information Meeting.
4. Alter, modify and revise the budget and ask the Airport Board to come back and present their changes to the Town Council and County Commission at the June 1 Joint Information Meeting.
5. Other.

COMPREHENSIVE PLAN ALIGNMENT

Airport operations directly contribute to Section 6 under Quality of Life related to a Diverse and Balanced Economy. This section in the Comprehensive Plan discusses the encouragement of businesses and businesspeople that could work from anywhere locating here and the Airport is a critical component of that connectivity and ability to work remotely. The Airport does not require investment of local funds for economic development and this is in direct alignment with Strategy 6.3.S.1.

STAKEHOLDER ANALYSIS

The stakeholders involved in this situation include employees of the Airport, residents of the Jackson Hole community and regional area, guests visiting our community and the regional area, businesses in the valley as well as our residents who live in the valley but may use the Airport to commute to businesses outside of the area.

FISCAL IMPACT

None. The Town and the County do not currently supplement the Jackson Hole Airport Operation.

STAFF IMPACT

None.

LEGAL REVIEW

n/a

ATTACHMENTS

Airport Budget and Memo

RECOMMENDATION

Staff recommends the Town Council and County Commission consider the budget for the Airport Board and determine whether they are ready to adopt the budget as presented, pull the budget off of the consent calendar and discuss the budget, or whether they would like to continue action on the budget to the June 3 Joint Information Meeting.

SUGGESTED MOTION

Should the Council and Commission be ready to adopt the budget as presented, the motion would be:

I move to approve the proposed budget for the Airport as presented.

JACKSON HOLE AIRPORT OPERATING BUDGET 2020-2021

The following document presents the Jackson Hole Airport Board's operating budget for the Fiscal Year 2020-2021.

Jackson Hole Airport Board
1250 E. Airport Rd.
Jackson, WY 83001
307-733-7695
4/16/2020

Background

The following pages present the Jackson Hole Airport Board's (the Board's) operating budget for Fiscal Year 2020/2021. The Town of Jackson and Teton County created the Board by joint resolution in 1967. The Board consists of 5 members jointly appointed by the Town and County. The Joint Powers Agreement sets forth the terms by which the Town, County and Airport operate together. Under this agreement, the Town and County annually review the Airport Budget. The Town and County also both sign all FAA grant agreements as co-sponsors. The Board operates under the authority of the Joint Powers agreement and under such has ownership of all facilities, equipment, lease holdings and operating rights.

The Board adopted a Certificate of Organization pursuant to the Town of Jackson Ordinance and Board of Teton County Commissioners Resolution on January 2, 1968 officially forming the Airport Board and electing officers. Annually the Certificate of Organization is renewed, and new officers are elected as appointed by the Town and County. For the year February 1, 2020 – January 31, 2021 the slate of officers is: Jerry Blann, President; John Eastman, Vice President; Bob McLaurin, Treasurer; Ed Leibzeit, Secretary; Rick Braun, Member. The Board operates the Airport inside the boundaries of Grand Teton National Park (the Park) under a Use Agreement with the U.S. Department of Interior. The Third Amendment to the Use Agreement extended the term to April 23, 2053 and the Fourth Amendment established the current Use Fee being paid by the Airport to the Park.

The Board operates the Airport as a business enterprise to be financially self-sufficient. The Airport does not have the authority to tax and does not use local tax dollars, property tax or sales tax for operations. The Board's fiscal year is from July 1 – June 30 each year. Once the Board has approved the budget it will be submitted to the Town and County for review no later than May 1 of each year. Any required changes to the Board-approved rates and charges will be made prior to July 1 by resolution. This includes changes to ground transportation fees, parking fees, rents and other standard fees.

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Airport Activity

Evaluating the airport's activity numbers is important to planning long-term needs for infrastructure, staffing, and operations. The airport has continued to see strong growth in activity with an increase in the number of visitors making calendar year 2019 the airport's largest year on record. Enplanements for the calendar year ending 12/31/2019 were 454,629 which was 16% higher than the previous year. Over the last few years the "off-seasons" continue to show strong growth in passenger activity as has the winter season. Traditionally, staff works with the airlines to forecast activity for the upcoming year and applies historic trends to this forecast to predict future growth. With the advent of COVID-19, staff worked with several different sources to develop an activity forecast for the future year. These numbers represent a conservative perspective used for the financial outlook presented in this budget.

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Jackson Hole Airport Board Budget Summary

This year we continue to present the budget with three enterprise centers and six cost centers. The enterprise centers include the Fuel Farm, Security Operations and Airport Operations. The six specific cost centers remain unchanged from the prior year and include: airfield, landside, terminal, other buildings and grounds, environmental, and community outreach. Revenues, expenses and cost centers for the various enterprise centers and their associated cost centers are outlined in the following pages. Presented below is a chart detailing the Airport Board's total budget for FY 2020/2021.

Revenues		**2020-2021**
	Airport Operations	9,149,302
	Security Operations	7,490,307
	Fuel Farm Operations	19,384,394
Total Revenue		36,024,003
Expenses		
	Airport Operations	(13,036,841)
	Security Operations	(7,791,147)
	Fuel Farm Operations	(17,785,337)
Total Expense		(38,613,325)
	Net Income	(2,589,321)
Capital and Debt Sources		
	State/Federal Grants	25,120,000
	PFC	611,000
	CFC	744,406
	Loans	-
	Total Capital and Debt Sources	26,475,406
Capital and Debt Uses		
	Terminal	(2,086,483)
	Rental Car QTA	(1,513,481)
	Fuel Farm	(1,038,021)
	Total Capital and Debt Uses	(4,637,985)
Capital Expenditures		
		(31,975,000)
CARES Grant		16,494,770
To/(From) Net Reserves FY 20/21		3,767,870
Unrestricted Cash Balance Forecast FYE June 30, 2020		6,023,450
Unrestricted Cash Balance Forecast FYE June 30, 2021		9,791,320

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Airport Operations

The Airport operating budget is a stand-alone enterprise center separate from security operations and fuel farm operations. All revenues generated from the operation of this enterprise center, including rents, landing fees, and other operating fees, will be used to offset the expenses related to airport operations. Year-end balance expected from airport operations is anticipated to be -$3,887,539. This is before the anticipated $16,494,770 in the recently approved CARES grant funding from Congress. The grant money can be used for any FAA approved airport operating expense or airport debt service. The funding will be used to offset the anticipated shortfall in airport operating income as well as retire some FY 2020/2021 debt service. The specific details for the airport operations enterprise center are outlined on pages 5-16.

Security Operations

Security has been broken out as an individual enterprise center with a separate budget from the Airport operating budget. All income and expenses related specifically to security operations are in this budget. The revenue in this enterprise center covers the security screening of both passengers, and concessions entering the secure area of the airport. It also covers costs associated with overall airport security including the Town of Jackson law enforcement officer presence and night security at the airport. The additional airport security is achieved through two contracts: one for night security services with Jackson Hole Security and the other with the Town of Jackson for federally mandated law enforcement officer presence during airport screening operations. The balance from operating the Security Operations enterprise center is -$300,840. The Security Operations enterprise center details can be found on page 17.

Fuel Farm

The fuel farm operation has been set up with an individual operating budget including income, expense, and loan payment. Fuel sales have been adjusted based on predicted activity levels for the upcoming budget year. Income includes fuel and glycol revenues, the administration fee on fuel and glycol, and the fee on fuel delivered. Fuel farm expenses include fuel and glycol purchases, glycol recovery and trucking expenses, labor, overhead and maintenance expenses at the fuel farm, and glycol recapture pad and debt service. Year-end income anticipated to be received from the fuel farm operations are $561,037 after debt service. The fuel farm enterprise center information is detailed on page 18.

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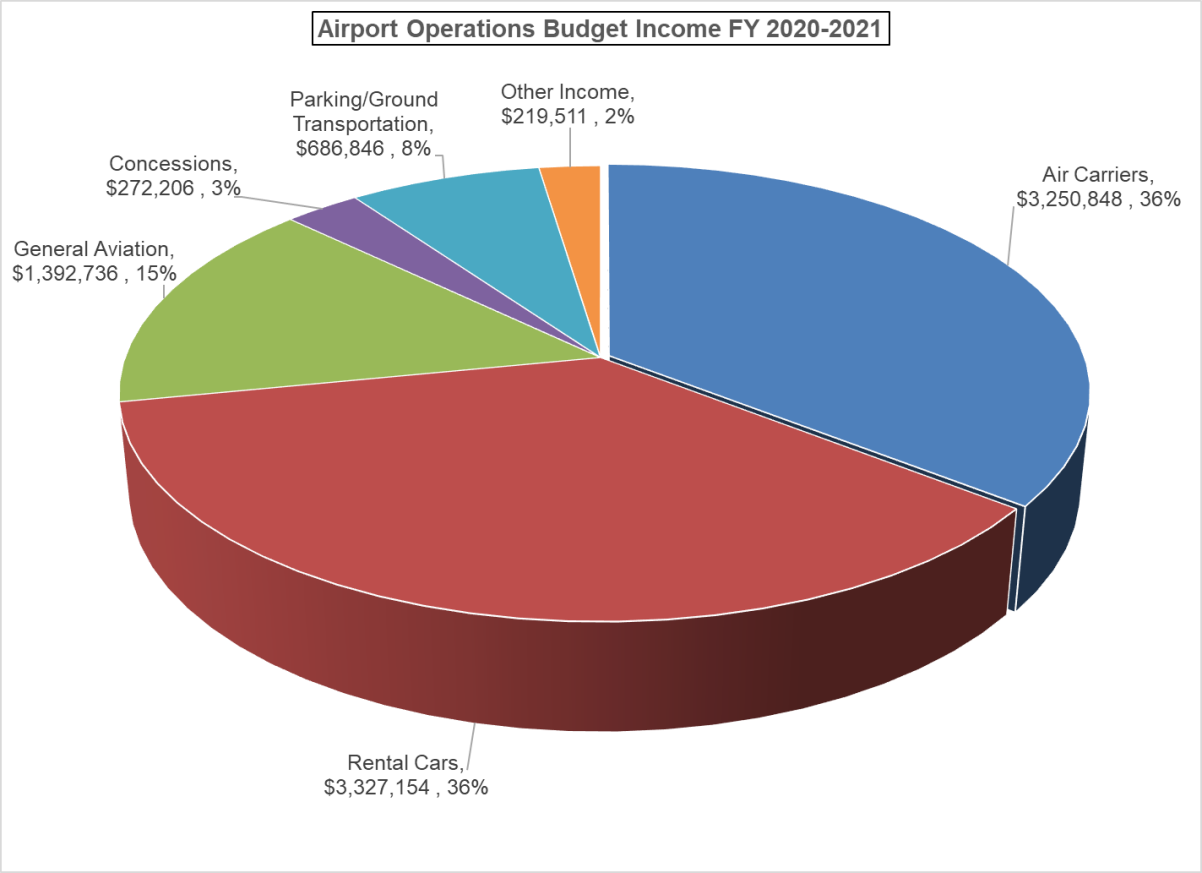
Airport Operations Revenue Summary
The Board operates the Airport as a business enterprise to be financially self-sufficient. The Airport does not have the authority to tax and does not use local tax dollars, property tax or sales tax for operations. Aeronautical revenues are collected from both the fixed base operator and the airlines. Non-aeronautical revenues are collected from a variety of sources including terminal concessions, rental cars and parking. These revenue streams are used to fund cost center expenses.



Air Carriers
Air Carrier income is derived from two sources: landing fees and terminal rents. These revenues are used to offset expenses related to the airfield and terminal operations. Given the current economic and travel circumstances, the terminal rent and landing fees are proposed to remain the same. Landing fees are calculated on a maximum certified gross weight (CGW) basis and are proposed to remain at $4.61 per 1,000 pounds landed CGW.

Air carrier revenue is expected to decrease -24.2% for FY 2020/2021 to $3,250,848 from the budgeted number in 2019/2020. This decrease is due to a projected decline in activity levels over the next fiscal year. Of this, $2,060,287 is comprised of terminal space rental and the remaining $1,190,561 is landing fees.

Rental Cars

Rental car revenue is predominantly composed of minimum annual guaranteed bid amounts (MAGs) which were established during an open competition bid process in 2018. By contract, the on-airport rental car companies are required to pay 10% of gross revenue or their MAG, whichever is higher. The contract does allow for MAG relief if the passenger activity levels drop by 25% or more for 3 consecutive months. This has been considered in this budget. The rental cars also pay rent for space in the terminal and parking lot (including storage spaces) to help offset the expenses related to the terminal and landside cost centers. Finally, the rental cars pay rent, operations and maintenance costs for the use of the rental car quick turnaround (QTA) car wash facility. These fees help to offset the cost of operating the QTA facility. The rental car revenue for FY 2020/2021 is anticipated to be $3,327,154.

General Aviation

The general aviation revenue source includes landing fees collected from general aviation users as well as concession fees and rents received from FBO and general aviation contracts. Most of the general aviation revenue is used to help pay for airfield costs. While not as significant, there is still an impact anticipated to general aviation in this budget year which has been considered. This revenue stream is budgeted to be $1,392,736, a decrease of -7.2% for FY 2020/2021.

Concessions

Much of the income from concessions is received from restaurant revenue. All concession revenue is dependent on activity level and has been adjusted based on anticipated reduced activity for this budget year. The restaurant revenue is composed of a percentage of gross revenue or MAG and the operator will pay whichever is higher. In addition to restaurant revenue, additional concession income is received from catering and vending machines. The concession revenue stream helps to fund the terminal cost center. Concessions revenue is anticipated to be $272,206 for FY 2020/2021.

Parking/Ground Transportation

Parking and ground transportation revenue includes parking fees and ground transportation access fees. Parking and ground transportation fees will remain the same for this fiscal year. These fees help to support the maintenance and upgrades of the airport's roadways and parking lots. While the airport experienced high usage of the parking lot through paid parking nights this last fiscal year, this is anticipated to decrease this year with the reduction in air travel. For FY 2020/2021, parking/ground transportation income is projected to be $686,846, a decrease of -54.1% over projected FY 2019/2020.

Other Income

Other income includes interest income, advertising income, and other airport rents. As the rest of the market experiences the economic downturn, we expect a reduction in revenues from advertising and some rents. The budgeted amount for the upcoming year is projected to be $219,511.

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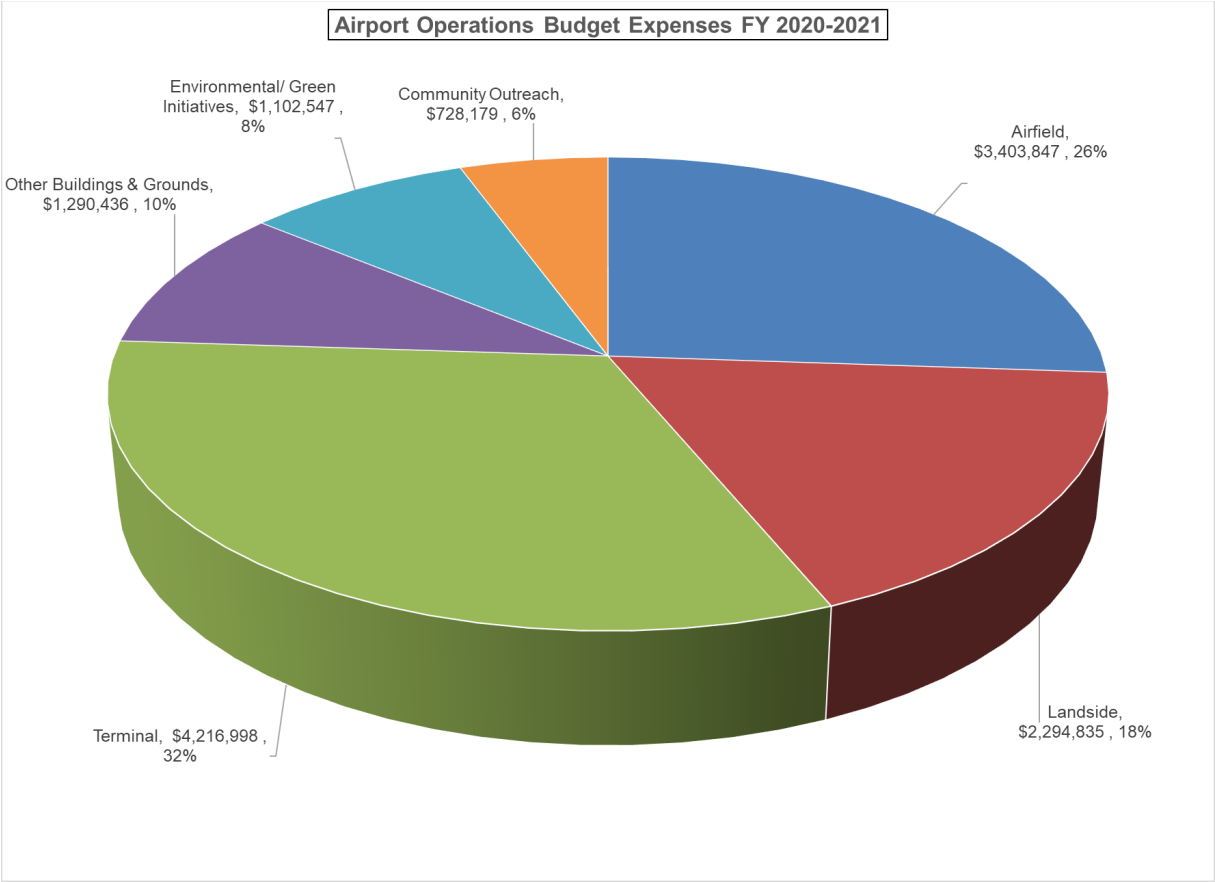
Airport Operations Expense Summary

As presented on the following pages, the budget has been developed to be driven to accomplish the airport's financial objectives. These objectives include: 1) safety, 2) environmental initiatives, and 3) capital projects.



Budgeted expenses for airport operations are $13,036,841 which is 13% above the projected FY 2019/2020 amount. Operating expenses exclude security operations and fuel farm expenses as those are reflected in separate budgets on pages 17 (security) and 18 (fuel farm) following the detailed cost center information.

The number of FTE staff for Airport (non-screening) employees remains at 44 for this upcoming FY 2020/2021 including 4 seasonal hosts and 12 seasonal winter operations employees. Screening staff will remain at 62 including support staff. There is a 0.5% increase to Wyoming Retirement which was passed 2 years ago to be implemented this year. Finally, there is no increase in health insurance this year. The following table presents the FY 2020/2021 budget numbers compared with projected and budgeted FY 2019/2020 numbers.

	Amended Budget Operating Expense FY 2019-20	Projected Operating Expense FY 2019-20	Proposed Budget Operating Expense FY 2020-21
Payroll	4,774,961	4,774,961	4,934,099
Administrative Expense	2,063,841	2,238,306	2,188,590
Utilities	487,000	493,645	591,650
Snow Removal Expense/other	296,950	240,484	384,726
Equipment (non-capital) Expense	164,000	163,879	233,450
Customer & Employee Relations	188,924	231,943	200,725
Environmental Planning & Ops	671,256	635,425	715,548
R & M - Building	995,509	1,260,569	1,644,934
R & M - Operations	257,300	472,704	516,144
R & M - Vehicles	318,500	310,159	315,165
Security Operations	153,000	158,905	204,500
QTA Operations	262,909	256,284	262,909
ARFF	141,350	139,576	545,400
Noise Monitoring and Fly Quiet Program	155,000	130,083	155,000
Control Tower Operation	75,100	64,854	144,000
TOTAL OPERATING EXPENSE	**11,005,600**	**11,571,776**	13,036,841

Airport Operations Budget Cost Centers

While the Airport experienced an increase in passenger traffic in calendar year ended 12/31/2019 it is projected that numbers will decrease in the upcoming year. Congress has responded to this with the CARES Act Grant which has allowed the airport to continue with expenses needed to best position the airport for the future.

There are six direct cost centers for the Airport: airfield, landside, terminal, other buildings and grounds, environmental, and community outreach. There are also 15 indirect cost centers for the Airport. The indirect cost centers include areas such as personnel expenses, utilities and building expenses, operations and maintenance expenses and equipment expenses.

Specific indirect cost centers that were adjusted in the budget and which have an influence on multiple cost centers include building repair and maintenance, security operations, and ARFF.

- Building repair and maintenance has been increased by $384,365 to allow for continued investment in the facilities and avoid deferred maintenance.
- Security operations expenses have been adjusted by $45,595 to continue to improve overall airport security.
- Utilities have been increased by $98,005 this year to adjust for green power investments and to reflect increases in water and sewer expenses.

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- ARFF has been increased by $405,824 to include COVID-19 specific response items such as spraying in the terminal.
- Tower maintenance has been adjusted by $79,146 to include replacing HVAC and converting the tower to natural gas

In allocating costs to the cost centers, staff again reviewed staff hours dedicated to the centers as well as the budgeted costs associated with each indirect cost center. This was compared with the prior year's percentages to determine what if any adjustments were needed. The expenses for the indirect cost centers excluding administrative expenses were allocated to the direct cost centers based on this analysis. After those direct and indirect costs were allocated to the direct cost centers, administrative expenses were allocated based on the total actual direct and indirect costs for each cost center. This same method was used to allocate administration payroll to the direct cost centers. The overall budget numbers and percentages of the FY 2020/2021 budget for allocation purposes can be found on the following table.

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	Proposed Budget Operating Expense FY 2020-21	Airfield		Landside		Terminal		Other Buildings & Grounds		Environmental		Community Outreach	
Payroll	4,934,100	29%	1,430,889	24%	1,184,184	30%	1,455,559	6%	305,914	4%	172,693	8%	384,860
Administrative Expense	2,188,590	35%	766,007	20%	437,718	32%	700,349	10%	218,859	1%	21,886	2%	43,772
Utilities	591,650	20%	118,330	15%	88,748	55%	325,408	5%	29,583	5%	29,583	0%	0
Snow Removal Expense/other	384,726	70%	269,308	25%	96,182	0%	0	5%	19,236	0%	0	0%	0
Equipment (non-capital) Expense	233,450	23%	53,694	11%	25,680	35%	81,708	13%	30,349	18%	42,021	0%	0
Customer & Employee Relations	200,725	0%	0	0%	0	0%	0	0%	0	5%	10,036	95%	190,689
Environmental Planning & Ops	715,548	2%	14,311	5%	35,777	5%	35,777	0%	0	80%	572,438	8%	57,244
R & M - Building	1,644,934	0%	0	10%	164,493	80%	1,315,947	10%	164,493	0%	0	0%	0
R & M - Operations	516,144	30%	154,843	10%	51,614	30%	154,843	10%	51,614	10%	51,614	10%	51,614
R & M - Vehicles	315,165	40%	126,066	30%	94,550	10%	31,517	5%	15,758	15%	47,275	0%	0
Security Operations	204,500	30%	61,350	30%	61,350	30%	61,350	10%	20,450	0%	0	0%	0
QTA Operations	262,909	0%	0	0%	0	0%	0	100%	262,909	0%	0	0%	0
ARFF	545,400	75%	409,050	10%	54,540	10%	54,540	5%	27,270	0%	0	0%	0
Noise Monitoring and Fly Quiet Program	155,000	0%	0	0%	0	0%	0	0%	0	100%	155,000	0%	0
Control Tower Operation	144,000	0%	0	0%	0	0%	0	100%	144,000	0%	0	0%	0
TOTAL OPERATING EXPENSE	**13,036,841**		**3,403,847**		**2,294,835**		**4,216,998**		**1,290,436**		**1,102,547**		**728,179**

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Airfield Cost Center: This cost center includes the costs associated with the airfield and air carrier apron including snow removal, aircraft rescue firefighting, operations and maintenance expenses, and utilities expenses. The budget for this cost center represents a 17% increase over the projected FY 2019/2020 amount. This is due to both a $100,970 increase in Snow Removal, and a $304,368 increase in ARFF. The increase in snow removal includes a reallocation of fuel used during winter operations to the snow removal account. There is a $216,731 increase in ARFF for emergency operations response.

Airfield			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	1,384,739	1,384,739	1,430,899
Administrative Expense	722,344	783,407	766,007
Utilities	97,400	98,729	118,330
Snow Removal Expense/other	207,865	168,339	269,308
Equipment (non-capital) Expense	37,720	37,692	53,694
Customer & Employee Relations	0	0	-
Environmental Planning & Ops	13,425	12,708	14,311
R & M - Building	0	0	-
R & M - Operations	77,190	141,811	154,843
R & M - Vehicles	127,400	124,064	126,066
Security Operations	45,900	47,672	61,350
QTA Operations	0	0	-
ARFF	106,013	104,682	409,050
Noise Monitoring and Fly Quiet Program	0	0	-
Control Tower Operation	0	0	-
TOTAL OPERATING EXPENSE	**2,819,996**	**2,903,842.27**	3,403,857

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Landside Cost Center: This cost center includes the expenses associated with the parking lots and roadways at the Airport. The increased in the landside cost center over projected FY 2019/2020 is 9%. Snow removal expense increased $36,061 due to the reclassification of fuel used during winter operations into this account. There were not any other significant adjustments to the landside cost center for FY 2020/2021.

Landside			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	1,145,991	1,145,991	1,184,184
Administrative Expense	412,768	447,661	437,718
Utilities	73,050	74,047	88,748
Snow Removal Expense/other	74,238	60,121	96,182
Equipment (non-capital) Expense	18,040	18,027	25,680
Customer & Employee Relations	0	0	-
Environmental Planning & Ops	33,563	31,771	35,777
R & M - Building	99,551	126,057	164,493
R & M - Operations	25,730	47,270	51,614
R & M - Vehicles	95,550	93,048	94,550
Security Operations	45,900	47,672	61,350
QTA Operations	0	0	-
ARFF	14,135	13,958	54,540
Noise Monitoring and Fly Quiet Program	0	0	-
Control Tower Operation	0	0	-
TOTAL OPERATING EXPENSE	**2,038,515**	**2,105,621.65**	**2,294,835**

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Terminal: Included in the terminal cost center are all costs associated with the terminal building including operations and maintenance, custodial, utilities, baggage system and certain security items related to access control (cameras, doors, alarms). Increases in this cost center budget include building repair, maintenance and utilities. The terminal cost center increased over projected budget 2019/2020 by 12% or $464,706. R&M Building is the largest adjustment of $307,492. This account was adjusted to allow for the continued investment in facilities and avoid deferred maintenance.

Terminal			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	1,432,488	1,432,488	1,455,559
Administrative Expense	660,429	716,258	700,349
Utilities	267,850	271,504	325,408
Snow Removal Expense/other	0	0	-
Equipment (non-capital) Expense	57,400	57,357	81,708
Customer & Employee Relations	0	0	-
Environmental Planning & Ops	33,563	31,771	35,777
R & M - Building	796,407	1,008,455	1,315,947
R & M - Operations	77,190	141,811	154,843
R & M - Vehicles	31,850	31,016	31,517
Security Operations	45,900	47,672	61,350
QTA Operations	0	0	-
ARFF	14,135	13,958	54,540
Noise Monitoring and Fly Quiet Program	0	0	-
Control Tower Operation	0	0	-
TOTAL OPERATING EXPENSE	**3,417,212**	**3,752,291.05**	**4,216,997**

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Other Buildings and Grounds: This cost center includes the Airport owned hangars, Control Tower, and the new QTA rental car wash facilities. Like the terminal cost center, significant expenses in this cost center include operations and maintenance for these buildings, custodial, non-capital equipment expenses, and utilities. This cost center represents a 17% increase over the projected FY 2019/2020 amount. The most significant change is in R&M Building. Similar to the Terminal cost center, the adjustments made to this account will allow for reinvestment in these facilities.

Other Buildings & Grounds			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	286,498	286,498	305,914
Administrative Expense	206,384	223,831	218,859
Utilities	24,350	24,682	29,583
Snow Removal Expense/other	14,848	12,024	19,236
Equipment (non-capital) Expense	21,320	21,304	30,349
Customer & Employee Relations	0	0	-
Environmental Planning & Ops	0	0	-
R & M - Building	99,551	126,057	164,493
R & M - Operations	25,730	47,270	51,614
R & M - Vehicles	15,925	15,508	15,758
Security Operations	15,300	15,891	20,450
QTA Operations	262,909	256,284	262,909
ARFF	7,068	6,979	27,270
Noise Monitoring and Fly Quiet Program	0	0	-
Control Tower Operation	75,100	64,854	144,000
TOTAL OPERATING EXPENSE	**1,054,982**	**1,101,180.95**	1,290,436

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Environmental: This past year the airport has made significant progress in environmental initiatives. The intention this year is to continue to work on the previously established initiatives. This is reflected in a 9% increase in Environmental Planning & Ops, equivalent to $91,170. Additionally, the airport has ongoing investments in noise monitoring and the Fly Quiet Program which are included in this cost center.

Environmental			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	193,386	190,998	172,693
Administrative Expense	20,638	22,383	21,886
Utilities	24,350	24,682	29,583
Snow Removal Expense/other	0	0	-
Equipment (non-capital) Expense	29,520	29,498	42,021
Customer & Employee Relations	9,446	11,597	10,036
Environmental Planning & Ops	537,005	508,340	572,438
R & M - Building	0	0	-
R & M - Operations	25,730	47,270	51,614
R & M - Vehicles	47,775	46,524	47,275
Security Operations	0	0	-
QTA Operations	0	0	-
ARFF	0	0	-
Noise Monitoring and Fly Quiet Program	155,000	130,083	155,000
Control Tower Operation	0	0	-
TOTAL OPERATING EXPENSE	**1,042,850**	**1,011,376.29**	1,102,546

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Community Outreach: Community outreach has been increased 4% this year over projected 2019/2020. There were reductions in customer and employee relations through reduced initiatives and the need for outreach due to lower activity levels. As indicated in the table below, the majority of the cost in this cost center is payroll expense which includes the airport PIO and hosts which are paid out of this cost center as well as a portion of other staff salaries that have been allocated to community outreach.

Community Outreach			
	Amended Budget Operating Expense FY 2019-20	**Projected Operating Expense FY 2019-20**	**Proposed Budget Operating Expense FY 2020-21**
Payroll	331,860	334,247	384,860
Administrative Expense	41,277	44,766	43,772
Utilities	0	0	-
Snow Removal Expense/other	0	0	-
Equipment (non-capital) Expense	0	0	-
Customer & Employee Relations	179,478	220,346	190,689
Environmental Planning & Ops	53,700	50,834	57,244
R & M - Building	0	0	-
R & M - Operations	25,730	47,270	51,614
R & M - Vehicles	0	0	-
Security Operations	0	0	-
QTA Operations	0	0	-
ARFF	0	0	-
Noise Monitoring and Fly Quiet Program	0	0	-
Control Tower Operation	0	0	-
TOTAL OPERATING EXPENSE	**632,045**	**697,463.84**	728,179

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Security Operations Budget
The airport continues to reflect all security operations in a separate enterprise center. Expenses include the provision of security screening services, night security, and the costs associated with the Town of Jackson Law Enforcement Officer agreement. This is reflected in the security operations budget presented below.

July 2019 - June 2020 Security Operations Budget

Revenues	**FYE 21**
TSA Security	7,350,482
TSA LEO	120,000
Security Badges	19,825
Total Revenues	7,490,307
Expenses	
Security Payroll	(7,034,577)
TOJ LEO	(10,000)
Claims	(100,000)
Consumables	(92,935)
Night Security	(553,635)
Total Expenses	(7,791,147)
Net Loss	(300,840)

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Fuel Farm Operations Budget

The fuel farm operating budget is presented below. The Board continues to operate the fuel farm itself and all fuel farm expenses which have been included in the fuel farm budget include: 2 FTEs, fuel purchase expense, maintenance, glycol trucking expenses, and insurance. Revenues include fuel sales (at cost), administration fees, and fuel facility use fees ($0.25/gallon). Fuel farm activity has been adjusted to reflect projected activity for FY 2020/2021.

July 2020 - June 2021 Fuel Farm Budget Estimate

Revenues	**Total FY 2021**
Fuel Revenue w/o fuel fees Jet A	16,459,765
Fuel Revenue w/o fuel fees AvGas	66,832
Customer Facility Fees $0.05/gal (Jet A)	396,132
Customer Facility Fees $0.05/gal (AvGas)	868
Fuel Facility Fees $0.20/gal (Jet A)	1,584,528
Fuel Facility Fees $0.20/gal (AvGas)	3,472
Unleaded Gas Revenue	359,433
Unleaded Gas Administration	53,915
Dyed Diesel Revenue	153,870
Dyed Diesel Administration	23,081
Glycol T-I Revenue	-
Glycol T-I Administration	-
Glycol T-IV Revenue	-
Glycol T-IV Administration	-
Glycol Disposal Revenue	282,500
Expenses	
Fuel Expense JetA	16,459,765
Fuel Expense AvGas	66,832
Fuel Expense AvGas	359,433
Fuel Expense UnleadedGas	153,870
Fuel Expense DyedDiesel	-
Fuel Expense Glycol T-I	-
Fuel Expense Glycol T-IV	251,650
(Gain)/Loss on Fluctuation AvGas	80,000
(Gain)/Loss on Fluctuation UnleadedGas	4,000
(Gain)/Loss on Fluctuation DyedDiesel	16,000
(Gain)/Loss on Fluctuation Glycol T-I	282,500
(Gain)/Loss on Fluctuation Glycol T-IV	8,274
Labor (2 FTE)	76,834
Maintenance & Overhead	6,180
Training	10,000
LAS Contract (training/calibration)	10,000
Glycol Disposal Expense	281,880
Trucking Expense (demurrage)	8,274
Insurance	76,834
Fire Sprinkler/Extinguisher/HVAC	6,000
Capital Expenses	-
Contingency Fees	10,000
Sub-Total	
Revenues	19,384,394
Expenses	17,785,337
Funds available for debt service	1,599,057
Interest / Principal Loan Payment	1,038,021
Net Gain	561,037

DRAFT

Debt
There are no new debt issues anticipated for FY 2020/2021. All bonds issued by the Airport Board are "revenue bonds" because they finance income-producing projects and payment of principal and interest on the bonds is secured by a specified revenue source. As required in the individual bond documents the Board holds sufficient funds as restricted cash to cover one year of debt service as well as other restricted cash investments to meet debt service requirements. For the FY 2020/2021 the Board intends to retire the BOW – Terminal Bag Claim bond and the FIB Terminal Refinance bond.

	Annual Source	Annual Payment
FIB - Terminal Refinance		-756,105
FIB - Rental Car QTA		-1,562,524
BOW - Terminal Bag Claim		-250,817
BOW - Fuel Farm		-1,038,021
Additional Payment to Retire Loans		-1,079,562
Total Bond Payments		-4,687,028
Paid with PFC	1,006,921	
Paid with CFC	1,562,524	
Paid with Flow Fee	1,038,021	
Paid with CARES Grant	1,079,562	
Total Bond Sources	4,687,028	
Difference Payments/Sources		0

Capital Plan
Capital expenses such as equipment purchases, and construction costs are funded through the Capital Improvement Program (CIP). Capital funds include the Federal Airport Improvement Program (AIP), state grant funds, Passenger Facility Charges (PFCs) and rental car Customer Facility Charges (CFCs). The CIP is developed each year and updated throughout the year as funding becomes available and projects change priority. The CARES Grant provides opportunity to continue reinvesting in the facility and to position the airport for future funding and projects. Items in the capital list for FY 2020/2021 include:

- Runway rehabilitation project ($25,000,000)
- Wildlife hazard management plan ($120,000)
- Complete the automated exit lane project ($500,000)
- Design the checkpoint remodel ($700,000)
- Design the restaurant remodel ($1,000,000)
- Purchase firetruck ($300,000)
- Purchase snow removal equipment ($700,000)
- Terminal upgrades including replace carpet, furniture, paint and lighting in the hold room ($1,420,000)

DRAFT

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: **PRESENTER**: April Norton

MEETING DATE: May 18, 2020

SUBJECT: **Low-Income Multifamily Developer Request for Qualifications Award**

STATEMENT/PURPOSE

For the Town Council ("Council") to consider awarding the Request for Qualifications ("RFQ") for a low-income multifamily developer.

BACKGROUND/ALTERNATIVES

Low-income rentals are one of the largest gaps in the community housing portfolio and they serve some of the most marginalized members of the community. The Housing Department's Intake Form data as of January 2020 shows that over 280 households (616 people) are earning less than half of median family income. On average, adults in these households work 1.13 jobs and over 60% of the households are paying more than 30% of their monthly income towards housing. These are the families and individuals who will qualify for low-income rental housing.

The Workforce Housing Action Plan Initiative 4C directs staff to seek state and federal funding and to provide technical assistance to private entities applying for state and federal funds for low income housing. The plan specifically identifies tax credits as a funding tool to be sought.

The RFQ was approved by Council March 23, 2020 and released the following day. (The staff report from the March 23 meeting is attached.) The RFQ included a scope with four tasks: 1) property identification; 2) Qualified Allocation Plan ("QAP") study and opportunity assessment, preliminary design; 3) project application; and 4) project development. The RFQ asks for pricing/fees for the first three tasks.

Six teams responded; four teams were chosen for interviews based on the quality of their initial response. All responses are available online at: http://jhaffordablehousing.org/2074/LIHTC-RFQ. A summary of each finalist is provided below. These are based on interviews, reference checks, and Housing Supply Board discussion.

Team One: Bear Development – Design-Build firm w/current local experience + high success rate on tax credit applications.

- Strengths. Good firm and individual experience. They are currently working in Jackson and understand the challenges both politically and financially. They have strong existing relationships with local contractors. They have an in-house construction division (CMA) that will serve as the construction manager, but the firm does anticipate partnering with a local contractor to construct the development. They are also likely to hire third party architects, engineers, etc. One-third of their portfolio is smaller projects of 30 or fewer units and infill development is a sweet spot for the firm. They can build modular if it makes sense from a timing and budget perspective. Their success rate on tax credit applications is over 80% and they have extensive experience on Qualified Allocation Plan ("QAP") boards. Public-Private-Partnerships are a cornerstone of the work the firm does. They have built over 1,900 affordable housing units.
- Weaknesses. Lack of recent work experience with WCDA. Team is based in Wisconsin and travel could become an issue depending on COVID-19.
- Approach to Budget. Bear provides hourly rates for team members and anticipates a $27,100 budget for tasks 1-3 that excludes time spent by the Principal who's hourly rate is waived. They are also open to a hybrid structure with a not-to-exceed amount. Total estimated hours = 200.

Team Two: SMR and The Pacific Companies (TPC), Navigate LLC – Design-Build firm w/extensive experience working on LIHTC projects in high-cost resort communities.

- Strengths. Good firm and individual experience. Team members are in Teton County, WY and Boise, ID.
    - SMR is a one-person consulting firm that will serve as the project manager – the principal is a former TPC employee and TPC is her primary client.
    - TPC has built over 12,000 affordable housing units over the past 20 years. They have extensive experience in mountain resort communities, having projects in Truckee, Mammoth Lakes, Tahoe, and Victor, ID. The firm is design-build with an in-house modular manufacturer that produces around 1,000 units per year (about 50% of what TPC develops annually). About two-thirds of the construction and design work is done in-house. Their projects range in size from 12 units to 500 units. They have an in-house property management team that has experience working in resort communities in similar climates and includes a rewards program that is very popular. TPC owns the Snow King Apartments (built in 2004) and maintains relationships with WCDA on the compliance side.
- Weaknesses. Lack of recent work experience with WCDA.
- Approach to Budget. TPC waives their fees for tasks 1-3. SMR and Navigate will charge on an hourly basis with estimated fees ranging from $6,750 to $27,000 + travel costs for SMR. SMR will travel from Boise, ID and will charge travel at 50%, excluding hotels which will not be charged. Total estimated hours = 125-260.

Team Three: Summit Housing Group, Love/Schack Architects (LSA), Beyond Efficiency (BE), New West Building Company (NWB) – Extensive WY LIHTC experience + low carbon design expertise.

- Strengths. Good firms and individual experience. Summit is based in Missoula, MT; BE and NWB are located in Teton County, WY; and LSA is located in Driggs, ID and Bozeman, MT.
    - Summit has by far the most experience developing in Wyoming and working with WCDA. They exhibited a solid understanding of the proposed changes to the QAP and how they will affect applications from Jackson. They have done Wyoming LIHTC developments ranging from 12 units to 72 units. They have been looking at potential projects in Jackson for several years and are familiar with the local codes.
    - BE will inform energy efficient design to ensure long-term affordability. Their firm has worked on over 40 LIHTC projects and has extensive multi-family experience.
    - LSA has been working regionally for years and has expertise in low carbon designs that work in cold climates.
    - NWB is owned by Orion Companies whose subsidiaries include 12 other (local) construction-related companies. This integration will help with bidding and competition between different trades.
- Weaknesses. Some questions around team cohesiveness and NWB ability to deliver a modular development.
- Approach to Budget. Both Summit and NWB view their time spent on this as business development and therefore will not be requesting a reimbursement for time or costs related to tasks 1-3 ($23,800). LSA, in their role as project manager, will coordinate all consultant fees and they propose to charge only for hours worked. They provided a likely range for hours and fees required from all consultants: $58,610. Total estimated hours = 451.

Team Four: Westmount Development Group, Krikor Architects, New West Building Company – Recent experience working with WCDA +

- Strengths. Good firms and individual experience. Krikor and NWB are based in Teton County, WY.
    - Based on the Town's recent work with the team, they are known to be easy to work with and capable of delivering a project that will score very high on the primary criteria for the QAP. Westmount exhibited a depth of understanding of the proposed changes to the QAP and how they will affect applications from Jackson.
    - Krikor has expertise building in cold weather climates and local modular experience.
    - NWB is owned by Orion Companies whose subsidiaries include 12 other (local) construction-related companies. This integration will help with bidding and competition between different trades.
- Weaknesses. Some questions about NWB ability to deliver a modular development. Westmount is based in Connecticut and travel could become an issue depending on COVID-19.
- Approach to Budget. Westmount Development and NWB fees for tasks 1-3 will be accrued but not invoiced if the application is successful ($37,750). Krikor Architecture estimates fees totaling $64,625. Fees paid can be

included as equity contribution by the Town of Jackson (in the application to WCDA). Total estimated hours = 960.

Team	Budget Estimate	Hours / Hourly Rate
Bear Development	$27,100	200 hrs / $135.50
SMR & The Pacific Companies	$6,750 to $27,000 + some travel	125-260 hrs / $54-$103.85
Summit Housing Group	$58,610	451 hrs / $129.96
Westmount Development	$64,625 (+ $37,750 if application is unsuccessful)	960 hrs / $67.32 ($106.64 if unsuccessful)

COMPREHENSIVE PLAN ALIGNMENT

Comprehensive Plan Policy:

- House at least 65% of the workforce locally. 5.1.a
- Focus housing subsidies on full-time, year-round workers. 5.1.b
- Provide a variety of housing options. 5.2.a

Housing Action Plan Initiative:

- Provide land as a public subsidy and build development partnerships. 2B
- Seek and support grants, tax credits, loans, and other sources of funding. 4C

STAKEHOLDER ANALYSIS

Stakeholders include Town taxpayers, local working individuals and families, and business owners.

FISCAL IMPACT

The Town currently has $1,094,845 in the Housing Supply Fund and $12,493 in mitigation fees. Staff anticipates using these funds to cover costs related to this RFQ.

STAFF IMPACT

This project will require extensive time from the Housing Director. The Planning Director and Community Development Director will both be involved with the project from a planning and development perspective. The Town Attorney will be involved to draft contracts for tasks 1-3 in the near term. In late summer legal support will be required to draft a ground lease for the project. Depending on the Town Attorney's availability, outside legal support may need to be identified for this work.

LEGAL REVIEW

Ongoing as needed.

ATTACHMENTS

- March 23, 2020 staff report

RECOMMENDATION

The RFQ identified six evaluation criteria: experience of key individuals, experience of firm, experience working in Wyoming with the Wyoming Community Development Authority, work examples, proven ability to meet deadlines and control costs, and proposed fees. Based on these criteria, all four of the finalists were considered strong candidates.

Housing Supply Board Recommendation

After over six hours of discussion and interviews the Supply Board did not come to consensus on a recommendation. They were impressed with all four teams and stated that any of the four would be a good partner, each had their own strengths and minor weaknesses.

Housing Director Recommendation

This is the fourth RFQ/RFP the Housing Department has released in the past 3 years. For each RFQ/RFP we have received multiple responses, all from highly qualified teams. This RFQ is no different and, in fact, garnered the most interest of

any we have released. The six teams who responded were all qualified and would have served our needs well. The four finalists were outstanding, each bringing a diversity of experience and approach.

Staff's recommendation came down to two firms, each with extensive experience working in the mountain west: SMR & The Pacific Companies and Summit Housing Group. The teams bring different approaches and experience to the table.

SMR and TPC have built over 12,000 affordable housing units. TPC is a fully integrated firm that includes architecture services, modular manufacturing, construction management, and long-term property management. They have a breadth of affordable housing finance knowledge that is impressive. They have experience working in other high cost, resort communities in the mountain west and have navigated both the political and financial challenges these communities can present. They have a strong track record of long-term property management, including Snow King Apartments here in Jackson. This team would serve us well and is the least expensive based on the hours estimated for tasks 1-3.

Staff, however, recommends working with Summit Housing Group for this project. Summit rose to the top for two primary reasons:

1) They have the most experience working with WCDA and the Wyoming QAP and they have more LIHTC projects in Wyoming than any other developer. They also exhibited a broad and deep understanding of the proposed changes to the QAP and how they will affect a project here in Jackson.
2) The Town of Jackson has made energy sustainability a core value; this team is focused on sustainable design and brings diverse experience working in cold-weather climates like ours. Low carbon design results in lower utility costs which is important for the community members who will be living in these homes. By spending more time on design during the early stages of the project, the team believes they can value engineer so that we get a low carbon development that is also cost competitive.

Like SMR & TPC, Summit also brings strong property management experience in climates like ours. We are not only interested in getting the homes built, we also want our community members who live in these homes to have a management team in place who will be responsive to their needs.

SUGGESTED MOTION

I move to direct staff to negotiate a contract for services with Summit Housing Group and bring the contract back for final review and approval no later than the June 15, 2020 regular council meeting.

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Housing **PRESENTER**: April Norton

MEETING DATE: March 16, 2020

SUBJECT: **Request for Qualifications for Low-Income Housing Tax Credit Developer**

STATEMENT/PURPOSE

The Town Council ("Council") will consider a Request for Qualifications ("RFQ") for a developer with expertise in Low-Income Housing Tax Credit developments.

Key aspects of the RFQ:

- **Team experience.** The RFQ seeks a team with experience working in Wyoming and/or regionally. Based on feedback from the Wyoming Community Development Authority ("WCDA"), teams who have worked with the Qualified Allocation Plan ("QAP") before may be better equipped to submit successful applications.
- **Four-task approach.** The scope is broken into four tasks: 1) Property Identification; 2) QAP Study and Opportunity Assessment, Preliminary Design; 3) Project Application; and 4) Project Development. The RFQ asks for pricing/fees for the first three tasks.
- **Housing Supply Board recommendation.** The HSB will review the RFQ responses and provide the Council with a recommendation and the reasoning for the recommendation. The Council will not be required to follow the recommendation.

BACKGROUND/ALTERNATIVES

Low-income rentals are one of the largest gaps in the community housing portfolio and they serve some of the most marginalized members of the community. The Housing Department's Intake Form data as of January 2020 shows that over 280 households (616 people) are earning less than half of median family income. On average, adults in these households work 1.13 jobs and over 60% of the households are paying more than 30% of their monthly income towards housing. These are the families and individuals who will qualify for low-income rental housing.

The Workforce Housing Action Plan Initiative 4C directs staff to seek state and federal funding and to provide technical assistance to private entities applying for state and federal funds for low income housing. The plan specifically identifies tax credits as a funding tool to be sought.

In November 2017, the Town of Jackson released a Request for Proposals ("RFP") to develop deed restricted housing at 174 N. King Street. In May 2018, the Council awarded the project to Westmount Development who proposed to build low-income rental housing by utilizing Low-Income Housing Tax Credits ("LIHTC"), HOME Investment Partnerships Program ("HOME"), and National Housing Trust Funds ("NHTF") for the project.

In September 2018 and again in March 2019, Westmount Development applied to the Wyoming Community Development Authority ("WCDA"), but did not receive LIHTC, HOME, or NHTF allocations. While both applications received the highest "Tier 1" scoring based on need, they received the lowest "Tier 2" scoring based on project cost and were not competitive in either funding round.

Since the second unsuccessful application, staff has worked with WCDA to identify some opportunities to make the QAP more equitable for high cost areas in the state. WCDA has agreed to include considerations for "statistical outliers" in the 2021 QAP. Given this consideration, staff is excited to work with a qualified developer to identify a site that is compatible with LIHTC development, craft the application, and apply in the September 2021 QAP round.

The timeline will be tight, so time is of the essence to get the RFQ released, choose a development partner, and start working on an application that can be read for the September deadline.

COMPREHENSIVE PLAN ALIGNMENT

Comprehensive Plan Policy:

- House at least 65% of the workforce locally. 5.1.a
- Focus housing subsidies on full-time, year-round workers. 5.1.b
- Provide a variety of housing options. 5.2.a

Housing Action Plan Initiative:

- Provide land as a public subsidy and build development partnerships. 2B
- Seek and support grants, tax credits, loans, and other sources of funding. 4C

STAKEHOLDER ANALYSIS

Stakeholders include Town taxpayers, local working individuals and families, and business owners.

FISCAL IMPACT

Staff anticipates contracting with the development team for tasks 1-3 as outlined in the RFQ. The fees are unknown at this time and will be included in the responses received. Funding is available in the Housing Supply Program budget for both professional services related to the project and land acquisition if needed.

STAFF IMPACT

The Housing Director will lead this project for the Town and will receive expertise and support from several other staff members, including: Town Manager, Community Development Director, and the Town Attorney.

LEGAL REVIEW

Ongoing, as Needed.

ATTACHMENTS

RFQ for a Low-Income Multifamily Developer

RECOMMENDATION

Staff recommends approving the RFQ as presented.

SUGGESTED MOTION

I move to approve the Request for Qualifications for a Low-Income Multifamily Housing Developer and direct staff to release the Request for Qualifications on Tuesday, March 24th.

TOWN OF JACKSON
TOWN COUNCIL
AGENDA DOCUMENTATION

PREPARATION DATE: MAY 14, 2020
MEETING DATE: MAY 18, 2020

SUBMITTING DEPARTMENT: PLANNING
DEPARTMENT DIRECTOR: PAUL ANTHONY
PRESENTER: TYLER VALENTINE

SUBJECT: **ITEM P19-262, P20-069 & P20-070:** AMENDMENT TO THE FINAL (MAJOR) DEVELOPMENT PLAN FOR PINE GLADES PLANNED UNIT DEVELOPMENT (PUD).

APPLICANT/AGENT: BILL COLLINS – COLLINS PLANNING ASSOCIATES

PROPERTY OWNER: PINE CANYON, LLC

REQUESTED ACTION

The applicant is requesting approval of an amendment to the approved Final Development Plan for the Pine Glades Planned Unit Development (PUD), specifically to:

- **P19-262**: Modify the exterior materials on the existing duplex at 140 & 142 Pine Glades Drive from a wood/stone combination to primarily stone.
- **P20-069**: Remove the in-road heating element in Phase 1 (Pine Glades Drive) and in the future Phase 2 (Jessica Lane)
- **P20-070**: Approve a trail plan that would allow public access through the site on trails only (with the exception of the cul-de-sac) and would include newly recorded access easements.

Staff is requesting that these items be continued to the next regularly scheduled Town Council meeting on June 1, 2020.

SUGGESTED MOTIONS

I move to continue these items to the regularly scheduled Town Council meeting on June 1, 2020.

TOWN OF JACKSON
TOWN COUNCIL
AGENDA DOCUMENTATION

PREPARATION DATE: MAY 14, 2020
MEETING DATE: MAY 18, 2020

SUBMITTING DEPARTMENT: PLANNING
DEPARTMENT DIRECTOR: PAUL ANTHONY
PRESENTER: TYLER VALENTINE

SUBJECT: **ITEM P20-009 & 010:** DEVELOPMENT PLAN & HILLSIDE CONDITIONAL USE PERMIT (CUP) FOR A FUTURE 5-LOT SUBDIVSION AT 984 BUDGE DRIVE.

APPLICANT: JORGENSEN ASSOCIATES – BRENDAN SCHULTE

OWNER: BLUFFS DEVELOPMENT GROUP, LLC

REQUESTED ACTION

The applicant is requesting approval of a Development Plan and Hillside Conditional Use Permit (CUP) for a future 5-lot subdivision of a 1.47 acre lot at 984 Budge Drive located in the Neighborhood Low Density – 5 (NL-5) zoning district. These applications are required prior to submitting a subdivision plat.

Staff is requesting that these items be continued to the regularly scheduled Town Council meeting on June 1, 2020.

SUGGESTED MOTIONS

I move to **continue** these items to the Town Council meeting scheduled for June 1, 2020.

TOWN OF JACKSON
TOWN COUNCIL
AGENDA DOCUMENTATION

PREPARATION DATE: MAY 14, 2020
MEETING DATE: MAY 18, 2020

SUBMITTING DEPARTMENT: PLANNING
DEPARTMENT DIRECTOR: PAUL ANTHONY
PRESENTER: TYLER SINCLAIR

SUBJECT: **ITEM P19-242:** ITEM P19-242: REQUEST FOR APPROVAL OF THREE (3) CONDITIONAL USE PERMITS TO OPERATE A GONDOLA FACILITY IN PHIL BAUX PARK, A ZIP LINE FACILITY ON SNOW KING RESORT PROPERTY, AND SNOW MAKING / PUMP HOUSE INFRASTRUCTURE ON SNOW KING AND TOWN PROPERTY.

APPLICANT/OWNER: MR. RYAN STANLEY / SNOW KING MOUNTAIN RESORT

REQUESTED ACTION

The applicant is requesting approval of three (3) Conditional Use Permits (CUP):

- **Item A – Gondola and Lighting**: An Outdoor Recreation CUP to locate and operate a gondola facility at the base of Snow King Resort in Phil Baux Park at 100 E. Snow King Avenue in the general location of the existing Cougar lift with additional lighting for night skiing operations.

- **Item B – Zip Line**: An Outdoor Recreation CUP to locate and operate a zip line facility on Snow King Resort property with a takeoff point located on Lot 59, Grand View Lodges, Third Addition, and a landing pedestal at 402 East Snow King Avenue adjacent to the Snow King Hotel and Rafferty Center.

- **Item C – Pump House**: A Utility Facility CUP to locate a snow making pump house and related infrastructure across the lot lines of 10 E Snow King Avenue and 90 E Snow King Avenue behind the Snow King Sports & Event Center.

Staff is requesting that these items be continued to the next regularly scheduled Town Council meeting on June 1, 2020.

SUGGESTED MOTION

I move to **continue** the items to the next scheduled Town Council meeting on June 1, 2020.

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Emergency Management **PRESENTER**: Rich Ochs, Coordinator

MEETING DATE: May 18, 2020

SUBJECT: Consideration of Hazard Mitigation Plan Adoption Resolution 20-13

STATEMENT/PURPOSE
Consideration of a resolution to adopt the Wyoming Region 8 Hazard Mitigation Plan.

BACKGROUND/ALTERNATIVES
To best protect our community and qualify for funds to assist with hazard mitigation projects, we must have an approved and current Hazard Mitigation Plan (HMP) on file with FEMA and the Wyoming Office of Homeland Security. The Wyoming Office of Homeland Security provided funds to have us create a whole-community mitigation plan with the help of a planning contractor. In cooperation with Michael Baker International, we have created an HMP with whole-community input that has been preliminarily approved by FEMA. The last step is for the County Commission, Town Council, and the Teton Conservation District to sign the resolution adopting the plan, which is before you today.

COMPREHENSIVE PLAN ALIGNMENT
The Comprehensive Plan is referred to many times throughout the Wyoming Region 8 Hazard Mitigation Plan. The values of the Comprehensive Plan were incorporated into the Hazard Mitigation Plan to ensure harmony between these efforts.

STAKEHOLDER ANALYSIS
Over the year long planning process, the general public, individual Town and County departments, non-profit entities, houses of worship, and the Teton Conservation District were heavily involved in the plan development through community meetings, planning workshops, and online surveys as is evidenced throughout the last half of the plan.

FISCAL IMPACT
None, but having an approved HMP does make the Town of Jackson eligible to apply for FEMA mitigation grant funds.

STAFF IMPACT
None, but if FEMA mitigation grant funds are applied for, there will be staff time administering the application and resulting progress reports.

LEGAL REVIEW
Completed by Lea Colasuanno, Town Attorney

ATTACHMENTS
Resolution and Wyoming Region 8 Hazard Mitigation Plan

RECOMMENDATION
Emergency Management recommends that the Town Council adopts the Wyoming Region 8 Mitigation Plan

SUGGESTED MOTION
I move to approve Resolution 20-13 Adopting the Wyoming Region 8 Hazard Mitigation Plan.

Teton County Resolution #20-024 Town of Jackson Resolution #20-13

Wyoming Region 8 Hazard Mitigation Plan Adoption Resolution

WHEREAS, Teton County, Wyoming, and the Town of Jackson, Wyoming, have the potential to experience disasters that can damage commercial, residential, and public properties, displace citizens and businesses, close streets and bridges dividing the county and municipality, and present general public health and safety concerns; and

WHEREAS, Teton County, the Town of Jackson, and the Teton Conservation District have prepared a Hazard Mitigation Plan that identifies goals and mitigation actions to reduce overall impacts and potential for loss of life or damage to property from natural hazards; and

WHEREAS, the U.S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards and which made available hazard mitigation grants to state and local governments; and

WHEREAS, an adopted Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the Wyoming Region 8 Hazard Mitigation Plan has been developed in accordance with the FEMA-prescribed mitigation planning process and meets current state and federal requirements; and

WHEREAS, the Wyoming Office of Homeland Security and the Federal Emergency Management Agency Region VIII officials have reviewed the Wyoming Region 8 Hazard Mitigation Plan, and approved it contingent upon this official adoption of the participating governing bodies; and

WHEREAS, Teton County, the Town of Jackson, and the Teton Conservation District desire to formally adopt the Wyoming Region 8 Hazard Mitigation Plan for implementation.

NOW, THEREFORE, be it resolved by the Teton County Board of County Commissioners, the Town Council of the Town of Jackson, Wyoming, and the Board of Supervisors of the Teton Conservation District, in regular session duly assembled, that:

1. The Wyoming Region 8 Hazard Mitigation Plan is hereby adopted as an official plan of Teton County, the Town of Jackson, and the Teton Conservation District.
2. The Board of County Commissioners delegates the responsibility for annual review and monitoring of implementation to the County Emergency Management Coordinator.
3. Each local government shall pursue implementation of the projects contained in the Plan as resources allow.
4. Each local government shall consider and incorporate into other plans elements of the Hazard Mitigation Plan as appropriate.

TETON COUNTY BOARD OF COUNTY COMMISSIONERS, TETON COUNTY, WYOMING

PASSED, APPROVED, AND ADOPTED this ____ day of May 2020.

_____ ATTEST:_____

Natalia D. Macker, Chairwoman Sherry L. Daigle, Teton County Clerk

TOWN COUNCIL, TOWN OF JACKSON, WYOMING

PASSED, APPROVED, AND ADOPTED this ____ day of May 2020.

_____ ATTEST:_____

Pete Muldoon, Mayor Sandra P. Birdyshaw, Town Clerk

TETON CONSERVATION DISTRICT BOARD OF SUPERVISORS, TETON CONSERVATION DISTRICT, WYOMING

PASSED, APPROVED, AND ADOPTED this ____ day of _____ 2020.

_____ ATTEST:_____

Steve McDonald, Chair Dave Adams, Board Secretary

WYOMING REGION 8

2020 HAZARD MITIGATION PLAN

Prepared by Teton County Emergency Management with assistance from Michael Baker International

EXECUTIVE SUMMARY

This plan is an update to the 2016 Teton County Multi-Hazard Mitigation Plan and includes the Town of Jackson, Teton County, and the Teton Conservation District. The State of Wyoming's Office of Homeland Security (WOHS), using a grant from the Federal Emergency Management Agency (FEMA), retained Michael Baker International to work in coordination with the sole Wyoming Region 8 county (Teton County) to create this regional Hazard Mitigation Plan (HMP) update.

The purpose of this HMP is to assess risk and identify actions which can help Teton County reduce or eliminate risk for injury, loss of life, property damage, and/or property loss due to natural disasters. By maintaining a current plan, jurisdictions ensure they remain eligible for grant funds that contribute to mitigation projects and are able receive post-disaster assistance should a major natural disaster occur. Wyoming Region 8 will use this plan to guide and assist community decision makers as they move forward with mitigation and resilience actions.

HAZARDS INCLUDED IN THIS PLAN UPDATE:

- Dam Failure
- Flood
- Lightning
- Fire
- Drought
- Hail
- Avalanche
- Winter Storm
- Earthquake/ Liquefaction
- Landslide
- Tornado

The HMP contains a description and documentation of the planning process and who was involved. This includes Emergency Management, Town and County elected officials and staff, Teton Conservation District, Fire/EMS, Law Enforcement, Public Health, Industry, Bridger-Teton National Forest, and Grand Teton National Park.

The plan has 4 goals and 84 mitigation actions. All goals cover each of the participating jurisdictions, and each jurisdiction has its own mitigation actions as well as a few actions that overlap jurisdictions. The types of actions are diverse and include: education and awareness, emergency response, natural resource protection, prevention, property protection, and structural projects.

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Adoption

Insert adoption notice when available for each jurisdiction participating (E1/E2)

Chapter 1 | Introduction

1.1 Background and Purpose

Little Horsethief Fire, Wilson Canyon, 2012 Photo: Florence McCall

No community is immune from disasters. Past disasters within and around Wyoming Region 8 have caused loss of life, damaged buildings and infrastructure, and have impacted local communities' economic, social, and environmental well-being. Mitigation, as defined by FEMA, is any sustained action(s) taken to reduce or eliminate risk to life and property due to a disaster (44 CFR § 201.2 Mitigation Planning-Definitions). Local hazard mitigation planning is the process of organizing community resources, identifying and assessing hazard risks, and determining how to best minimize or manage those risks. This process results in the hazard mitigation plan, which identifies specific mitigation actions that are designed to achieve both short term planning objectives and long-term community vision. To ensure the functionality of each mitigation action, responsibility is assigned to a specific individual, department, or agency along with a schedule for its implementation. Plan maintenance procedures are then established to help implement, evaluate, and enhance the Plan as necessary. Developing clear plan maintenance procedures ensures that this Hazard Mitigation Plan remains a current, dynamic, and effective planning document over time.

Hazard mitigation assumes that the identified pre-disaster actions will significantly reduce the necessity for emergency response, repair, and recovery, thus also decreasing the demand for post-disaster assistance. Other benefits of implementing hazard mitigation actions include:

- Protection of lives and property;
- Safeguarding economic health, including public and private investments;
- Ability to quickly and effectively recover post-disaster;
- Reduction of future vulnerability through wise development and post-disaster recovery and reconstruction;
- The enhancement of coordination within and across participating jurisdictions;
- Enabling and expediting the receipt of pre-disaster and post-disaster grant funding; and
- Allowing the jurisdictions to integrate hazard mitigation planning across all levels of government and planning.

A renewed emphasis has been placed on planning for disasters before they occur as a complement to effective response and recovery. As a result, hazard mitigation has gained increasing prominence as a critical part of emergency management. By taking sustained mitigation actions to reduce or eliminate the long-term risk to human life and property, hazard risks can be proactively combated in a systematic manner. This approach to emergency management is much more effective than reacting to a hazard once it has occurred.

This Plan is the result of continuing work by the citizens and stakeholders of Teton County to update a regional pre-disaster multi-hazard mitigation plan that will not only continue to guide these communities towards

greater disaster resistance, but also respect the character and needs of local jurisdictions and their residents. It updates and builds upon the 2016 Teton County Multi-Hazard Mitigation Plan to reflect changes in development, any progress made toward goals and mitigation actions, and address any changes in priorities. Keeping plans current is an essential part of working toward and maintaining resilience for communities. To be eligible for FEMA's pre-disaster mitigation funds, communities must have a current plan that has been approved by both the state and FEMA. To remain current and maintain eligibility, all HMPs must be updated every five years. This Region 8 HMP supports Teton County and the Town of Jackson as they better prepare for future disasters and allows them to be eligible for certain disaster-related federal funding opportunities. The communities throughout Wyoming Region 8 will use this Plan as a tool to support and guide as they continue to implement mitigation actions.

1.2 Planning Process

1.2.1 Multi-Jurisdictional Participation

This plan covers Wyoming Region 8. Teton County is the only county within Region 8 and The Town of Jackson is the only incorporated community within Teton County. These two jurisdictions participated in and adopted the original Plan in 2004, and the previous two updates in 2010 and 2016. Consistent with the 2016 update, this Plan includes the Teton Conservation District as a participating entity.

FIGURE 1. PUBLIC OPEN HOUSE KICK-OFF PROVIDED OPPORTUNITIES FOR COMMUNITY MEMBERS TO LEARN ABOUT THE PLANNING PROCESS AND PROVIDE FEEDBACK.

Participation from Teton County, The Town of Jackson, and the Teton Conservation District occurred in several ways by:

- Providing key staff to participate in the Local Emergency Planning Committee (LEPC) meetings which served as the Planning Team for this update;
- Issuing news releases to staff and community members throughout the planning process;
- Posting project and community engagement information on websites, newsletters, and other outlets;
- Identifying actions taken on mitigation actions from the 2016 plan update;
- Providing existing plans and documents;
- Providing data for GIS mapping and other risk assessment tasks;
- Providing contacts from which to obtain critical information;
- Providing feedback on plan drafts; and
- Adopting the plan once FEMA approval has been obtained.

1.2.2 Teton County Emergency Management

Teton County Emergency Management is a division of Teton County government. It's mission is to empower the whole community, including the county's visitors, to become more disaster-resilient through the coordination of disaster prevention, protection, response, recovery, and mitigation between a multitude of partners, both public and private. They are the clearinghouse for the Teton County/Town of Jackson Comprehensive Emergency Management Plan, or CEMP, which consists of several governmental emergency and mitigation plans, including this updated HMP. As such, Teton County Emergency Management is the local source for emergency planning and support, including these additional services:

- Training & Exercises
- Grant Assistance & Administration
- Emergency Operations Center Management
- Emergency Alert System Coordination

In 2015, both Teton County and the Town of Jackson adopted resolutions to designate Teton County Emergency Management as the local homeland security program for both the county and the town to meet Wyoming state statutes, with the appointed Teton County Emergency Management Coordinator serving as the lead for Emergency Management efforts in both jurisdictions. Rich Ochs currently serves as the Teton County Emergency Management Coordinator, and as the local lead for this plan update.

1.2.3 Local Emergency Planning Committee and Planning Meetings

For this update, the Teton County Local Emergency Planning Committee (LEPC) served as the Planning Team. The LEPC has membership from a broad cross-section of the community including health care, public works, emergency services, elected officials, media, all levels of government, and the schools. The National Park Service (Grand Teton National Park) and the Bridger-Teton National Forest had representatives on the LEPC and attended LEPC meetings where the update was discussed. The times, dates, and agendas of the LEPC meetings are posted on the County's website and legal ads with all the LEPC meetings for the year are posted semiannually. In addition to regular LEPC members, an expanded list of stakeholders was invited to participate in the plan update as a part of the Planning Team. Participation outside of the standard LEPC members was important in order to collect feedback on previous activities and to steer the development of the updated plan for Wyoming Region 8.

TABLE 1- PLANNING PROCESS CONTACT LIST & LEPC COMMITTEE MEMBERS

Name	Organization
Alton George	Jackson Hole Airport
Alyssa Watkins	Teton County Commissioners Administrator
Amy Ramage	Acting Teton County Director of Public Works
Bill Wotkyns	Flat Creek Water Improvement District
Billy Kirk	Teton County Public Info Specialist
Kristen Waters	Teton County Public Info Specialist
Bob Culver	Citizen Observer
Brady Hansen	JHFEMS- Chief
Brent Blue	Teton County Coroner
Brian Lenz	Floodplain Administrator - Town of Jackson
Brian Schilling	Teton County Pathways Coordinator
Bruce Daigle	Wyoming DOT Maintenance Foreman
Carl Pelletier	Town of Jackson PIO
Charlotte Reynolds	Teton County School District
Craig Kirkpatrick	Red Cross - Jackson
Cris Dippel	US Fish and Wildlife
Cynthia Blankenship	Geologists of Jackson Hole
Dave Gustafson	Teton County Road and Levee Supervisor
Dustin Havel	Jackson Hole Airport Operations Director
Floren Poliseo	Town of Jackson Public Works Director
Gehrig Haberstoack	Red Cross - Regional Coordinator
General email	Teton County Wildfire Protection Coalition
General email	Alta
General email	Hoback
General email	Wilson
General email	Central Wyoming College- Jackson
General email	Flat Creek Water Improvement District
General email	Snake River Fund
General email	Yellowstone-Teton Clean Cities
General email	Friends of Fish Creek
Greg Adams	Teton County, ID Emergency Management Coordinator
Heather Voster	Teton Interagency Dispatch
Jay Hokanson	WY Homeland Security County Coordinator, Lincoln County
Jeff Daugherty	Teton County School District
Jenny Kruger	Teton County Emergency Management
Jess King	Teton County Search & Rescue Coordinator
Jim Mitchell	WY Homeland Security County Coordinator, Sublette County
Johanna Love	Jackson Hole New & Guide/Daily
John Hebberger	Geologists of Jackson Hole

Name	Organization
John Willott	Geologists of Jackson Hole
Johnny Ziem	Town of Jackson Wastewater Manager
Jon Bishop	JHMR Safety & Teton Village Fire Chief
Joseph Sebastian	TSA - Jackson Airport
Kathi Metzler	WY Homeland Security County Coordinator, Fremont County
Kathy Clay	Teton County Fire Marshall-Battalion Chief
Keith Richey	Fremont County, ID Emergency Management Coordinator
Kellie Farrar	Bonneville County, ID Emergency Management Assistant
Kurt Stout	Floodplain Administrator- Teton County
Larry Pardee	Town of Jackson
Lesley Williams	Bridger-Teton National Forest
Lori Iverson	US Fish and Wildlife
Lynda Rudolph	Teton County Sheriff's Office Dispatch Supervisor
Mack McFarland	GTNP - Risk & Safety
Martin Knapp	WY Homeland Security County Coordinator, Park County
Mary Lou Klene	Red Cross
Mary Moore	Bridger-Teton National Forest
Matt Carr	Teton County Sheriff's Office
Matt Redwine	Jackson Hole Fire/EMS
Melissa Turley	Teton Village District Executive Director
Michael Nash	Grand Teton National Park Chief Ranger
Michelle Weber	Town of Jackson Police Department
Mike Moyer	JHFEMS
Patrick Lonergan	Gallatin County, MT Emergency Management Director
Paul Cote	Teton County Facilities Manager
Phillip Fox	St John's Hospital Emergency Manager
Rachel Wheeler	Teton County Health Department- Public Health Response Coord.
Randy Knepper	Jackson Hole Airport
Rev. David Bott	TC VOAD Chair
Richard Moore	Yellowstone NP
Riclyn Betsinger	Teton County Sheriff's Office Dispatch Supervisor
Robb Sgroi	Teton Conservation District
Roger Schultz	Jackson PD
Ryan Stanley	Snow King Mountain
Steve Markason	BTNF Jackson District Wildfire
Suzanne Marinelli	US Bureau of Reclamation
Todd Fletcher	Teton County IT Manager
Todd Smith	Chief - Jackson PD
Todd Stiles	Bridger-Teton National Forest
Tom Lenderink	Bonneville County, ID Emergency Manager
Tom Segerstrom	Teton Conservation District

Name	Organization	
Val Bogdanowitz	USACE	
Vonda Huish	Admin. Assistant Fremont County Emergency Management	
LEPC Committee Members		
Name	**Organization**	**LEPC Committee Role**
Brian Coe	Jackson Hole Fire/EMS & RERT#8	LEPC Vice Chairman
Carlin Girard	Teton Conservation District (TCD)	TCD Representative
Jim Ligori	Community Rep/Cert	LEPC Community Group
Kelli Fennessey	Jackson Hole Fire/EMS	LEPC Secretary
Kevin Meagher	Town of Jackson Public Works	LEPC HazMat Facility Owner/Operator
Luther Propst	Teton County Board of Commissioners	Elected Official
Rich Ochs	Teton County Emergency Manager	LEPC Chairman
Tom Ninnemann	News Director, Jackson Hole Media	Media

Official representatives for the plan update from each jurisdiction, including TCD, are highlighted in green above and are as-follows:

Teton County/Town of Jackson: **Rich Ochs**, Teton County and Town of Jackson Emergency Management Coordinator, Teton County Emergency Management

Teton Conservation District: **Carlin Girard**, Associate Director & Water Resources Specialist, Teton Conservation District

An internal project kickoff meeting between the State of Wyoming OHS, Teton County Emergency Management, and Michael Baker International occurred in December 2019. This project, while considered to be a plan update for Teton County and the Town of Jackson, aligns with the State's new regional approach to Hazard Mitigation Plans. This approach aligns planning with the Regional Emergency Response Teams divisions, or RERT divisions, across the state. This change was communicated to the entire planning team at the LEPC kickoff on January 17, 2019. The full schedule of Planning Team Meetings is provided in Table 2 below. Full meeting minutes and attendance can be found in Appendix A.

TABLE 2- SUMMARY OF PLANNING MEETINGS

Meeting Name	Attendees	Date
State/Teton County Kickoff Meeting	State of WY, Teton County Emergency Management, Michael Baker International	12/11/2018
Mitigation Project Review Meeting	Teton County Emergency Management, Michael Baker International	1/7/2019
LEPC Kickoff Workshop	LEPC, Michael Baker International	1/17/2019
HIRA Overview Meeting	LEPC, Michael Baker International	3/21/2019
Mitigation Strategy Development Meeting	LEPC, Michael Baker International	4/25/2019
Mitigation Action Workshop 1	LEPC, Michael Baker International	5/16/2019
Mitigation Action Workshop 2	LEPC, Michael Baker International	6/10/2019

1.2.3 Public and Stakeholder Participation

An important component of the success of this mitigation planning process involved ongoing public, stakeholder, and jurisdictional participation. Individual citizen involvement provided the Planning Team with a greater understanding of local concerns and ensured a higher degree of mitigation success by developing community "buy-in" from those directly affected by the planning decisions of public officials. A description of how the public surveys were given and what questions were asked is shown in Table 3 below. Full public survey results can be found in Appendix B.

TABLE 3- SUMMARY OF PUBLIC SURVEYS

Survey Name/Topic	Distribution Methods	Dates Available to Public	Number of Respondents
Survey #1 Hazards within Region 8 • Where respondents live and work. • If they were familiar with the 2016 plan update. • If they are concerned with their community being impacted by a natural disaster. • If they have every experienced a natural disaster and, if so, what it was. • What hazards they think are the highest threat to their communities. • What populations they feel are the most vulnerable to a natural disaster. • What comes to mind when they hear "hazard mitigation"?	• County, Town, and Sheriff's Office Employees • Nixle • Geologists of Jackson Hole • LEPC Members • Town and County Websites • HMP Website	January – April 2019	220
Survey #2 Community Assets, Goals, and Actions • Which community assets may be most vulnerable to hazards. • How the community prioritizes community assets over one another. • How useful the community felt the goals from the 2016 HMP were. • Identify areas where the HMP can integrate the Teton County/Jackson Comprehensive Plan. • How the community currently receives information about hazards, and what would be most effective in the future. • Citizen priorities for types of mitigation actions.	• County, Town, and Sheriff's Office Employees • Nixle Alert • Geologists of Jackson Hole • LEPC Members • Town and County Websites • HMP Website	April – May 2019	217

Survey Name/Topic	Distribution Methods	Dates Available to Public	Number of Respondents
Survey #3 Finalized Hazards, Goals, & Actions • Do the finalized goals meet the need of the community. • A recap on the hazards selected, and a test to look at how opinions have changed since the 1st survey. • Which actions do the public view as being effective at mitigating hazards, and which need more work.	•County, Town, and Sheriff's Office Employees • Nixle Alert • Geologists of Jackson Hole • LEPC Members • Town and County Websites • HMP Website	August 2019	134

In addition to the surveys, two public meetings were held. The first was a kick-off open house on January 16th. This open house featured the launch of the project website, information about the upcoming planning process, as well as opportunities for community members to provide in-person feedback to questions similar to Survey #1. The second open house was held on August 12, 2019 after completion of the risk assessments, finalization of the mitigation action lists, and creation of a draft plan. The plan was distributed for public review on January 27, 2020 and a two-week public comment period followed. Comments received during the comment period are summarized in Appendix C.

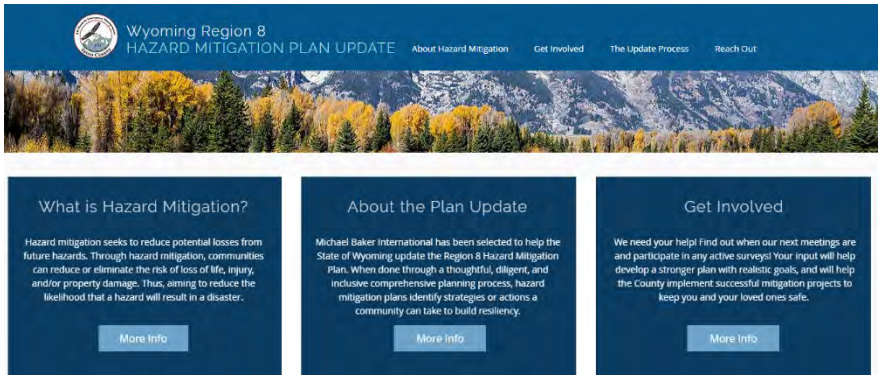


FIGURE 2. A PROJECT WEBSITE WAS PUT TOGETHER TO BOLSTER COMMUNITY ENGAGEMENT AND PROVIDE PLANNING PROCESS UPDATES.

1.2.4 Review and Incorporation of Existing Plans

A wide range of additional plans and data sources were consulted for the HIRA update, and those sources are cited with the related text. The local plans listed below were reviewed for consistency with the MHMP update and for project ideas. These plans have relative value to the Region 8 plan in that they each play a part in implementing policies, approaches, best practices, and methodologies for risk reduction to achieve common goals for Teton County, the Teton Conservation District, the Town of Jackson, the Snake River Watershed, and many other local geographies and interest groups.

TABLE 4- RELEVANT PLANS AND THEIR RELATIONSHIP TO HAZARD MITIGATION PLANNING

Plans	Status			Department or Agency Responsible	Addresses Hazards (Y/N), If so, where?	Projects to include in mitigation strategy (Y/N). If so, which?	Can this plan be used to implement mitigation actions? (Y/N) If so, how?
	In Place	Date Adopted or Most Recently Updated	Under Development				
Jackson/Teton County Comprehensive Plan	X	6-Apr-12		Jackson/Teton County			Not implementation- but provides a foundation for HMP goals.
Capital Improvement Plan	X	Oct-18		Teton County Administration	Includes capital improvement requests for public safety issues.	No, could be used to plan funding for future projects.	Yes, by including mitigation projects in CIP.
Teton County Emergency Operations Plan	X	2015		Teton County Emergency Management	Yes, entire plan.	No	No, should be addressed in NHMP.
Integrated Transportation Plan	X	2015		Teton County / Town of Jackson Planning and Engineering Departments			
Surface Water Drainage Infrastructure Master Plan	X	2001		Town of Jackson Public Works	Yes, stormwater management/flooding	No, needs update	Yes, flooding and waterway management
Flat Creek Watershed Management Plan	X	2006	X	Teton Conservation District	Yes, flooding		
Community Wildfire Protection Plan	X	2014		Teton County, US Forest Service, National Park Service	Entire plan	Yes, has several wildfire mitigation strategies	Both plans should complement each other in project development and completion
International Code Council 2018 Building Code	X	1-Jun-19		Teton County Building Official	Yes, throughout the code		Yes, will need to consult with building officials

Plans	Status			Department or Agency Responsible	Addresses Hazards (Y/N), If so, where?	Projects to include in mitigation strategy (Y/N). If so, which?	Can this plan be used to implement mitigation actions? (Y/N) If so, how?
	In Place	Date Adopted or Most Recently Updated	Under Development				
Teton Conservation District Strategic Plan	X	2015		Teton Conservation District			
Community Health Needs Assessment	X	2015		Teton County			
Town/County Training and Exercise Plan	X	2018		Teton County Public Health			
Strategic National Stockpile Plan	X	2012		Teton County Public Health			
Town/County NIMS Training Plan	X	2019		Teton County Emergency Management			
Teton County/Town of Jackson All-Hazards Recovery Plan	X	2018		Teton County Emergency Management			
Teton County/Town of Jackson Hazardous Materials Emergency Response Plan	X	2018		Teton County Emergency Management			
Jackson Hole Flood Protection Project Operations and Maintenance Biological Assessment	X	2018		US Army Corps of Engineers	Describes operations for flood protection on levee system.	Possibly. Most projects have to do with mitigation against disturbing wildlife.	

1.3 Region 8 Profile

Teton County encompasses approximately 4,008 square miles and is in northwestern Wyoming. Approximately 97% of the County is publicly-owned. The County shares its western border with Idaho, which creates an important relationship between Wyoming and Idaho. For example, while traveling to Alta, a community in unincorporated Teton County, one must first travel through Idaho if coming from Wyoming.

Within the County boundaries lie the Town of Jackson, Grand Teton National Park, and roughly the southern half of Yellowstone National Park (Yellowstone National Park has exclusive jurisdiction and is not a part of this plan.) The topography is primarily mountainous and includes the dramatic Teton Range, portions of the Gros Ventre and Absaroka Ranges, and the Yellowstone Plateau. The County is the headwaters of the Snake River and contains Yellowstone and Jackson Lakes. Tourism and recreation are the main financial stays of the County.

According to Headwaters Economics research, approximately 43.4% of the job sectors in Teton County are travel and tourism related, 56.4% are non-travel and tourism related sectors. From 1998 to 2016, travel and tourism employment grew by 2,456 jobs, while non-travel and tourism employment grew by 2,117 jobs.

Land use change and residential and commercial development are limited by both geography and land ownership. Because such a large percentage of the County is publicly owned, residential and commercial development is precluded over most of the County. And, unlike many Wyoming counties, Teton County does not produce fossil fuels. While the limited amount of privately-owned land limits the location and type of residential and commercial growth, the County's residents share their community with over 5 million visitors each summer.

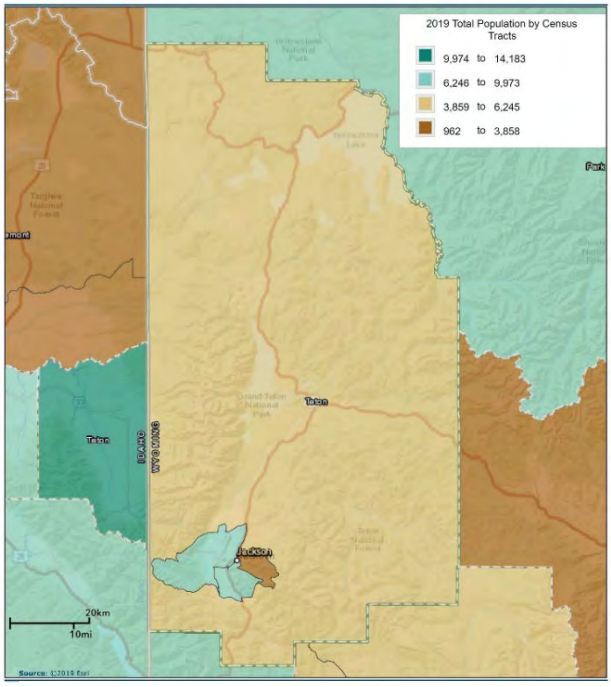


FIGURE 3. TETON COUNTY 2019 POPULATION

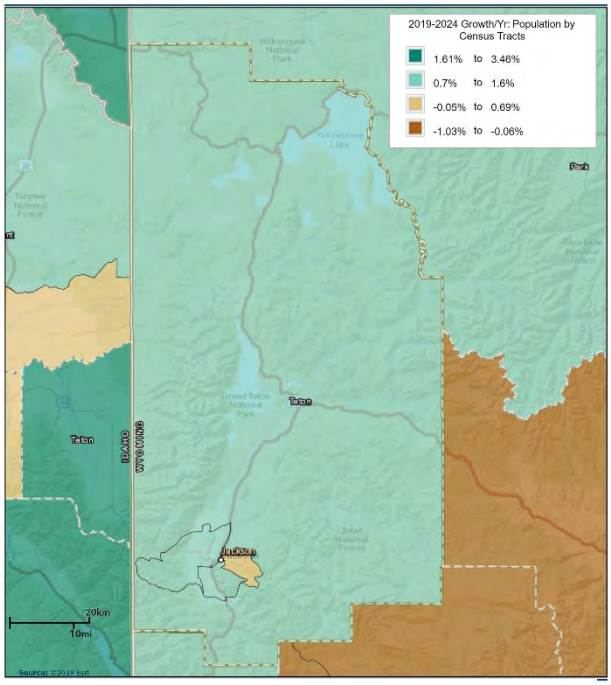
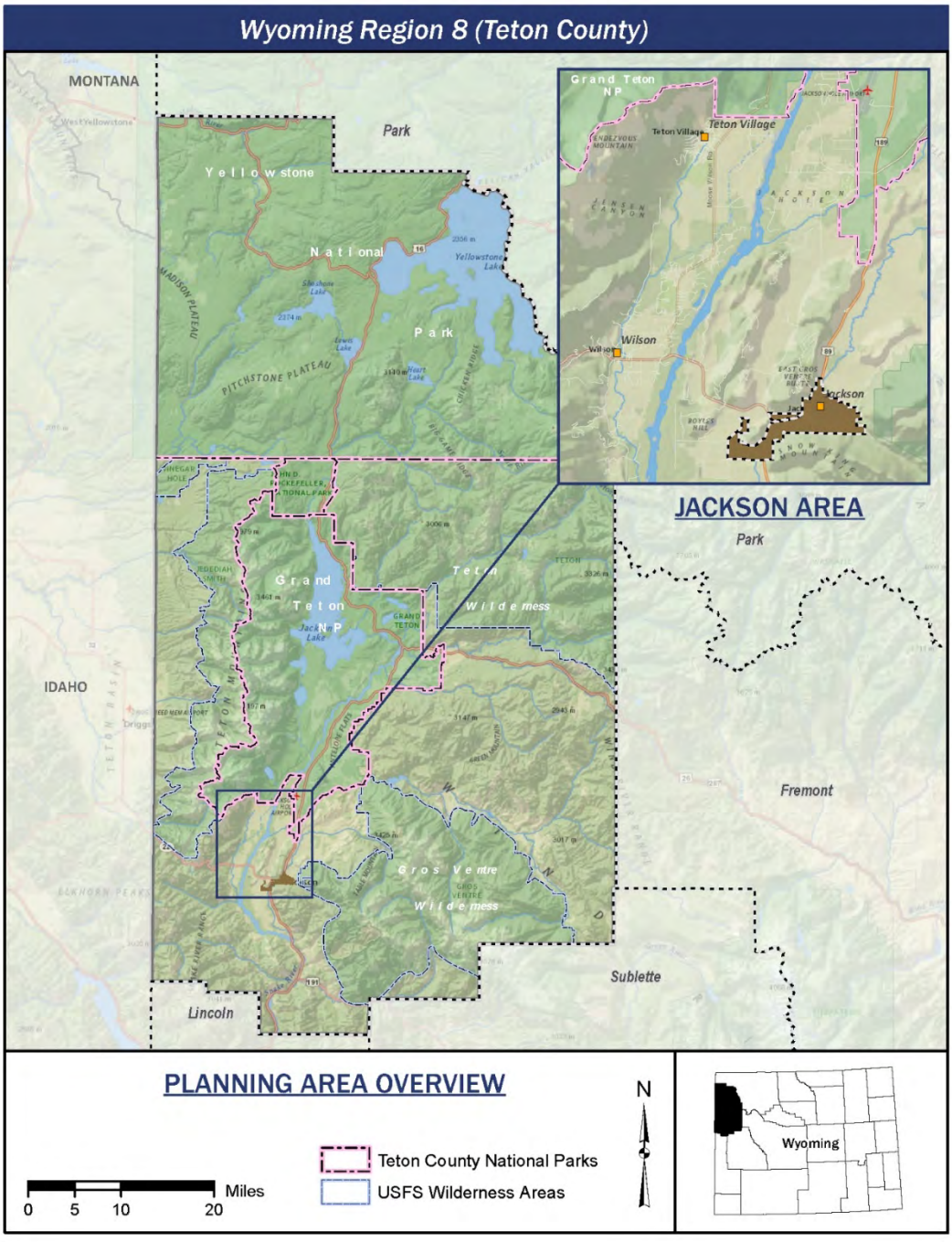


FIGURE 4. 2019-2024 PERCENT CHANGE IN TETON COUNTY POPULATION

Teton County ranks 9th in the State for total population (22,930 people overall). The Town of Jackson comes in as the 10th-largest town or city in the state (10,413 people). Figure 4 shows projected population change between 2019 and 2024 by US Census Tact. Data were pulled from Esri Community Analyst tool using US Census data. The planning area for the Region 8 plan is shown in Figure 5.

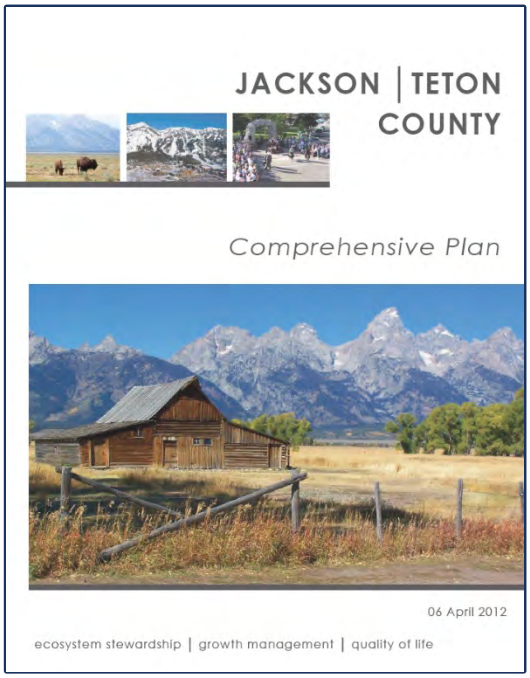
FIGURE 5. MAP OF REGION 8 AREA



Understanding key demographic data is imperative to hazard mitigation planning. By understanding what key populations exist within the Region, mitigation actions may be tailored, for example, 15% of Teton County's population is over the age of 65. This indicates that the County should have specific actions, such as adding ADA accessible ramps/infrastructure in areas that are lacking to support mobility. Appendix D shows all socio-demographic data collected about the County and the Town of Jackson.

1.3.1 Changes in Development

Despite its limited available land and annual influx of visitors, the county works hard to manage growth in a manner that maintains its western heritage and supports the natural resources that contribute to the local economy and provide quality of life for its residents. The Jackson/Teton County Comprehensive Plan, adopted in 2012 as a joint Town/County project after a five-year public engagement process, sets a combined vision for both government entities based on 3 Common Values which include Ecosystem Stewardship, Growth Management, and Quality of Life. These values are analyzed annually in an "Indicator Report" to determine whether growth and development that is occurring is happening in a manner and in the locations that align with the stated values. The Indicator Report measures change and growth utilizing several metrics, the most important of which have become known as the 60/40 and 65% goals, which are described in more detail below.



The Comprehensive Plan set a target that 60% of all growth should occur in areas of existing development and services—areas the Comprehensive Plan refers to as "Complete Neighborhoods". This target addresses all 3 common values. Ecosystem Stewardship is ensured by directing development out of wildlife habitat, scenery and open space. Growth Management is ensured because development is steered to locations where infrastructure and other services are already in place. Quality of Life is ensured because development is within proximity to jobs, services, and other people. This proximity is more energy efficient and supports a sense of community.

The 65% target aims to have at least 65% of the workforce living locally. The 65% target provides Ecosystem Stewardship by avoiding increased emissions and wildlife-vehicle conflict that comes with commuting. It provides Growth Management by truly balancing the demand and supply of housing rather than just displacing the supply to elsewhere in the ecosystem. And, it provides Quality of Life by keeping local workers within the Town of Jackson and other Complete Neighborhoods to volunteer, spend money, raise families, respond to emergencies, and contribute to the community in a meaningful way.

Since the Comprehensive Plan was approved in 2012, the following "indicators" show efforts are paying off.

Ecosystem Stewardship

- 66% of units built in 2018 were in Complete Neighborhoods, an all-time, single-year high. Since 2012, 59% of new units have been built in Complete Neighborhoods, bringing us closer to our Comprehensive Plan target of 60% of growth occurring in previously developed areas.
- Current Residential Potential data shows that 62% of future residential growth can be expected to occur in Complete Neighborhoods. In 2012, only 36% of residential growth was expected to occur in Complete Neighborhoods.
- Total acres of land maintained in conservation easements continues to steadily grow since 2012.
- Electricity consumption data indicates conservation efforts are yielding success in the goal of maintaining 2011 energy loads. The significant drop in per capita energy use in winter, even as effective population has grown significantly, is the reason for the success.

Growth Management

- As of 2019, residential development has grown 8.5% since 2012 with development of 551 detached single-family units, 131 guest houses, 132 attached single-family units, and 153 apartments.
- Growth in non-residential floor area increased by 6% between 2012 and 2018, with the highest percentage growth (9.2%) occurring in the restaurant/bar category, and the highest square footage growth (170,679 square feet) occurring in the institutional category.
- While year-round effective population continues to grow and summer continues to be the busiest for visitors and seasonal residents/workers, the greatest rate of effective population growth has been focused on the shoulder seasons which is an economic goal of the Comprehensive Plan.
- There is a pool of 2,190 units to be used for the Workforce Housing Bonus (Town) and Complete Neighborhood – Planned Residential Development (County) tools. Workforce housing and land conservation incentives are enabled with plenty of potential, without any increase to community buildout. This is a major community achievement that weaves Ecosystem Stewardship, Growth Management, and Quality of Life values together.

Quality of Life

- From 2012-2017, the percentage of the workforce living locally declined by only 2 percentage points (from 59% to 57%). In the 5 years prior to adoption of the 2012 Comprehensive Plan, it declined by 6 percentage points.
- Housing affordability in 2018 improved for a second year, although the median home still costs nearly 3 times what the median family can afford. This improvement in relative affordability was largely due to a significant increase in median income after years of relatively little change to income. Meanwhile, detached single-family homes got less affordable, emphasizing the importance of smaller, multi-family units to the workforce housing supply.
- Like the last three years, only 38% of the community's housing stock is occupied by second homeowners, retirees, or left vacant. This percentage has decreased since 2010, a positive trend reflecting the construction of more than 200 deed restricted homes since 2010 as well as a growing supply of market ownership and rental units that are occupied by that workforce.
- Economic growth in the community continues to be some of the strongest in the nation. Average annual job growth since 2012 is 3.6%, compared to a national annual average since 2012 of 2% (Bureau of Economic Analysis, 2017).

Areas to focus efforts for improvement include reducing wildlife-vehicle collisions, providing a balance between the demand and supply for workforce housing, and reducing Annual Vehicle Miles traveled by encouraging alternate forms of transportation. These metrics support hazard mitigation through ensuring Teton County and the Town of Jackson are resilient by having a strong economy, healthy ecosystem, and responsible growth. Doing so helps to mitigate impacts of hazards or deter them entirely.

Major projects completed within the Town and County since the hazard mitigation plan was updated in 2016 include:

- *Town District 2 and Lodging Overlay Updates (2016):* Standards for form in Town's commercial core and reconfiguration of Lodging Overlay boundaries to improve vibrancy and walkability of downtown.
- *Town ARU Allowance (2016):* Modified regulations to allow Accessory Residential Units (ARUs) - also known as guesthouses, carriage houses, mother-in-law-suites, etc. - in Town neighborhoods to help alleviate affordable housing challenges in the community.
- *Housing Authority Restructure (2016):* Joint Housing Authority established staffed by Housing Director and Housing Manager.
- *County Rural Rezone (2016) and Town Districts 3-6 Rezone (2018):* Two-step process to meet the Comprehensive Plan's 60/40 goal; through changes in zoning, potential for future residential development in Complete Neighborhoods jumped from 53% in 2017 to 62% in 2018.
- *Focal Species Study (2017):* County-wide study that identified areas of priority habitat for identified focal species; first step in updating County and Town natural resource protection regulations.
- *Housing Mitigation Standards Update (2018):* Amended regulations for how much deed-restricted housing a developer is required to provide as part of a new development or use based on the number of year-round, full-time employees generated by that development who cannot afford to live in our community.
- *Wildlife Crossings Master Plan (2018):* Identified locations and methods for reducing wildlife-vehicle collisions throughout the Town and County.
- *Housing Rules and Regulations Update (2018):* The Jackson and Teton County Housing Department updated the Housing Rules and Regulations (formerly called Guidelines) that govern who qualifies to live in a Housing Department home and what restrictions apply to living in a Housing Department home.

Major projects that are upcoming or underway include:

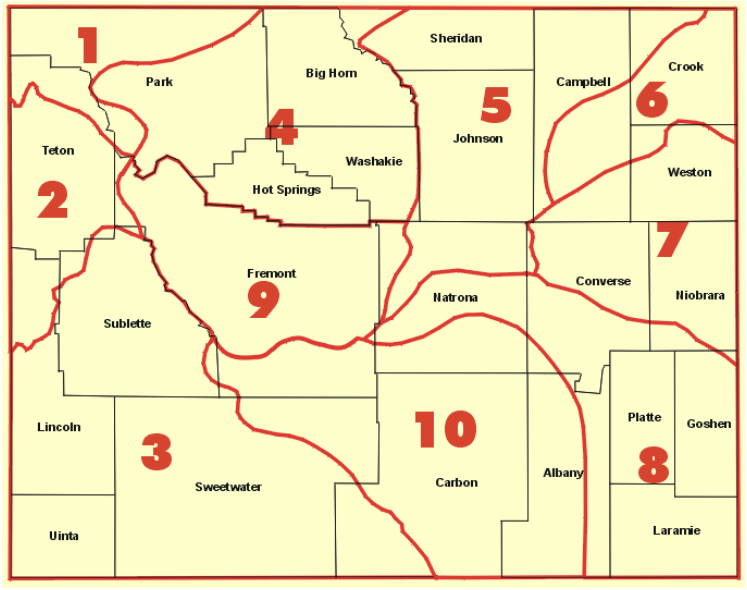
- *Growth Management Program Review and Comprehensive Plan Update:* The Growth Management Program was triggered in 2016 when residential growth exceeded 5% since adoption of the Comprehensive Plan in 2012. As of 2019, residential development has grown 8.5% since 2012. The Growth Management Program (GMP) is a quantitative review program required by the Comprehensive Plan at 5% residential growth. It is intended to use data presented in the Annual Indicator Report and elsewhere to evaluate whether the community is meeting the goals outlined in the Comprehensive Plan. The GMP is also an opportunity to pause and evaluate whether our community vision, values, principles, or policies have changed; and then adjust our implementation strategies accordingly.
- *Natural Resources Regulations Update:* The County is updating the regulations that protect water bodies, wetlands, and wildlife habitat from the impacts of development. Natural resource protection is about identifying valuable resources so that impacts from development can be

avoided, minimized, and mitigated. The community's goal is that only 40% of new development occurs in wildlife habitat. Achieving this goal will help protect the area's natural resources; however, there will still be a need for new development to minimize and mitigate its impacts.

- *Town Hillside Development Regulations:* Update to the Town Hillside Land Development Regulations (LDRs) with the goal of improving landslide information and identifying best practices for identifying, avoiding, and mitigating hazards in hillside development.
- *Town Parking Plan:* The Town Parking Management Study will create a complete parking strategy that balances the community's goals for land use, transportation, and Town operations. It implements the Integrated Transportation Plan and the 2012 Comprehensive Plan and updates the 2003 Downtown Parking Study. It consists of 4 Phases:
  Phase 1: Commercial and Residential Areas Outside of the Downtown Core
  Phase 2: Downtown Core (Downtown Parking Management Plan)
  Phase 3: Regional Corridor Parking (Regional Corridor Parking Management Plan)
  Phase 4: Communitywide TDM Scoping (Communitywide TDM Plan)
- *Annual Housing Supply Plans:* Prepared annually by the Housing Department to analyze progress meeting goals in the Housing Action Plan and Comprehensive Plan as well as identify corrective actions and new projects.
- *Historic Preservation LDRs:* Exploration of how historic preservation contributes to western character and what tools can be implemented to promote historic preservation community-wide.
- *Town Square Rezone:* The Town of Jackson is rezoning the Town Square Character District to implement the desired future character of the Comprehensive Plan. Design requirements may be considered to protect the western character of this iconic district.

1.3.2 Climate Change

Housed within the Department of Civil and architectural Engineering at the University of Wyoming, the Wyoming Water Resources Data System (WRDS) also acts as the Wyoming State Climate Office (SCO). The office provides a variety of services including the development drought-monitoring products and online resources for public consumption. The Wyoming SCO is a certified climate office, recognized by the American Association of State Climatologists. The Wyoming SCO is broken into 10 Climate Divisions. Teton County and the Town of Jackson fall mainly into Climate Divisions 1 & 2, with much smaller portions of the County falling into Divisions 3 and 4 as well. The chart below, produced by the Wyoming State SCO shows average and extreme annual temperatures from 1905 – 2016.



Wyoming State Climate Office Climate Divisions

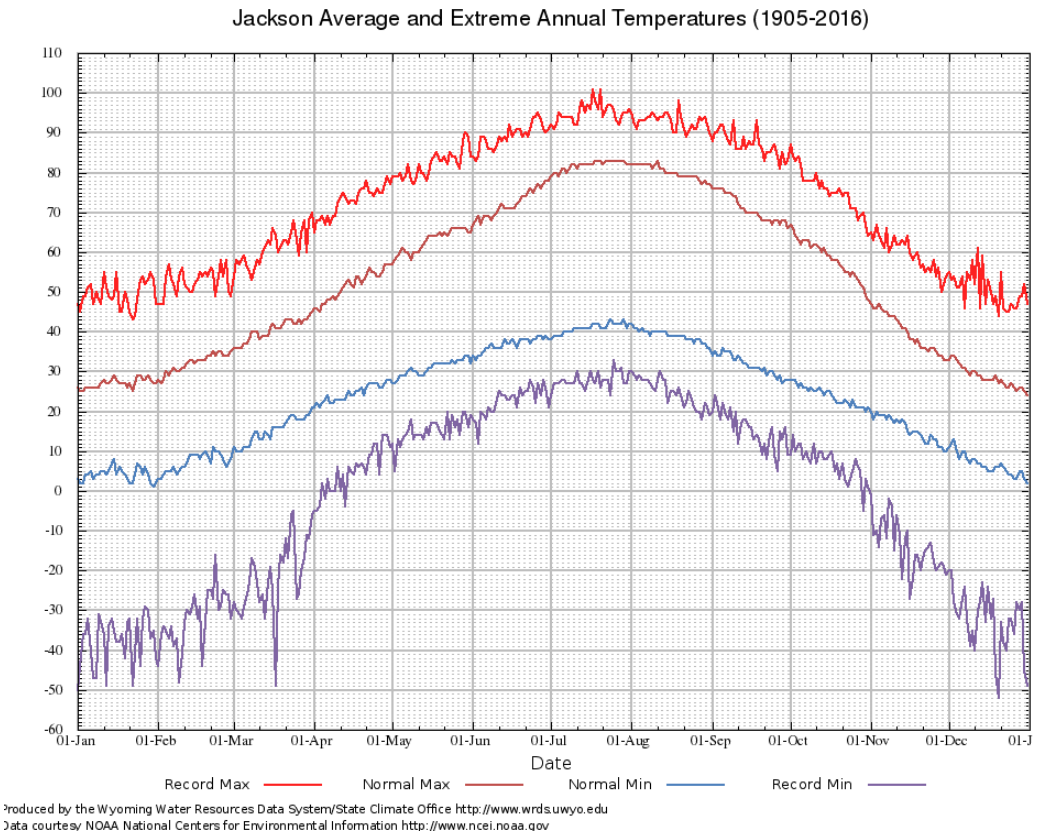


FIGURE 6- AVERAGE TEMPERATURES IN JACKSON

A report by Climate Central reports that summers in both Yellowstone and Grand Teton National Parks will be 13 degrees Fahrenheit hotter by 2100, resulting in heat as warm as found in the plains. This could mean changes in the tourism economy, functioning ecosystems, and more frequent hazard events such as wildfire and drought, all of which would impact Teton County and The Town of Jackson.

The United State Environmental Protection Agency released a map (shown in Figure 7 below) that visualizes temperature change throughout the United States. While Wyoming appears to be warming more than other areas of the US, the Teton County area has warmed the least in the state over the last century.

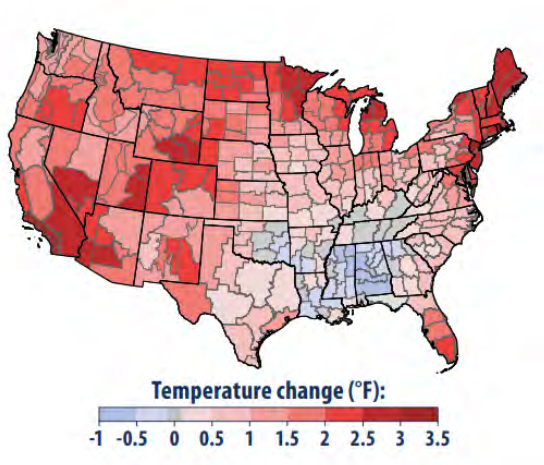
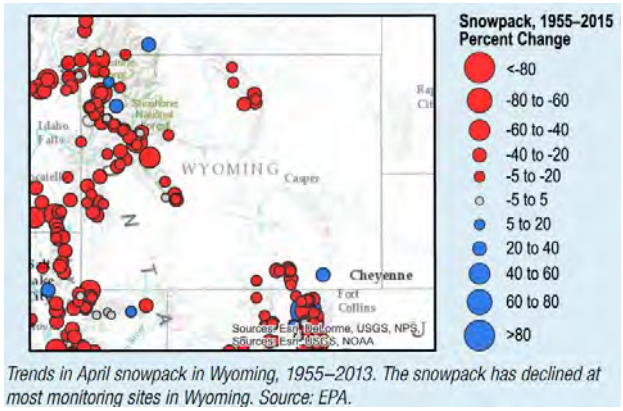


FIGURE 7. TEMPERATURE CHANGE THROUGHOUT THE US (SOURCE: EPA)



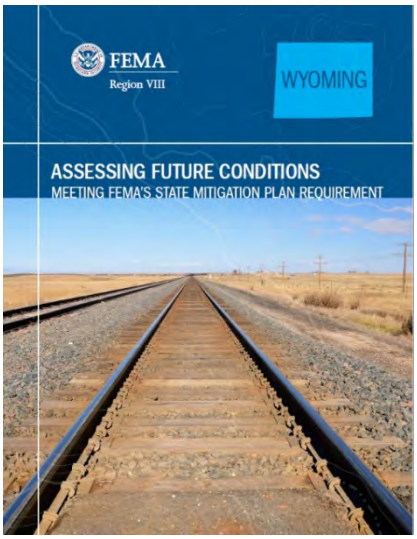
Trends in April snowpack in Wyoming, 1955–2013. The snowpack has declined at most monitoring sites in Wyoming. Source: EPA.

FIGURE 8. CHANGE IN SNOWPACK THROUGHOUT WYOMING

According to a report also done by the EPA, "as climate warms, less precipitation falls as snow, and more snow melts during the winter." In the Teton County area, snowpack from 1955 – 2015 has decreased (see Figure 8).

Decreased snowpack may mean a shorter recreation season and a decrease in the area of alpine tundra ecosystems. Impacts may also include the availability of water and agricultural production.

In 2016, FEMA issued a series of state-level reports that included a recommended approach for considering changes to climate conditions that may affect and influence their long-term vulnerability to natural hazards. The FEMA State Mitigation Plan Review Guide requires that: " the risk assessment must provide a summary of the probability of future hazard events that includes projected changes in occurrences for each natural hazard in terms of location, extent, intensity, frequency, and/or duration; and (b) Probability must include considerations for changing future conditions, including the effects of long-term changes in weather patterns and climate on the identified hazards." This plan considers how changes in precipitation, temperature, and other climate indicators can impact the severity of each profiled hazard.



Chapter 2 | Hazard Identification and Risk Assessment (HIRA)

2.1 Identification and Selection of Hazards

The March 2016 Teton County plan considered a total of 20 potential hazards to profile in the risk assessment for that plan. Of those 20, 13 were significant and potentially life-threatening. Hazards profiled in the March 2016 plan include:

- Dam Failure
- Drought
- Earthquake
- Flood/Flash Flood
- Hail
- Hazardous Materials
- Landslide
- Lightning
- Snow Avalanche
- Terrorism
- Tornado
- Wildland Fire
- Winter Storms/Blizzards

Seven remaining hazards were considered but not profiled in the plan because they either were not likely to occur in the next hundred years (based on a methodology included in the 2016 plan) or did not have a historical record of impact on property or life safety. Those seven hazards were:

- Expansive Soils
- Land Subsidence
- Liquefaction
- Urban Fire
- Windstorms
- Windblown Deposits
- Volcanism/Eruption

Hazards were selected for the Wyoming Region 8 Plan using community input, information contained within the Wyoming State Hazard Mitigation Plan 2016-2021, information gleaned from the previous plan covering Teton County, and an updated hazard severity analysis for Teton County and the Town of Jackson. The severity analysis is based on the method performed for the Wyoming State Hazard Mitigation Plan 2016-2021, dated January 25, 2016, and modified slightly to accommodate Region 8 Teton County and the Town of Jackson. Each score was determined based on professional expertise and feedback received during planning meetings, the public open house events, and online surveys, and risk assessment results. Results of the severity analysis are presented below. A Risk Score has been developed for each hazard in the planning area and is discussed further in each hazard profile in this plan. Additional tables conveying the scoring breakdown for each category in the severity analysis are also included. Overall Risk Score for each hazard is calculated by a straight average of each category score within the severity analysis.

TABLE 5- HAZARD SEVERITY ANALYSIS AND RISK SCORE

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Overall Risk Score
Dam Failure	1	3.5	3	4	2.5	2.8
Drought	2	1.5	4	1	4	2.5
Earthquake/Liquefaction	1.5	3	3	4	4	3.1
Flood/Flash Flood	2	2.5	2.5	2.5	2.5	2.4
Hail	3.5	2	1	2	1	1.9

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	Overall Risk Score
Landslide	3	2	1	3	2.5	2.3
Lightning	4	1	1.5	2.5	1	2
Avalanche	4	2	1	4	1	2.4
Tornado	1	1.5	1	4	1	1.7
Wildland Fire	3.5	3	3	1.5	4	3
Winter Storms	4	1	4	1	2.5	2.5

TABLE 6- PROBABILITY

Probability: What is the likelihood of a hazard event occurring in a given year?		
Degree of Risk Level	Criteria	Value
Unlikely	Less than 1% Annual Probability	1
Occasional	Between 1% and 10% Annual Probability	2
Likely	Between 10% & 90% Annual Probability	3
Highly Likely	Greater than 90% Annual Probability	4

TABLE 7- IMPACT

Impact: In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?		
Degree of Risk Level	Criteria	Value
Minor	Very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.	1
Limited	Minor injuries only. More than 10% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day.	2
Critical	Multiple deaths/injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one week.	3
Catastrophic	High number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.	4

TABLE 8- SPATIAL EXTENT

Spatial Extent: How large of an area could be impacted by this hazard event? Are impacts localized or regional?		
Degree or Risk Level	Criteria	Value
Negligible	Less than 1% of area affected	1
Small	Between 1% and 10% of area affected	2
Moderate	Between 10% and 50% of area affected	3
Significant	Greater than 50% of area affected	4

TABLE 9- WARNING TIME

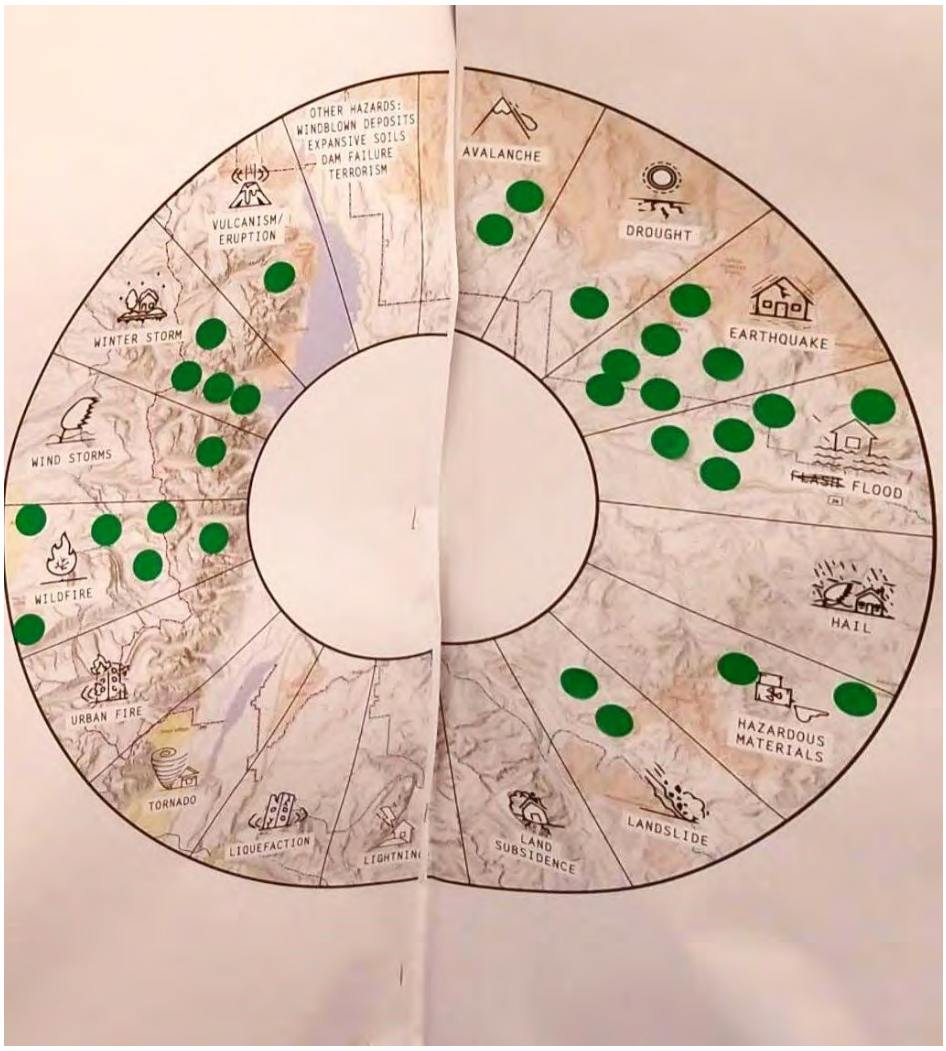
Warning Time: Is there usually some lead time associated with the hazard event? Have warning measures been implemented?	
Criteria	Value
More than 24 hours	1
12-24 Hours	2
6-12 Hours	3
Less than 6 Hours	4

TABLE 10- DURATION

Duration: How long does the hazard event usually last?	
Criteria	Value
Less than 6 hours	1
Between 6 and 24 hours	2
Between 1 Day (24 hours) and 1 week	3
Longer than 1 week	4

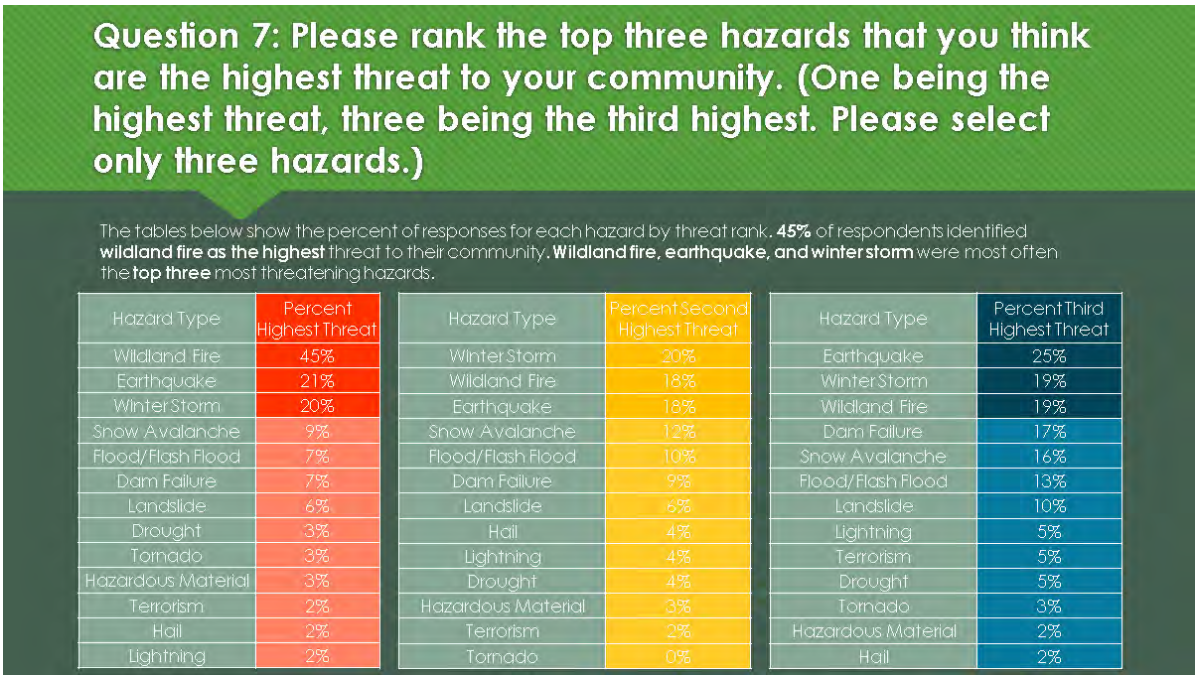
Information collected during the Project Kickoff- Community Open House on January 15, 2019, as well as information collected during Public Survey #1 Hazards in Teton County, provided the Planning Team with a contextual understanding of the perception that hazards hold in the public realm. The project kickoff employed an interactive exercise for attendees to rank hazards from a vulnerability perspective. Community members were asked to place a dot in the area for the hazard(s) they feel the community is most vulnerable to. Results during this type of exercise can be skewed by time of year, recent event occurrence, and level of familiarity with certain hazards. Exercise results are provided in Figure 9 below.

FIGURE 9. COMMUNITY PERCEPTION OF HAZARD VULNERABILITY FOR THE PLANNING AREA



Public Survey #1 provided an opportunity for respondents to rank hazards according to their perceived threat to the community. Survey #1 had 220 total respondents and, among many other questions, asked respondents to rank their top three hazards. Consistently, Wildland Fire, Earthquake, and Winter Storm were reported as the top three hazards from the survey.

FIGURE 10. HIGHEST-THREAT HAZARDS TO THE PLANNING AREA, RANKED



Hazard Type	Percent Highest Threat
Wildland Fire	45%
Earthquake	21%
Winter Storm	20%
Snow Avalanche	9%
Flood/Flash Flood	7%
Dam Failure	7%
Landslide	6%
Drought	3%
Tornado	3%
Hazardous Material	3%
Terrorism	2%
Hail	2%
Lightning	2%

Hazard Type	Percent Second Highest Threat
Winter Storm	20%
Wildland Fire	18%
Earthquake	18%
Snow Avalanche	12%
Flood/Flash Flood	10%
Dam Failure	9%
Landslide	6%
Hail	4%
Lightning	4%
Drought	4%
Hazardous Material	3%
Terrorism	2%
Tornado	0%

Hazard Type	Percent Third Highest Threat
Earthquake	25%
Winter Storm	19%
Wildland Fire	19%
Dam Failure	17%
Snow Avalanche	16%
Flood/Flash Flood	13%
Landslide	10%
Lightning	5%
Terrorism	5%
Drought	5%
Tornado	3%
Hazardous Material	2%
Hail	2%

Hazards from previous plans (listed above) were compiled for consideration in the Wyoming Region 8 plan. During the Project Kickoff Meeting, other hazards were brought up for discussion and consideration within the plan. After careful consideration of hazard potential in the planning area, and the need for increased public awareness and understanding concerning natural hazards, the Planning Team determined that the Wyoming Region 8 plan would focus on natural hazards impacting the planning area. Man-made hazards are not included in this plan, but are addressed in the following plans covering Teton County and the Town of Jackson:

TABLE 11- PLANS THAT ADDRESS MAN-MADE HAZARDS IN THE PLANNING AREA

Plan Name	Description
Teton County/Town of Jackson Emergency Operations Plan (EOP)	Overall plan for how the Town and County will assign responsibilities during emergencies, including man-made hazards.
Teton County/Town of Jackson Hazardous Materials Emergency Response Plan	Describes the response to hazardous materials events in Teton County and the role of the LEPC in hazardous materials reporting.

2.1.1 HIRA Methodology

The methodology and organization of the hazard profiles presented in this plan is as follows:

Hazard Definition and Extent- This section includes a description and definition of the hazard in-general, as well as key relationships to the planning area. Hazard magnitude, or extent, is also included in this section and differs for each hazard.

Hazard History and Location- Each hazard profiled in the plan will include information on the history of occurrence of the hazard throughout the planning area, as well as the most-recent information available on hazard location. For those hazards that tend to impact the entire planning area equally, hazard location may not be mapped but only summarized.

Vulnerability- Vulnerability to the specific hazard in both Teton County and the Town of Jackson is described in this section. If a hazard impacts these communities differently, it should also be evident from the vulnerability section. Hazard exposure and potential losses are also summarized in this section, and the Risk Score for each specific hazard is also presented, with discussion if-warranted. Please note that a more robust risk assessment has been performed and made available to Teton County Emergency Management and the Local Emergency Planning Committee that conveys loss potential at the structure level and includes an assessment of infrastructure vulnerability. Information on vulnerability is also made available via ArcGIS™ web map for public consumption, but results have been generalized so specific information cannot be gleaned on individual buildings without first consulting with Teton County Emergency Management.

Future Impacts- This section describes how each hazard may impact the planning area in the future, but generally within the next 5 years until another plan update is performed. Discussion on climate impacts to the hazard, if any, can also be found in this section.

Land Use and Development- Characteristics pertaining to land use, development, and planning are included in this section. Connections are made to the comprehensive plan covering Teton County and the Town of Jackson as appropriate, and regulatory standards are referenced if they exist for a hazard. In-general, this section discusses how communities in the planning area deal with the hazard from a land use and development perspective, and where pressures exist that could affect risk.

2.1.2 Disaster Declaration History

The President of the United States can declare a major disaster for any natural event, including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought, or, regardless of cause, fire, flood, or explosion, that the President determines has caused damage of such severity that it is beyond the combined capabilities of state and local governments to respond. A major disaster declaration provides a wide range of federal assistance programs for individuals and public infrastructure, including funds for both emergency and permanent work, through the Individual Assistance, Public Assistance, and Hazard Mitigation Assistance programs, and others.

The President can also declare an emergency for any occasion or instance when the President determines federal assistance is needed. Emergency declarations supplement State and local or Indian tribal government efforts in providing emergency services, such as the protection of lives, property, public health, and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. The total amount of assistance provided for in a single emergency may not exceed $5 million without first consulting Congress.

Other declaration types that are tracked at the federal level include Fire Management Assistance Declarations and Fire Suppression Authorizations, both of which authorize assistance for the mitigation, management, and control of fires on publicly or privately-owned forests and grasslands, which threaten such destruction as would constitute a major disaster.

Federally declared disasters for Teton County and the Town of Jackson are listed in Table 12 below.

TABLE 12- FEDERALLY-DECLARED DISASTERS IN PLANNING AREA

Disaster Number	Declaration Date	Incident Type	Title	Incident Begin Date	Incident End Date
4306	3/21/2017	Severe Storms	Severe Winter Storm and Straight-line winds	2/6/2017	2/7/2017
4007	7/22/2011	Severe Storms	Severe Storms, Flooding, and Landslides	5/18/2011	7/8/2011
2367	7/26/2001	Fire	Green Knoll Wildfire	7/23/2001	8/8/2001

2.2 Critical Facilities

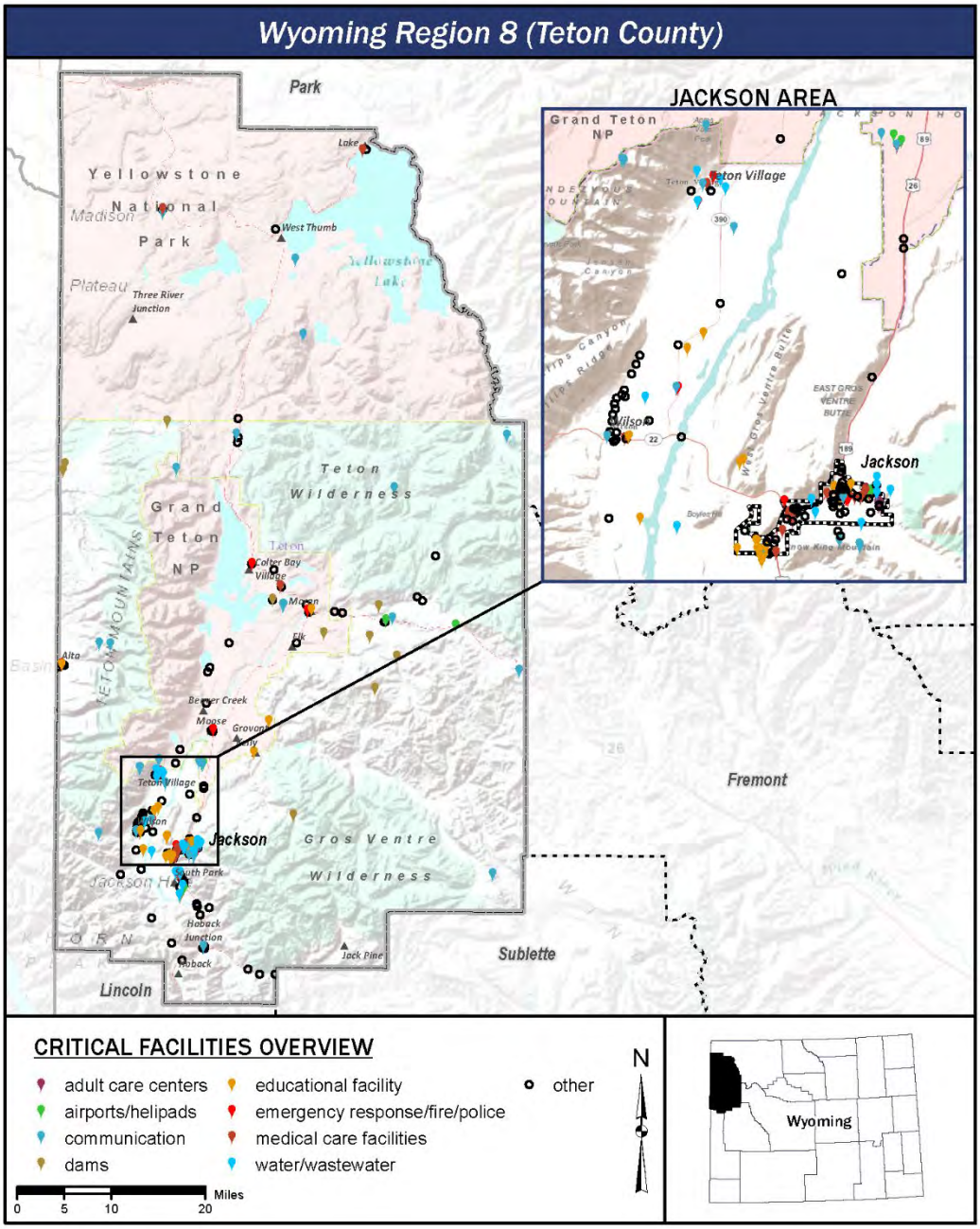
For this HMP, 'Critical Facilities' are defined as local assets vital to the health, safety, and well-being of residents and visitors during the time of a natural disaster. Critical facilities are essential to a community's long-term disaster resilience as they are important delivery pathways for diverse crisis management services and resources.

Critical Facility location and type information was supplied by Teton County Emergency Management, and includes the following facility types, shown in Figure 11 below. A full listing of critical facilities tracked by Teton County and included in a spatial risk assessment (where spatial hazard data is available) can be found in Appendix E.

Adult Care Centers	Educational Facilities
Airports/Helipads	Emergency Response/Fire/Police
Communication Infrastructure	Medical Care Facilities
Dams	Water/Wastewater Facilities

St. John's Medical Center in Jackson

FIGURE 11. CRITICAL FACILITIES OVERVIEW MAP



2.3 Dam Failure

2.3.1 Definition and Extent

Jackson Lake Dam. Source: USBOR

Dams are man-made structures built for a variety of uses, including flood protection, power, agriculture, water supply, and recreation. Dams are typically constructed of earth, rock, concrete, or mine tailings. Dams and reservoirs serve a very important role for Wyoming residents and regional industry. Although dam failure, either completely or partially, is a very rare event, when they occur, they are a significant hazard for communities downstream. Two factors that influence the potential severity of a full or partial dam failure are 1) the amount of water impounded and the density, type, and value of development and 2) infrastructure located downstream.

Dam failures can result from any one or a combination of the following causes:

- Prolonged periods of rainfall and flooding, which result in overtopping
- Earthquake
- Inadequate spillway capacity resulting in excess overtopping flows
- Internal erosion caused by embankment or foundation leakage or piping or rodent activity
- Improper design
- Improper maintenance
- Negligent operation
- Failure of upstream dams on the same waterway

Dam failure occurs when the retention function of the dam is compromised, either in part or in its entirety. A dam failure is not the only type of emergency associated with dams. Spillway discharges that are large enough to cause flooding in downstream areas or flooding upstream of dams due to backwater effects or high pool levels are both considered dam emergencies and may cause significant property damage and loss of life.

Dam failures result in a unique source of flash flooding, when a large amount of previously detained water is suddenly released into a previously dry area due to a failure in some way of the dam. The 2016 State of Wyoming Multi-Hazard Mitigation Plan classifies a dam based on their hazard potential. Classification is based on the consequences if a dam were to fail, not the potential of failure, or the existing condition of a dam. Dams are rated (1) high, (2) significant, and (3) low hazard. Significant damage refers to structural damage where humans live, work, or recreate; or public or private facilities exclusive of unpaved roads and picnic areas. Damage refers to making the structures inhabitable or inoperable.

Dam failure is the uncontrolled release of impounded water resulting in downstream flooding, which can affect life and property. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, or terrorism cause dam failures. Dam failures can be classified into four categories: overtopping, foundation failure, structural failure, and other unforeseen failures. Overtopping failures result from the uncontrolled flow of water over, around, and adjacent to the dam. Earthen dams are most susceptible to this type of failure. Hydraulic failures account for approximately 28% of all dam failures. Foundation and structural failures are usually tied to seepage through the foundation of the main structure of the dam. Deformation of the foundation or settling of the embankment can also result in dam failure. Structural failures account for approximately 28% of all dam failures, and foundation problems account for another 25%. Earthquakes or sabotage account for 12% of all dam failures, while inadequate design and construction account for 7% of failures.

Depth x velocity, or DV, can be used to quantify the intensity and destructiveness of flooding, and flood wave travel time, which directly impact the estimation of life loss for a given dam failure. There are also ways to incorporate public perception and understanding and the impacts of those on fatality rates, although those adjustments have not been made for this plan. DV is broken down into 3 categories: High, Medium, and Low, as follows:

TABLE 13- DAM FAILURE DV SUMMARY

DV	Severity	Description
< 50 ft^2 / second	Low	No buildings are washed off their foundations
> 50 ft^2 / second	Medium	Homes are destroyed, but trees or home debris remain for people to seek refuge in or on
> 160 ft^2 / second	High	The area has been swept clean by floodwaters and nothing remains

Discharges associated with a failure of the Jackson Lake Dam are used to help determine the DV at a given location. Discharges are dependent upon the amount of water stored in the reservoir at the time of failure, the size of the failure (width and height) and the elapsed time for breach/failure development.

Loss of Life determinations are highly influenced by three factors: the number of people occupying the dam failure floodplain, the amount of warning that is provided to the people exposed to dangerous flooding, and the severity of the flooding.

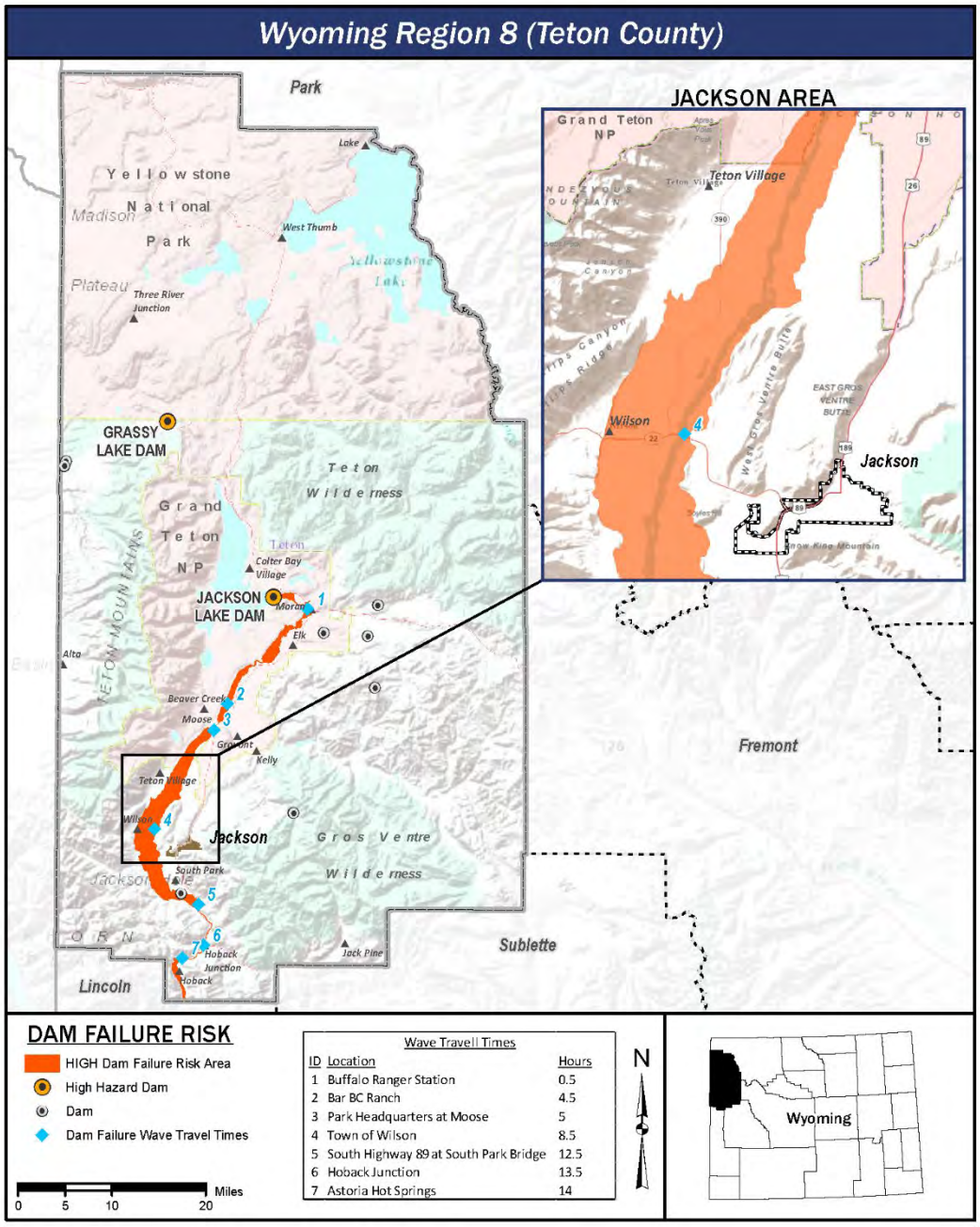
2.3.2 Hazard History and Location

There are currently 1,613 dams in Wyoming shown in the Corps of Engineers' National Inventory of Dams (http://nid.usace.army.mil). Teton County has 10 dams that are inspected by the Wyoming State Engineer's Office. The average age of these dams is 67. Of the 10, two are considered high hazard, the rest are low hazard dams. The high hazard dams are Jackson Lake (including Jackson Lake North and South Dikes) and Grassy Lake dams and they both have Emergency Action Plans. The primary purposes of Jackson Lake are flood control and irrigation storage, while the primary purpose of Grassy Lake is irrigation storage.

TABLE 14. DAMS IN TETON COUNTY

Name	Hazard level	Owner	Primary Purpose	Year Completed	River
Indian Lake	L	Squirrel Creek Irrigation Company	Irrigation	1954	Indian Lake Basin
Tracy Lake	L	ANK Corporation	Recreation	1928	Randolph Creek
Bergman Lake	L	Ronald Bergman	Irrigation	1953	Indian Creek
Porter	L	Leeks Canyon Ranch, LLC	Irrigation	1951	Wallace Creek
UHL	L	Jack e. Stark, Grand Teton Nat'l forest	Fish and Wildlife Pond	1948	Spread Creek
Grassy Lake	H	Reclamation	Irrigation	1938	Grassy Creek
Jackson Lake	H	Reclamation	Flood Control	1911	North Fork Snake River
Flat Creek Ranch	L	Homestead Company, LLC.	Fish and Wildlife Pond	1967	Flat Creek
Jackson Wastewater Treatment Plant ENL.	L	Town of Jackson	Debris Control	1980	Snake River Offstream
Leidy lake	L	Wyoming Game and Fish Department	Fish and Wildlife Pond	1983	Leidy Creek

FIGURE 12. DAM FAILURE RISK AND LOCATION IN TETON COUNTY



Teton County has one documented dam failure-type incident related to a landslide dam that resulted in the infamous Kelly Flood. On June 23, 1925, part of the northern face of Sheep Mountain became unstable after weeks of heavy rain and slid into the Gros Ventre River. The 50 million cubic yards of sedimentary rock formed a natural dam 200 feet high and 400 yards wide that created Lower Slide Lake. On May 18th, 1927, a portion of the natural dam broke during a spring with heavy runoff causing a flash flood to rush down the Gros Ventre River. The flood was at least 6 feet deep for at least 25 miles downstream and wiped out the town of Kelly 6 miles downstream. Six people died, and many others lost everything they owned.

Fifteen miles downstream in Wilson, 6 feet of water inundated the town and hundreds of farm animals died. There was heavy livestock loss, ranger buildings were destroyed, irrigation head gates were washed away, and a bridge was washed out ($75,000 to $150,000 damage). The American Red Cross had expenditures of $12,201. In narrower sections of the Snake River near Hoback, flood waters rose as much as 50 feet. The next day the waters reached Idaho Falls, Idaho and covered lowland sections there. The American Red Cross, Wyoming State Government, Wyoming Governor Emerson, and the Highway Department responded. Total damages surpassed $500,000. You can still see the bald rock on the north face of Sheep Mountain (Sleeping Indian) as a reminder of this tragic event.

Additionally, the LEPC noted that a landslide dam was created on Crystal Creek by the Crystal Peak landslide in 2008 in an area that has seen recurring landslides in the Bridger-Teton National Forest.

The impact from Kelly flood incident in Teton County was significant, equivalent to $6.7 million in 2015 dollars. Lives lost in 1927 were partly due to attempts to save belongings or not heeding warnings.

2.3.3 Vulnerability

Figure 12 in section 2.3.2 displays the location of all dams within the county. Both Jackson Lake Dam and Grassy Lake Dam are considered high-hazard dams; that is, these two dams could result in significant damage and loss of life if they were to fail, either naturally or due to mis-operation. While Grassy Lake Dam is in Teton County, WY, much of the risk associated with a failure of the Grassy Lake Dam exists in Idaho. As a result, no dam failure mapping was produced for a failure scenario of the Grassy Lake Dam. For Jackson Lake Dam, Figure 12 described above displays estimated inundation areas and flood wave times that would result from a failure scenario. The scenario does not account for the type of failure (overtopping, embankment failure, etc.) and only considers the potential flood discharges that could be expected below the dam. Other existing detailed failure scenarios with accompanying inundation mapping may exist, but they were not made available for inclusion in this Plan due to security policies of the U.S. Bureau of Reclamation.

In 2004, the U.S. Department of the Interior- Bureau of Reclamation released Technical Memorandum No. JL-8313-4, which reported findings from a seismic risk analysis of the Jackson Lake Dam and Jackson Lake. The findings concluded that the total seismic hazard at Jackson Lake Dam is generally dominated by ground motions produced by the Teton Fault, and that the earthen embankment portion of the dam is at higher risk due to susceptibility to long-period ground motion.

Under normal operations, Jackson Lake Dam maintains a significant amount of freeboard with respect to total height of the dam. In general, the reservoir annually fills and then fluctuates by a significant amount as water is released for downstream uses. Because the reservoir level is well below the crest of the dam for a large percentage of time during any given year, risk to certain types of failures, as well as the magnitude of possible failures, is reduced.

According to the US Bureau of Reclamation, the dam's owner and operator, the spillway capacity is approximately 24,000 cubic feet per second. To simplify the risk assessment associated with this Plan, a discharge greater than the spillway capacity was selected- one comparable to a 500-year flood- of 34,000 cubic feet per second (cfs). This value comes nowhere near approximation of the total flood discharge that could be released if Jackson Lake Dam were to fail catastrophically (likely approaching 1,000,000 cfs); it does, however, represent a probable maximum hazard area for scheduled dam releases and minor dam breaches. The State of Washington Department of Ecology, in its dam safety

guidelines, presents estimated peak discharges associated with dam failures for dams built with both cohesive-less (non-bonding) and erosion-resistant materials. These tables support the assumption that dam failure mapping for this effort likely underestimates the total flood potential associated with a massive failure of Jackson Lake Dam. Nonetheless, inundation boundaries were produced using the discharge discussed above and combined with parcel data to determine the total value exposed to a release or failure of nominal size. It's important to note that while the exposure analysis performed in this Plan does not show impacts to the Town of Jackson, a larger or catastrophic dam failure event may result in impacts to the Town. Timing associated with a flood wave along the Snake River from a typical dam failure event has been estimated in order to understand the risk and hazards associated with dam release flooding and for evacuation and notification lead time purposes. These wave times are available in Table 15. Exposure values associated with a failure event at the Jackson Lake dam are reported in Table 16.

TABLE 15- FLOOD WAVE TIMES- JACKSON LAKE DAM FAILURE

Location	Flood Wave Time Arrival (Hours)
Buffalo Ranger Station	0.5
Bar BC Ranch	4.5
Park Headquarters at Moose	5
Town of Wilson	8.5
South Highway 89 at South Park Bridge	12.5
Hoback Junction	13.5
Astoria Hot Springs	14

TABLE 16- EXPOSURE VALUES- JACKSON LAKE DAM FAILURE

Jurisdiction	Property Types	Property Count	Improved Value	Content Value	Total Value
Town of Jackson	Residential	0	$0	$0	$0
	Commercial	0	$0	$0	$0
	Other	0	$0	$0	$0
	Total	**0**	**$0**	**$0**	**$0**
Unincorporated Areas	Residential	2434	$2,696,221,723	$1,348,110,862	$4,044,332,585
	Commercial	85	$51,573,823	$51,573,823	$103,147,646
	Agricultural	137	$29,906,716	$29,906,716	$59,813,432
	Other	179	$918,881	$918,881	$1,837,762
	Total	**2835**	**$2,778,621,143**	**$1,430,510,282**	**$4,209,131,425**
Federal	**Total**	**25**	**$108,495**	**$108,495**	**$216,990**
	Total	**2860**	**$2,778,729,638**	**$1,430,618,777**	**$4,209,348,415**

Risk Score is summarized for the Dam Failure Hazard below. While dam failures are somewhat rare events, they can have catastrophic consequences and associated damages, and have the potential to impact large areas given the large quantities of water being impounded.

TABLE 17- RISK SCORE: DAM FAILURE

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Dam Failure	1	3.5	3	4	2	2.7

2.3.4 Future Impacts

Future impacts related to dam failure are tied closely to seismic activity throughout the planning area, especially along the Teton Fault. Continued maintenance and operation of the Jackson Lake Dam by the US BOR is necessary to ensure sunny day failures are avoided. Increases in property values and additional development in the desirable Snake River corridor will increase the overall potential for losses, including loss of life.

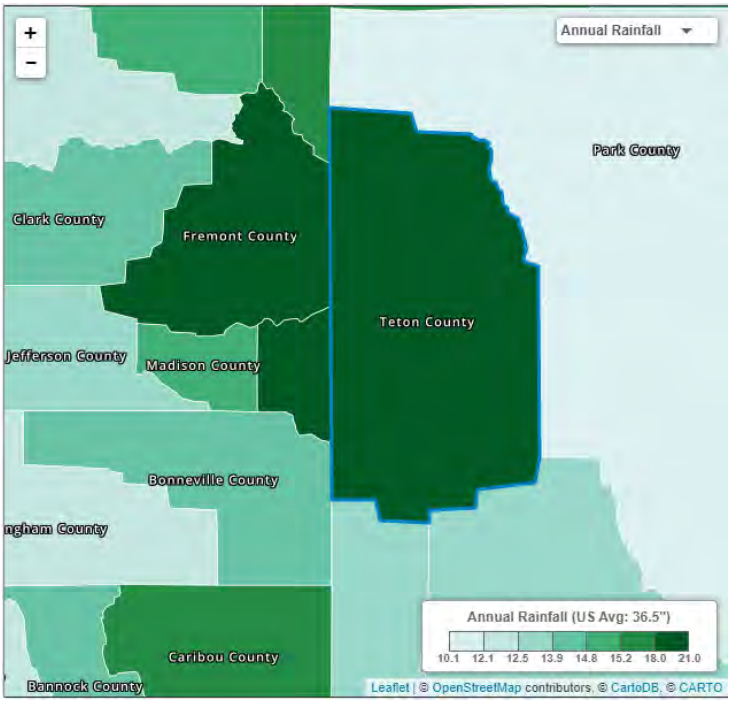
2.3.5 Land Use and Development

Current land use practices do not specifically account for rare but catastrophic events like that associated with failure of the Jackson Lake Dam. As indicated by Table 16 above, over $4 billion in potential losses exist in the potential inundation area, including 49 critical facilities.

2.4 Drought

2.4.1 Definition and Extent

Drought is a complex physical and social process of widespread significance yet regionalized conditions. Drought events are caused by a deficiency of precipitation and can be aggravated by other factors such as high temperatures, high winds, and low relative humidity.



Average annual rainfall in Teton County and the Town of Jackson approx. 22 inches

Droughts can be grouped as meteorological, hydrologic, agricultural, and socioeconomic. Representative definitions commonly used to describe the various types of drought are summarized below:

- Meteorological drought is defined solely on the degrees of dryness. It is expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- Hydrologic drought is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- Agricultural drought is defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops.
- Socioeconomic drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of a weather-related supply shortfall. The incidence of this type of drought can increase because of a change in the amount of rainfall, a change in societal demands for water (or vulnerability to water shortages), or both.

The Palmer Drought Severity Index (PDSI) was developed by Wayne Palmer in the 1960s and uses temperature and rainfall information in a formula to determine dryness. Over time it has become the semiofficial drought index for risk assessment and hazard analysis. The Palmer Index is most effective in determining long term drought—a matter of several months—and is not used for short-term forecasts (a matter of weeks). It uses a 0 as normal conditions, and drought is shown in terms of negative numbers; for example, -2 is moderate drought, -3 is severe drought, and -4 is extreme drought. Table 18, below, provides an overview of the Palmer Index compared to other drought classification systems. The return period is related to how often the type of drought typically occurs. For example, a minor drought occurs every 3-4 years.

TABLE 18. PALMER DROUGHT SEVERITY INDEX

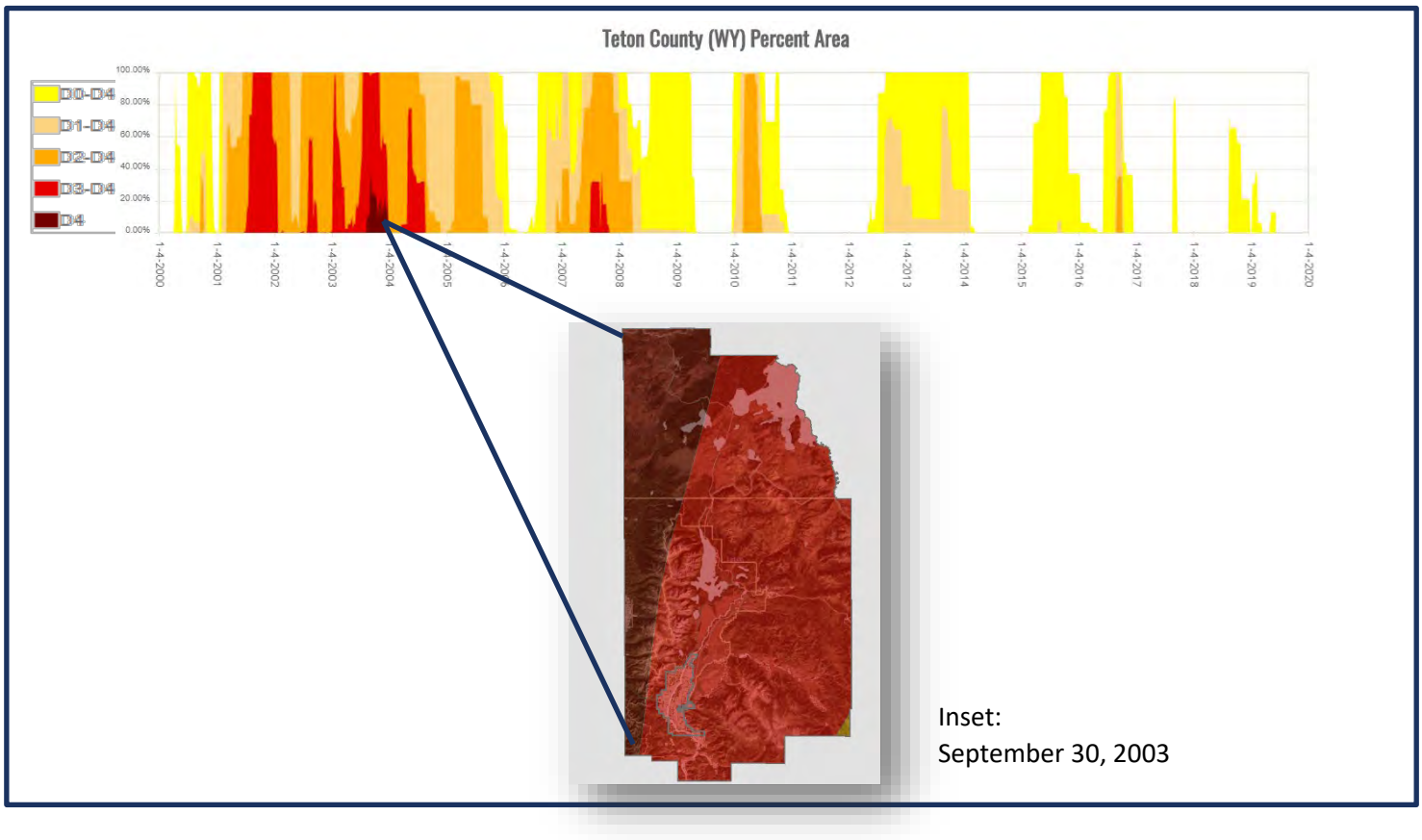
Drought Severity	Return Period (Years)	Description of Possible Impacts	Drought Monitoring Indices		
			Standardized Precipitation Index (SPI)	NDMC* Drought Category	Palmer Drought Index
Minor	3 to 4	**Going into drought:** • Short-term dryness. • Slowing growth of crops or pastures. • Fire risk above average. **Coming out of drought:** • Some lingering water deficits. • Pastures or crops not fully recovered.	-0.5 to -0.7	D0	-1.0 to -1.9
Moderate	5 to 9	Some damage to crops or pastures, fire risk high, streams, reservoirs, or wells low, some water shortages (developing or imminent), voluntary water use restrictions requested.	-0.8 to -1.2	D1	-2.0 to -2.9
Severe	10 to 17	Crop or pasture losses likely, fire risk very high, water shortages common, water restrictions imposed.	-1.3 to -1.5	D2	-3.0 to -3.9
Extreme	18 to 43	Major crop and pasture losses, extreme fire danger, widespread water shortages or restrictions.	-1.6 to -1.9	D3	-4.0 to -4.9
Exceptional	43+	Exceptional and widespread crop and pasture losses, exceptional fire risk, shortages of water in reservoirs, streams, and wells creating water emergencies.	Less than -2	D4	-5.0 or less

*Source: National Drought Mitigation Center

2.4.2 Hazard History and Location

Long periods of sustained dryness are part of Wyoming's climate. According to the Wyoming State Climate Office, Water Resources Data System, Wyoming is the 5th driest state in the Union, and drought is a constant threat. The most recent statewide drought started in 2012 and ended in the beginning of 2014. Prior to this drought, the multi-year drought beginning in 1999 and ending in 2009 is considered by many to be the most severe in collective memory. However, some old timers have indicated that they remember streams drying up in the 1930s and 1950s. According to instrument records, since 1895 there have been only seven multi-year (three years or longer) statewide droughts. The last 20 years of drought information are presented in Figure 13 below as percent area impacting Teton County combined with drought severity, indicated by NDMC Drought Category.

FIGURE 13- PERCENT DROUGHT AREA IN TETON COUNTY, 2000-PRESENT (US DROUGHT MONITOR)



The worst drought period in Teton County and the Town of Jackson over the last 20 years was in late 2003, occurring in the middle of the 1999-2009 statewide drought. A look at the climate record from September 30, 2003 shows that the entire county is in Extreme Drought (Category D3) with northwest portions of the county west of the Tetons and north into western Yellowstone in Exceptional Drought (Category D4).

In 2019, Wyoming experienced its 45th warmest July of the last 125 years. Only Climate Divisions (CD) 5 and 6, in the northeast, had rankings that were in the cooler half of years. These two divisions saw their 55th and 43rd coolest Julys, respectively. CD 10 had the lowest warm ranking finishing the month as the 29th warmest July since 1895.

The range of rankings for precipitation rankings was wider during July with CDs 3 and 10 in the southwest having the driest rankings at 5 and 6 respectively out of 125. CDs 4 and 5 in north central Wyoming were at the other end of the ranking and had the 32nd and 29th wettest Julys since 1895.

August 1-7, 2019 had above-normal temperatures across most of the state with the northwest being somewhat more above-normal than other portions. Precipitation was varied across the state though mostly below normal. The northwest had the highest number of stations that reported above-normal precipitation for this 7-day time period.

For three weeks of July, 2019, the entire state, including Teton County and the Town of Jackson, was drought-free. The Drought Monitor of July 09, 2019 was the first time since November 01, 2011 that

there were no areas of drought shown on the map. This was only the 6th time since 2000 where no drought was present in Wyoming.

During the last week of July, a large area of D0 (Abnormally Dry) formed in the southwest covering about the northern quarter of Uinta County, parts of southern Lincoln County, and about 60% of Sweetwater County.

While many areas of Wyoming have seen beneficial moisture this summer, the southwest has received less than normal amounts and this pattern is expected to continue into August. Evaporative Demand in that part of the state is above average.

Drought conditions are expected to continue in the southwest and the area could see an expansion both in terms of area and intensity.

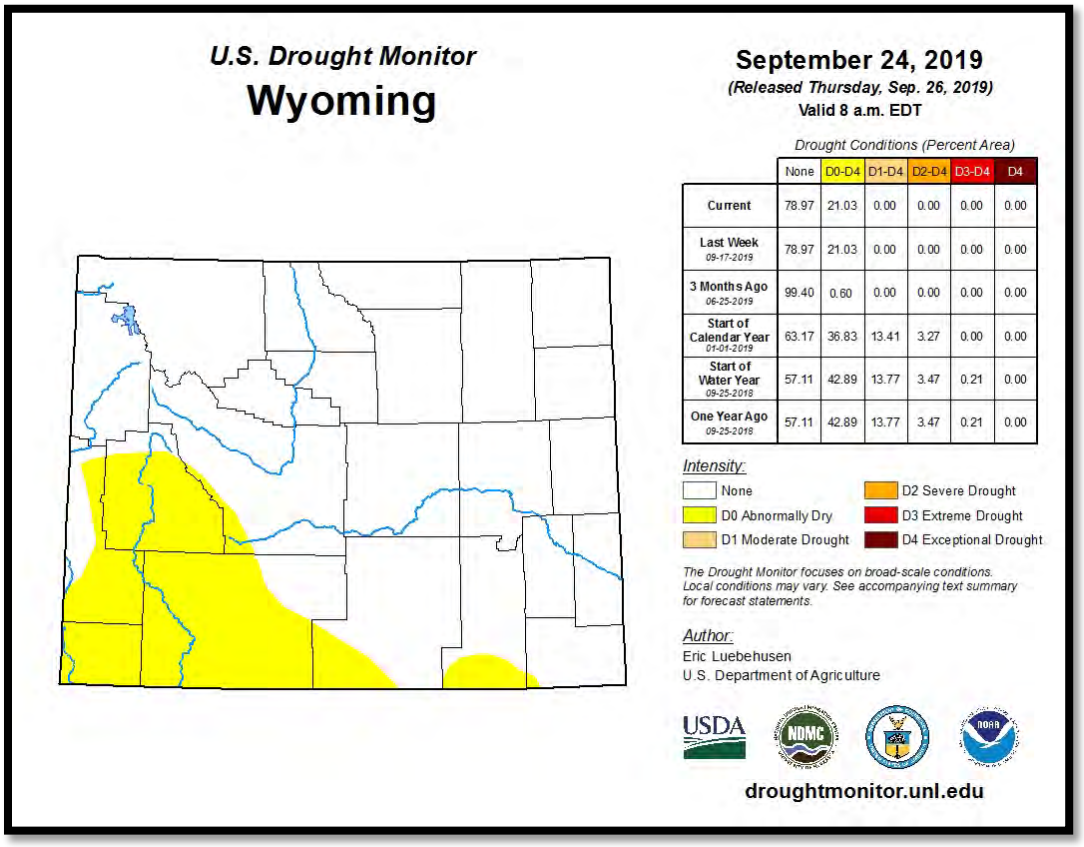


FIGURE 14- CURRENT DROUGHT CONDITIONS- SEPTEMBER 24, 2019

2.4.3 Vulnerability

Drought can have broad-reaching impacts throughout the County and Town of Jackson, ranging from water users (recreational, agricultural, etc.) to economic, social, and commercial impacts. The types of crops grown in the Snake/Salt River basin are greatly influenced by climate. Typical farmland in the basin is in the high mountain valleys where there is low to moderate precipitation. These valleys have

relatively short growing seasons and long winters with significant accumulations of snow. Hard frosts have been observed in every month of the year. Because of these conditions typical crops consist of alfalfa, small grains (mainly barley with some oats), and native hay and grass.

TABLE 19- AGRICULTURAL OVERVIEW

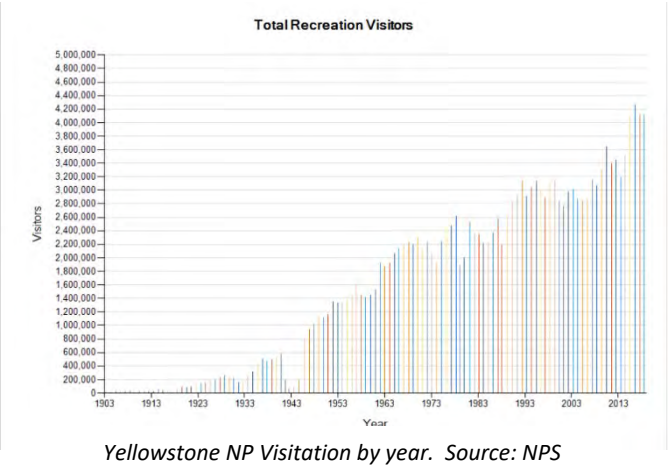
Teton County/Town of Jackson Agricultural Overview (source: 2017 Census of Agriculture)	
Number of Farms	142
Land in Farms	67,649 acres
Net cash farm income	$910,000
Per-Farm net cash income	$6,411
Percent of State Ag Sales	1% (21 out of 23 Wyoming counties)
Percent crops	23%
Percent Livestock, Poultry, and Products	77%
Market Value of Products Sold	$17,582,000
Grains, Oilseeds, Dry Beans, Dry Peas	$838,000
Nursery, Greenhouse, Floriculture, Sod	$846,000
Other Crops and Hay	$2,228,000
Cattle and Calves	$13,156,000
Hogs and Pigs	$5,000
Horses, Ponies, Mules, Burros, Donkeys	$329,000

The drought of 1999-2004 is as significant, if not more significant than any other droughts in the last 100 years for the entire state. The Jackson Hole News and Guide reported in August of 2007, that warm water temperatures caused by drought were affecting fish and causing mortality. The data have not been analyzed for Teton County. Data from the Wyoming Climate Atlas indicates that the most significant droughts in the last century, in terms of precipitation deficit, were in 1952-1956 and 1999-2003. Drought impacts to the Wyoming agricultural community were greater in the 1999-2003 drought than in the 1952-1956 drought. Apart from dry beans, all commodities in the worst years of the 1999-2002 drought showed a greater percentage decline in production than in the 1952-1956 drought. As a result, the 1999-2003 drought will be used as the drought of historic record to calculate dollar impacts.

TABLE 20- PEAK COMMODITY PRODUCTION CHANGES (PRE-DROUGHT TO DROUGHT), STATEWIDE

Commodity	5-year pre-drought production avg (1994-1998)	Units	Lowest Production During Drought (1999-2003)	Year of Lowest Production	Percent Change
Alfalfa Hay	1,581	1,000 Tons	1,150	2002	-27%
Other Hay	817	1,000 Tons	450	2002	-45%
Livestock (Cattle/Calves)	1,552	1,000 Head	1,320	2002	-15%

Recreation is generally considered a non-consumptive use of water; there is, however, a significant amount of recreational activity within Teton County, and this is a driving force behind the tourism industry that impacts both the County and the Town of Jackson. People travel from around the world in order to boat, fish, ski, camp, and hike in this part of Wyoming. Tourism has a major impact on the economies of the communities in the basin, with much of the tourism being linked to Grand Teton and Yellowstone National Parks. Many of the draws of these parks are water related, with the most notable water features within the basin being Jackson Lake and the Snake River. Thousands visit the river each year for rafting, kayaking, fishing, and other activities. In addition to the Snake River and Jackson Lake, there are numerous rivers, streams, and lakes throughout the basin that are used for recreation. Other activities that utilize or require water in some form include waterfowl hunting and winter sports such as skiing.



Yellowstone NP Visitation by year. Source: NPS

TABLE 21- 2018 RECREATIONAL WATER USERS, GTNP

Use/Type	Year	Number of Users
Persons Fishing	2018	3,820
River Floaters	2018	58,692
Snowmobilers	2018	360
Cross-County Skiers	2018	5,120

TABLE 22- RISK SCORE: DROUGHT

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Drought	2	1.5	4	1	4	2.5

2.4.4 Future Impacts

Drought is often difficult to predict, but based on historical records, it is reasonable to predict that Teton County will be impacted by drought conditions in the future. Droughts are often regional events, impacting multiple counties and states simultaneously. As previously discussed, drought in Teton County and the Town of Jackson can lead to significant impacts to the recreation and tourism industries, with residual impacts to agriculture and ranching as well. According to the Wyoming State Climate Office, Wyoming is the 5th driest state in the U.S and drought is expected to be a normal occurrence due to the State's natural climate.

As these stages evolve over time, impacts to the economy, society, and environment escalate into an emergency. Without reservoir water to irrigate farms, food supplies are in jeopardy. Without spring rains for the prairie grasslands, open range grazing is compromised. Without groundwater for municipalities, the hardships to communities result in increases in mental and physical stress as well as conflicts over the use of whatever limited water is available. Without water, wetlands disappear. The quality of any remaining water decreases due to its higher salinity concentration. There is also an increased risk of fires, and air quality degrades as a result of increased soil erosion in strong winds (blowing dust).

According to the States at Risk Report Card by Climate Central, Wyoming faces an average drought threat compared to other states across the US and summer droughts are predicted to get worse by 2050. Climate Central also reports that summer precipitation in Teton County has decreased since 1970 and is predicted to continue to trend in that direction.

2.4.5 Land Use and Development

Teton County and the Town of Jackson should be mindful with growth policy, strategies, and water use as it relates to drought. The 2016 Upper Snake River Watershed Study, funded in part by The Wyoming Water Development Commission and the Teton Conservation District, discusses water use, especially that for irrigation purposes, throughout the planning area and tackles topics such as improvements to irrigation systems to promote efficiency and decrease waste, as well as strategies for maintaining the water supply and adequate water storage for the watershed's users. Managed growth in the planning area, as dictated by the comprehensive plan, even with an eye towards sustainability, still translates to increased demand for water and a need for continued water management. Local programs and initiatives have been established that aim to protect water resources and water quality, like the Jackson Hole Clean Water Coalition's Trout-Friendly Lawns program. This program, among other strategies, includes a homeowner certification whereby property owners pledge to follow recommended best practices for water conservation and beneficial water quality techniques to protect the planning area's water resources.

2.5 Earthquake

2.5.1 Definition and Extent

An earthquake is defined as the motion or trembling of the ground produced by sudden displacement of rock usually within the upper 10 – 20 miles of the Earth's crust. Earthquakes can affect hundreds of thousands of square miles, cause damage to property measured in the tens of billions of dollars, result in loss of life and injury to hundreds of thousands of people, and disrupt the social and economic functioning of the affected area. Most property damage and earthquake-related deaths are caused by the failure and collapse of structures due to ground shaking which is dependent upon amplitude and duration of the earthquake (FEMA, 1997).

Geologists studying the Teton Fault, September 2017. Photo: Chris DuRoss

Often, the most dramatic evidence of an earthquake results from the vertical and/or horizontal displacement of the ground along a fault line. This displacement can sever transportation, energy, utility, and communications infrastructure potentially impacting numerous systems and persons. These ground displacements can also result in severe and complete damages to structures situated on top of the ground fault. However, most damage from earthquake events is the result of shaking. Shaking also produces several phenomena that can generate additional damage:

- Additional ground displacement
- Landslides and avalanches
- Liquefaction and subsidence
- Seismic Seiches

Shaking: During minor earthquake events, objects often fall from shelves and dishes rattle. In major events, large structures may be torn apart by the forces of the seismic waves. Structural damage is generally limited to older structures that are poorly maintained, poorly constructed, or improperly (or not) designed for seismic events. Un-reinforced masonry buildings and wood frame homes not anchored to their foundations are typical victims of earthquake damage. Loose or poorly secured objects also pose a significant hazard when they are loosened or dropped by shaking. These "non-structural falling hazard" objects include bookcases, heavy wall hangings, and building facades. Home water heaters pose a special risk due to their tendency to start fires when they topple over and rupture gas lines. Crumbling chimneys may also be responsible for injuries and property damage. Dam and bridge failures are significant risks during stronger earthquake events, and due to the consequences of such failures, may result in considerable property damage and loss of life. In areas of severe seismic shaking hazard, shaking intensity levels of VII or higher can be experienced even on solid bedrock. In these areas, older buildings especially are at significant risk.

Ground Displacement: Ground displacement can also occur due to shaking, resulting in similar damages as mentioned previously.

Landslides and Avalanches: Even small earthquake events can cause landslides. Rock falls are common as unstable material on steep slopes is shaken loose, but significant landslides or even debris flows can be generated if conditions are ripe. Roads may be blocked by landslide activity, hampering response and recovery operations. Avalanches are also possible when there is enough snowpack.

Liquefaction and Subsidence: Soils may liquefy and/or subside when impacted by the seismic waves. Fill and previously saturated soils are especially at risk. The failure of the soils has the potential to cause widespread structural damage. The oscillation and failure of the soils may result in increased water flow and/or failure of wells as the subsurface flows are disrupted and sometimes permanently altered. Increased flows may be dramatic, resulting in geyser-like water spouts and/or flash floods. Similarly, septic systems may be damaged creating both inconvenience and health concerns.

Seiches: Seismic waves may rock an enclosed body of water (e.g., lake or reservoir), creating an oscillating wave referred to as a "seiche." Although not a common cause of damage, there is a potential for large, forceful waves like a tsunami ("tidal waves") to be generated on large reservoirs like Jackson Lake. These earthquake-generated waves could impact shoreline development and may have the potential to overtop Jackson Lake Dam, leading to downstream flash flooding.

Environmental impacts of earthquakes can be numerous, widespread, and devastating, particularly if indirect impacts are considered. Some examples of impacts are listed below:

- Induced flooding and landslides
- Poor water quality
- Damage to vegetation
- Breakage in sewage or toxic material containments

The impact an earthquake event has on an area is typically measured in terms of earthquake intensity. Intensity is most commonly measured using the Modified Mercalli Intensity (MMI) Scale based on direct and indirect measurements of seismic effects. Another way to express an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. Peak ground acceleration (PGA) measures the strength of ground movements in this manner and represents the rate in change of motion of the earth's surface during an earthquake as a percent. PGA can be partly determined by what soils and bedrock characteristics exist in the region. Unlike the Richter scale, PGA is not a measure of the total energy released by an earthquake, but rather of how hard the earth shakes at a given geographic area (the intensity). PGA is measured by using instruments including accelerographs and correlates well with the Mercalli scale. PGA is represented as %g in the report. A detailed description of the Modified Mercalli Intensity (MMI) Scale is shown in Table 23.

TABLE 23. MODIFIED MERCALLI INTENSITY (MMI) SCALE

Intensity	Shaking	Description of Effects	Richter Scale Magnitude
I	Not Felt	Not felt except by a very few under especially favorable conditions.	Up to 4.7
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.	
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations like the passing of a truck. Duration estimated.	
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.	4.8-5.3
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.	5.4-6.0
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate in well -built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.	6.1-6.8
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.	6.9-7.2
IX	Violent	Damage considerable in specially designed structures; well -designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.	
X	Extreme	Some well -built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.	7.3-8.0

TABLE 24- INTENSITY RELATIONSHIP TO PEAK GROUND ACCELERATION AND VELOCITY

Perceived Shaking	Not Felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
Potential Damage	None	None	None	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
Peak ACC (%G)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
Peak VEL (CM/S)	<0.1	.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
Instrumental Intensity	I	II-III	IV	V	VI	VII	VIII	IX	X+

The Richter Scale is the most commonly used scale for measuring earthquake magnitudes and potential impacts. Because the public and policy makers are most familiar with the Richter Scale, this Plan will use the Richter Scale coupled with PGA for the hazard risk assessment.

According to the Wyoming State Hazard Mitigation Plan, about 47,000 earthquakes have been recorded in Wyoming over the past 140 years. Historically, earthquakes have occurred in every county in Wyoming and are likely to occur in the future. The first reported event occurred in Yellowstone National Park, which is one of the more seismically active areas in the U.S., in 1871.

Earthquakes are extremely difficult to predict, and their occurrence rate is determined in one of two ways. If geologists can find evidence of distinct, datable earthquakes in the past, the number of these ruptures is used to define an occurrence rate. If evidence of ruptures is not available, geologists estimate fault slip rates from accumulated scarp heights and estimated date for the oldest movement on the scarp. Because a certain magnitude earthquake is likely to produce a displacement (slip) of a certain size, we can estimate the rate of occurrence of earthquakes of that magnitude.

Recurrence rates are different for different assumed magnitudes thought to be “characteristic” of that fault type. Generally, a smaller magnitude quake will produce a faster recurrence rate, and for moderate levels of ground motion, a higher hazard risk. Future earthquakes are assumed to be likely to occur where earthquakes have produced faults in the geologically recent past. Quaternary faults are faults that have slipped in the last 1.8 million years and it is widely accepted that they are the most likely source of future large earthquakes. For this reason, quaternary faults are used to make fault sources for future earthquake models.

2.5.2 Hazard History and Location

Earthquakes are nearly a daily occurrence throughout the state. Between November 2017 and October 2018, over 2,500 earthquakes were recorded by the Wyoming State Geological Survey statewide, though many were not strong enough to be felt by people on the surface. In 2018, there were 9 earthquakes that measured at magnitude 5.0 or greater throughout the state, and many more that exceeded magnitude 2.5.

Teton County and the Town of Jackson are situated in the hotbed of Wyoming earthquake activity, along and near large, active fault systems. The largest earthquake in the state was recorded nearby, in Yellowstone National Park, on August 18th, 1959. The event registered a magnitude of 6.5 and was an

aftershock of the Hegban Lake, MT earthquake. The top ten earthquakes greater than magnitude 4.1 or Intensity IV are listed in Table 25 below.

TABLE 25. TOP 10 EARTHQUAKES GREATER THAN 4.1 MAGNITUDE

Date	Magnitude	Intensity	Approximate Location
3/24/1923	N/A	V	13 miles northeast of Jackson
3/26/1932	N/A	VI	4 miles northeast of Jackson
1/14/1936	5. (est)	VI	19 miles southwest of the south entrance to Yellowstone National Park
2/23/1948	5. (est)	VI	13 miles west of Jackson
12/20/1983	4.5	IV	10 miles south of Jackson
12/28/1993	4.7	V	34 miles east of Jackson
8/27/1995	4.5		Vicinity of Joy Park and Enos Lake
6/20/1998	4.7		3.5 miles southeast of Hoback Junction
7/21/2004	5.0		Gros Ventre Area
8/5/2010	4.8		Gros Ventre Area

There are approximately 80 Quaternary faults throughout the State of Wyoming. Two main fault systems outside of Yellowstone National Park lie within Teton County and could impact the Town of Jackson: The Teton Fault and Hoback Fault.

Hoback Fault

The Hoback fault is in Teton County, Wyo. Originally named the Hoback Normal Fault by Nelson and Church when it was first mapped in 1943, the name has since been shortened to the Hoback Fault. It is a basin and range fault that has a general lack of Quaternary expression making it a Class B fault. A Class B designation denotes that the fault is most likely a Quaternary fault; however inadequate scientific evidence exists to prove it is Quaternary in age. The fault was active during the Miocene particularly during the deposition of the middle unit of the Camp Davis Formation (USGS, 2004). The fault extends from the narrow valley of Flat Creek (about 2 km southwest of Jackson, Wyo.) south and east to the vicinity of Little Horse Creek. According to the USGS the total length of the fault is 18 km with an average strike of 320 degrees. No dip is recorded for this fault. According to the USGS a maximum magnitude earthquake for this fault is a 6.6. The slip-rate for the fault is less than 0.2 mm/yr.

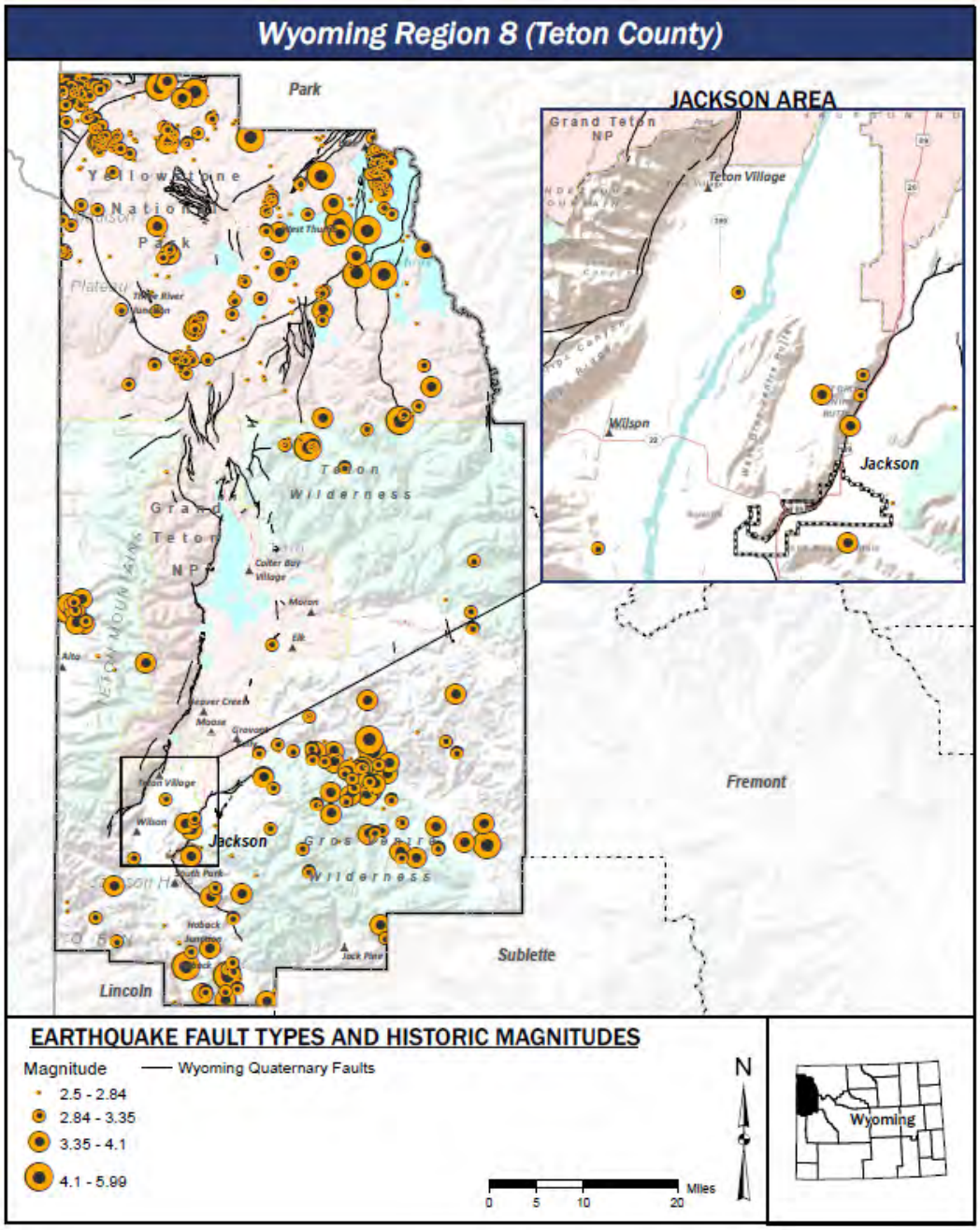
Teton Fault

The Teton Fault is broken into six sections by the USGS; they are, from north to south, the Steamboat Mountain section, the northern section, the central section, the Avalanche Canyon section, the Granite Canyon section, and the southern section. The total fault length is 59 km. The Steamboat Mountain section extends from a point east of Steamboat Mountain south where it submerges beneath Jackson Lake (USGS, 2004). The section is five km long. According to the USGS the average strike of the section is 21 degrees with an inferred dip of over 45 degrees. The northern section extends from the east of Wilcox Point south to Moran Bay (USGS, 2004). The section is 12 km long. According to the USGS the section has an average strike of 18 degrees and a dip of greater than 45 degrees. The sense of movement for the section is normal; however, in addition to dip slip movement of this section, there may be left lateral offset, however lateral offset has not been documented for this section. Geo-archeological studies of the Snake River Delta provide evidence that an earthquake submergence event

occurred about 2,000 years ago and a strong shaking event occurred about 4,000 years ago. The central section extends between Moran Bay and Taggart Lake. Its length is 20 km. According to the USGS the average strike for the section is 354 degrees with a suggested dip greater than 45 degrees. The sense of movement for the fault is sinistral. The Avalanche Canyon section is a subsidiary fault within the Teton Range. It is approximately 1.6 km west of the central section. According to the USGS this section of the fault has an average strike of six degrees and a dip of 60- 80 degrees. The length of the Avalanche Canyon section is eight km. The Granite Canyon section is also a subsidiary fault within the Teton Range. It is 2.6 west of the southern section. The offset of the Granite Canyon section is of post glacial age, younger than 15,000 years. According to the USGS the average strike for this section is 30 degrees with no recorded dip. The length of the fault is about 4 km long though it has not been field checked. The southern section is 20 km long and extends between Taggart Lake and Phillips Canyon. According to the USGS, the average strike for the section is 28 degrees with an inferred dip of over 45 degrees. The dip is based on the fairly linear strike along the mountain front (USGS, 2004). This section of the fault includes the only trenches ever excavated in Teton National Park or for the Teton Fault. At a site near the Granite Creek trench, Smith and others calculated a slip rate of 1.6 mm/yr for the interval between 7,175 and 14,000 years ago. The USGS currently assigns the slip rate for this area to be 0.2–1.0 mm/yr with a recurrence interval of greater than 2,150 years. According to the USGS, the maximum magnitude for this fault is 7.4.

Fault systems to the North and South also have the potential to impact the county. Proximity to the Yellowstone Hotspot and active tectonics create conditions that increase the occurrence and presence of fractures and faults in Teton County and northwestern Wyoming in-general. Figure 15 presents the location of Quaternary Faults in the planning area, as well as previous epicenter locations.

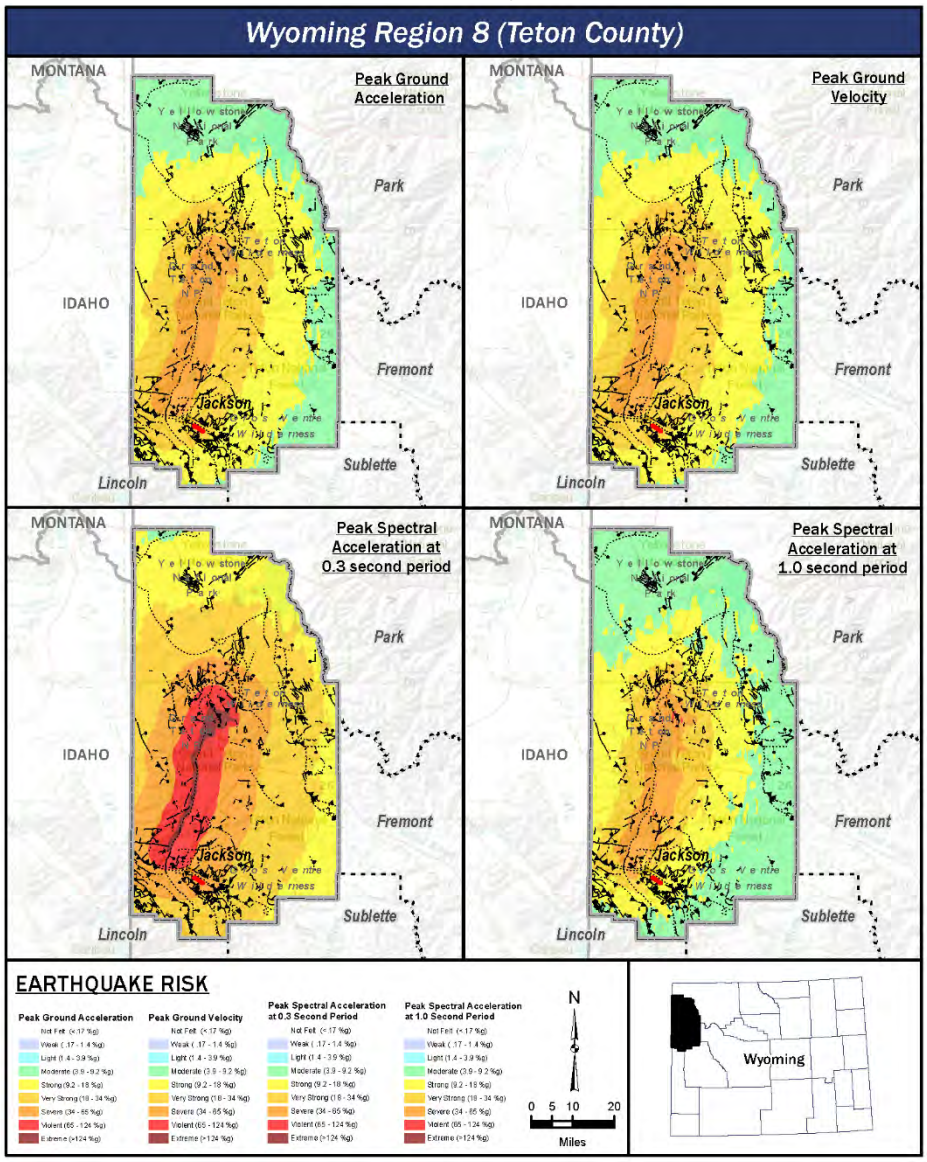
Figure 15- FAULTS AND EPICENTERS



2.5.3 Vulnerability

A rule of thumb followed by the Wyoming Geologic Survey is that quakes under magnitude 2.5 are not typically felt by people on the ground surface. These minor quakes are also unlikely to result in damages. Damages are typically seen at scales greater than Magnitude 5.0. To determine vulnerable areas throughout the planning area, resulting data from a USGS ShakeMap scenario for a M7.2 earthquake on the Teton Fault was used. The datasets presented in Figure 16, including Peak Ground Acceleration, Peak Ground Velocity, and Peak Spectral Acceleration, display the potential for ground movements that can be observed for an event of this magnitude as well as the expected damage. Results of this and other ShakeMap scenarios show a concentrated area of ground movement at the epicenter and along the primary fault, with movement magnitude decreasing with distance from the epicenter.

FIGURE 16. USGS SHAKEMAP RESULTS, M7.2 TETON FAULT SCENARIO

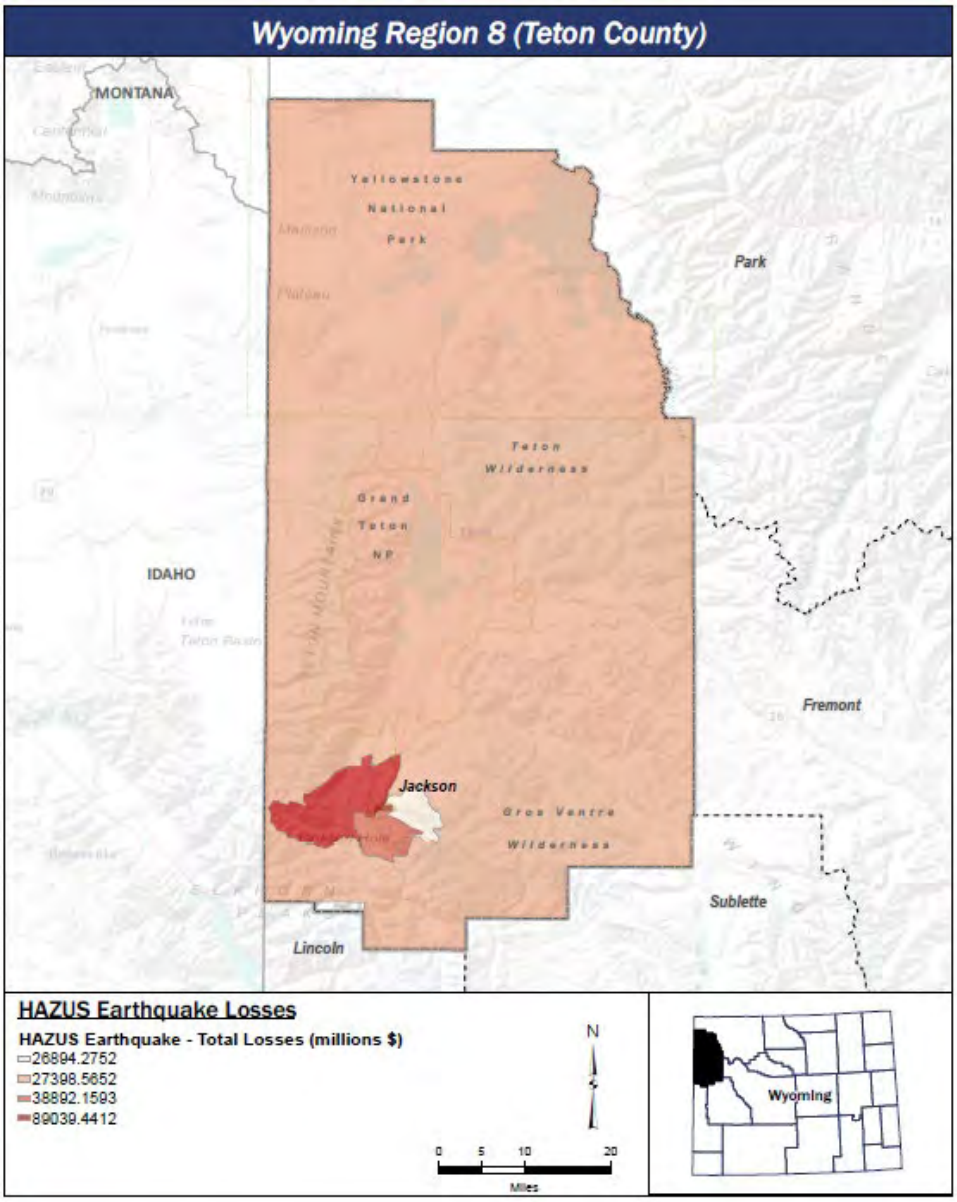


Numerous studies over the last 10 years have estimated losses and damage associated with a major earthquake affecting both Teton County and the Town of Jackson. For this Plan, new estimates were developed using FEMA's Hazus MH software. Hazus is a nationwide standardized methodology that contains models for estimating potential losses from earthquakes, floods, and other hazard events. For this effort, a Magnitude 7.2 scenario for the Teton Fault was run using Hazus Version 4.2, with the resulting associated risk as shown in Figure 17. Due to data limitations, the finest resolution that could be confidently run was at the Census Tract level. Potential total loss values are reported in Table 26.

TABLE 26- TOTAL LOSS ESTIMATES BY TRACT, M7.2 TETON FAULT

Tract ID	Aggregated Census Blocks	Est. Total Loss Value
56039967600	1768	$27,398,000
56039967701	90	$26,894,000
56039967702	372	$89,039,000
56039967703	271	$38,382,000
Total		$182,224,000

FIGURE 17- TOTAL LOSSES BY TRACT, M7.2 TETON FAULT



In addition to the losses summarized above, residual impacts of an event of this magnitude must be considered for Teton County and the Town of Jackson. Due to the number of visitors to the area for recreation and tourism, damaging earthquakes can result in more displaced individuals and individuals needing care than the normal population and census numbers may dictate, and time of year may also play a factor. Effective population indicates the true, day-to-day number of people in Teton County (including the Town of Jackson), considering not only permanent residents, but also commuters, seasonal residents, seasonal workers, and visitors. Effective population is an important indicator to monitor because it more accurately represents the number of people who are impacting community facilities and resources in the planning area.

TABLE 27- 2017 EFFECTIVE POPULATION

2017 Effective Population			
	Summer	Winter	Shoulder
Permanent Residents	21,777	21,777	21,777
Daily Commuters	7,636	7,636	7,636
Seasonal Residents	4,267	2,958	1,730
Seasonal Workers	12,067	6,497	5,710
Visitors	22,963	9,146	6,036
Effective Population	68,709	48,014	42,889

Cascading hazards are also possible as a result of large seismic events in Teton County and the Town of Jackson. Ground shaking resulting from large earthquakes can trigger avalanches and landslides that result in impacts to dams, bridges, roads, and other infrastructure. Seismic-induced damage to the Jackson Lake Dam is specifically discussed in the Dam Failure section of this plan. These events can make it difficult to travel within the planning area. Areas that could be potentially isolated during a large seismic event have been mapped and are presented in Figure 18.

FIGURE 18- AREAS OF ISOLATION DUE TO CERTAIN HAZARDS

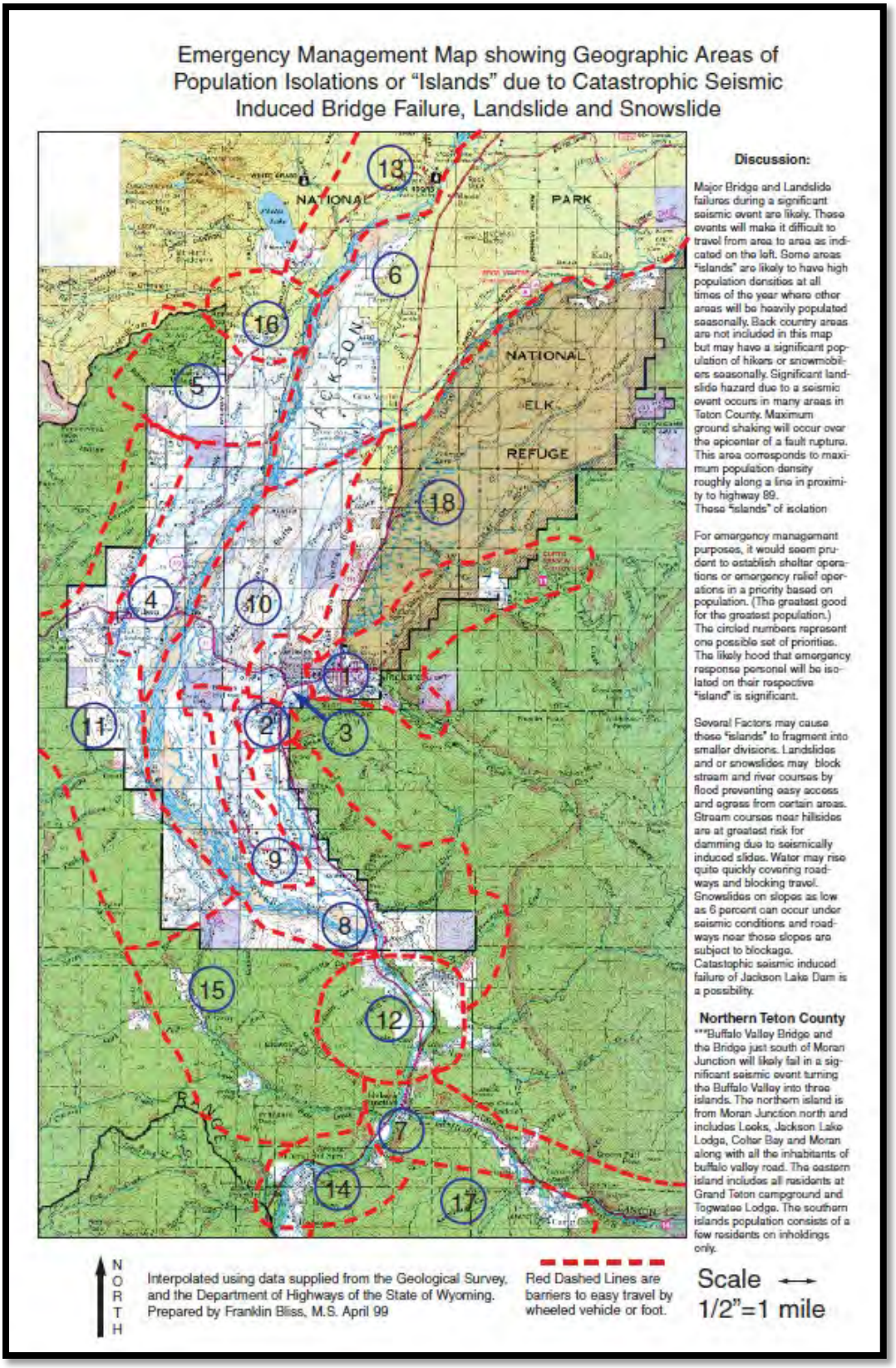


TABLE 28- RISK SCORE: EARTHQUAKE

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Earthquake	1.5	3	3	4	4	3.1

Risk scoring for the earthquake hazard is specific to the occurrence of a m7.2 quake along the Teton Fault, as is primarily discussed throughout this section. Smaller earthquakes will occur on a much more frequent basis- almost daily in the planning area. Duration is scored high for a m7.2 quake. The event itself may be over quickly, but residual effects and impacts can last much longer. Cascading hazard effects are also likely, as temblors can set off avalanches and landslides, and have the potential to impact release of stored water behind the Jackson Lake Dam.

2.5.4 Future Impacts

The U.S. Geological Survey (USGS) publishes probabilistic acceleration maps for 500-, 1000-, and 2,500-year time frames. The maps show what accelerations may be met or exceeded in those time frames by expressing the probability that the accelerations will be met or exceeded in a shorter time frame. For example, a 10% probability that acceleration may be met or exceeded in 50 years is roughly equivalent to a 100% probability of exceedance in 500 years.

In the past, USGS has generated probabilistic acceleration maps for the State of Wyoming. Until recently, the 500-year map was often used for planning purposes for average structures and was the basis of the most current Uniform Building Code. The new International Building Code, however, uses a 2,500-year map as the basis for building design. The maps reflect current perceptions on seismicity in Wyoming. In many areas of Wyoming, ground accelerations shown on the USGS maps can be increased due to local soil conditions. For example, if soft, saturated sediments are present at the surface, and seismic waves are passed through them, surface ground accelerations will usually be greater than would be experienced if only bedrock was present. In this case, the ground accelerations shown on the USGS maps would underestimate the local hazard, as they are based upon accelerations that would be expected if firm soil or rock were present at the surface.

2.5.5 Land Use and Development

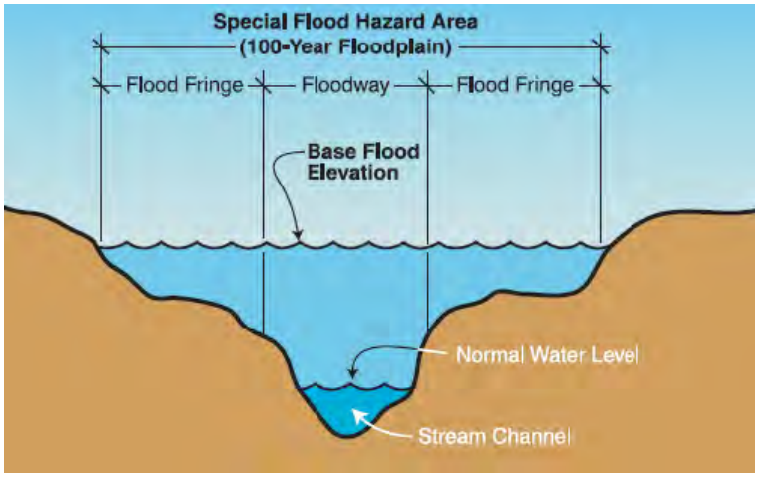
In Teton County, their Land Development Regulations govern development with respect to seismic hazards. Section 5.4.2 (Unstable Soils) specifies that no physical development, use, development options, or subdivision shall be permitted on unstable soil as determined by the County Engineer (with exceptions). Section 5.4.3 (Faults) requires that all structures comply with Building Codes covering seismic hazards, and that the County Engineer may require a report from a geotechnical engineer registered in the State of Wyoming if the proposed physical development is within 200 feet of a fault line. Both Teton County and the Town of Jackson have recently adopted 2018 IBC and IRC provisions.

2.6 Flood

2.6.1 Definition and Extent

A flood is a naturally occurring event for rivers and streams and occurs when a normally dry area is inundated with water. Excess water from snowmelt or rainfall accumulates and overflows onto the stream banks and adjacent floodplains. As illustrated in Figure 19 below, floodplains are lowlands, adjacent to rivers, streams, and creeks that are subject to recurring floods. Flash floods, usually resulting from heavy rains or rapid snowmelt, can flood areas not typically subject to flooding, including urban areas. Additionally, extreme cold temperatures can cause streams and rivers to freeze, causing ice jams and creating flood conditions.

FIGURE 19. SPECIAL FLOOD HAZARD AREA



Floods are considered hazards when people and property are affected. Nationwide, hundreds of floods occur each year, making it one of the most common hazards in all 50 states and U.S. territories. Most injuries and deaths from flooding happen when people are swept away by flood currents and most property damage results from inundation by sediment-filled water. Fast-moving water can wash buildings off their foundations and sweep vehicles downstream. Pipelines, bridges, and other infrastructure can be damaged when high water combines with flood debris. Basement flooding can also cause extensive damage. Flooding can cause extensive damage to crop lands and bring about the loss of livestock. Several factors determine the severity of floods including rainfall intensity and duration, topography, and ground cover.

Floods can be slow or fast rising, but generally develop over a period of many hours or days. Causes of flooding relevant to the county include:

- Rain in a general storm system
- Rain in a localized intense thunderstorm
- Dam failure
- Urban stormwater drainage
- Rain on fire-damaged watersheds

Riverine flooding originates from a body of water, typically a river, creek, or stream, as water levels rise onto normally dry land. Water from snowmelt, rainfall, freezing streams, ice flows, or a combination thereof, causes the river or stream to overflow its banks into adjacent floodplains. Winter flooding usually occurs when ice in the rivers creates dams or streams freeze from the bottom up during extreme cold spells called anchor or frazil ice. Spring flooding is usually the direct result of melting winter snow packs, heavy spring rains, or a combination of the two.

Flash floods can occur anywhere when a large volume of water flows or melts over a short time period, usually from slow moving thunderstorms or rapid snowmelt, or a combination of the two. Because of the localized nature of flash floods, clear definitions of hazard areas do not exist. These types of floods often occur rapidly with significant impacts. Rapidly moving water, only a few inches deep, can lift people off their feet, and only a depth of a foot or two is needed to sweep cars away. Most flood deaths result from flash floods.

2.6.2 Hazard History and Location

Flood hazards throughout Region 8 exist along all major and minor rivers and streams throughout the county. Adequacy of storm drainage systems, presence of frazil ice, and other factors can contribute to, or exacerbate, flooding conditions in both Teton County and the Town of Jackson. Since the last update for the plan covering Teton County, a new Flood Insurance Rate Map and Flood Insurance Study Report were issued by FEMA and adopted by both the County and the Town (effective date of 9/15/2015). Information reflected on the updated FIRM and FIS have been incorporated into this Plan. Sources of hazard data made available to the County and Town, and used in this plan to assess risk and vulnerability, are as follows:

- FEMA National Flood Hazard Layer data (effective 9/15/2015 plus all effective Letters of Map Revision)
- Flood hazards computed by a HAZUS assessment for the last plan update covering Teton County, dated March 2016
- 100-foot stream buffers (from centerline) for all other streams within the county (based on NHD Stream network)

Observed flood discharges provide a means for tracking the magnitude and frequency of floods, no matter how large or how small. Tracking streamflow provides water and floodplain managers as well as ecologists, climate scientists, water quality professionals, and others with an understanding of fluctuations in water levels resulting from rainfall, snowmelt, drought, and other climate impacts. In Teton County and the Town of Jackson, there are a total of 21 functioning stream gages actively measuring streamflow data.

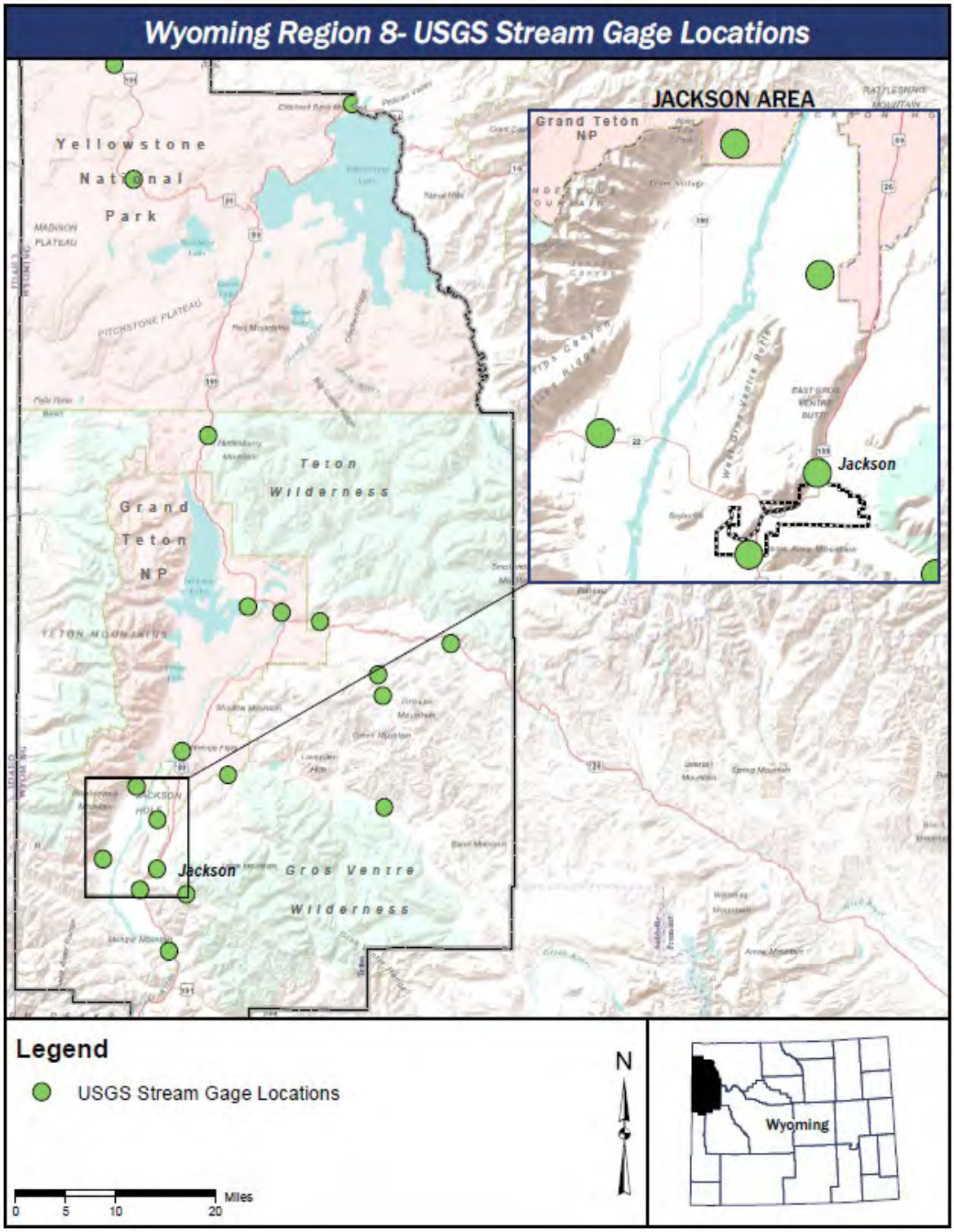


FIGURE 20- STREAM GAGE LOCATIONS IN TETON COUNTY AND THE TOWN OF JACKSON

Peak flows along select flooding sources impacting Teton County and the Town of Jackson are summarized below.

FIGURE 21. ANNUAL PEAK STREAMFLOW, SNAKE RIVER BELOW FLAT CREEK

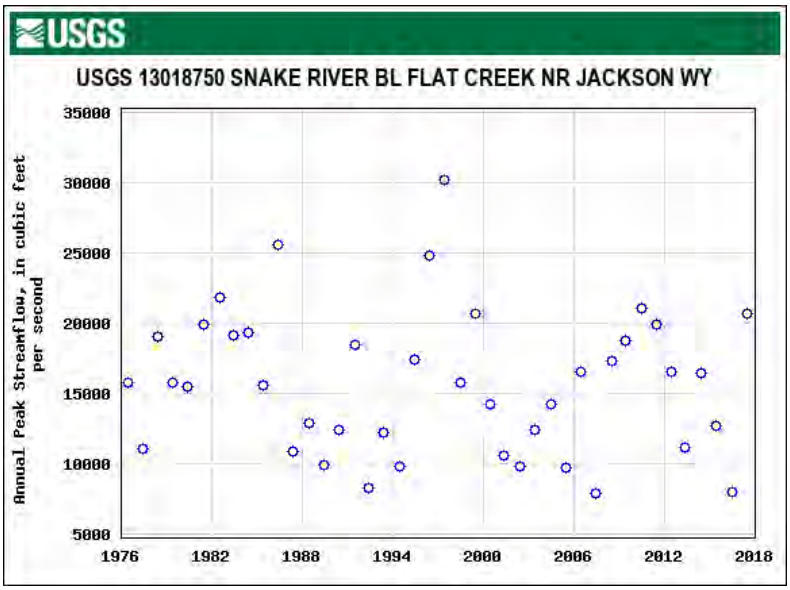
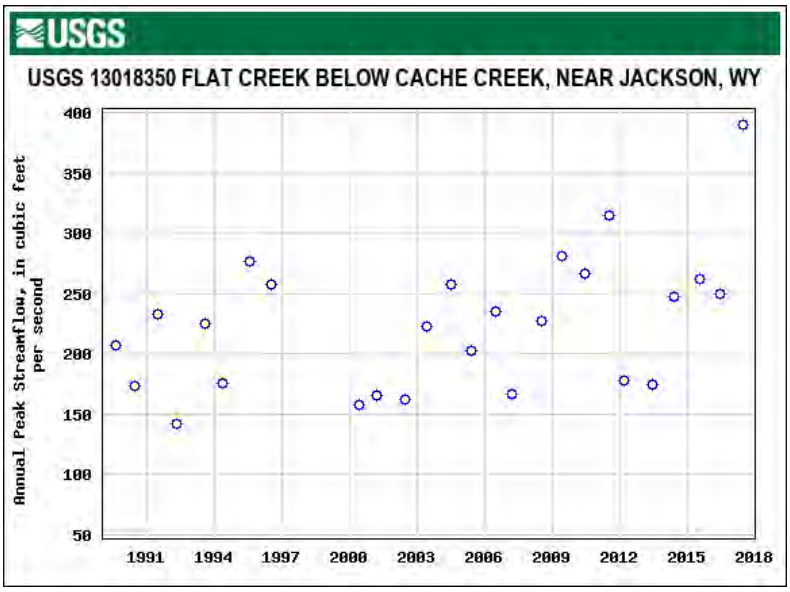


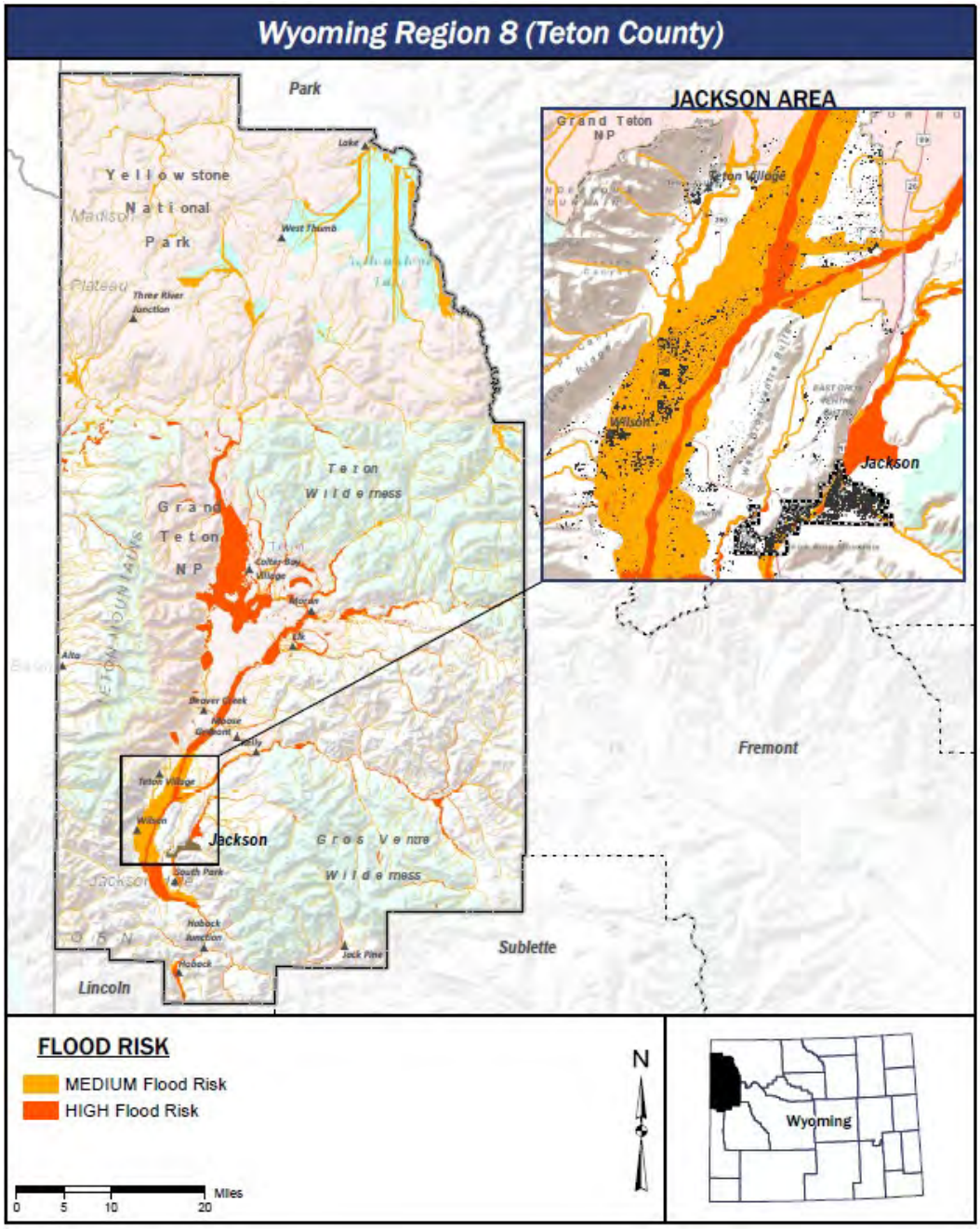
FIGURE 22. ANNUAL PEAK STREAMFLOW, FLAT CREEK BELOW CACHE CREEK



2.6.3 Vulnerability

Areas particularly vulnerable to flooding include low-lying areas adjacent to flooding sources throughout the planning area, especially those areas where development exists. The NFHL, Hazus, and stream buffer datasets described above were applied to housing stock and County Assessor's data at the parcel level to determine potential losses for Teton County and the Town of Jackson. Flood risk is depicted in the following map, Figure 23.

FIGURE 23. FLOOD RISK THROUGHOUT TETON COUNTY AND THE TOWN OF JACKSON



Inventory exposed to flood hazards has been summarized for Teton County and the Town of Jackson by property type. In-total, over $6 Billion in assets (including developed property, infrastructure, and critical facilities) is at some level of flood risk. According to the risk assessment, 97 Critical Facilities are at risk of flooding.

TABLE 29- FLOOD EXPOSURE IN TETON COUNTY AND THE TOWN OF JACKSON

Jurisdiction	Property Types	Property Count	Improved Value	Content Value	Total Value
Town of Jackson	Residential	872	$320,963,601	$160,481,801	$481,445,402
	Commercial	196	$127,283,854	$127,283,854	$254,567,708
	Other	96	$0	$0	$0
	Total	**1164**	**$448,247,455**	**$287,765,655**	**$736,013,110**
Unincorporated Areas	Residential	3471	$3,520,691,510	$1,760,345,755	$5,281,037,265
	Commercial	115	$95,438,513	$95,438,513	$190,877,026
	Agricultural	309	$78,858,857	$78,858,857	$157,717,714
	Other	276	$3,596,561	$3,596,561	$7,193,122
	Total	**4171**	**$3,698,585,441**	**$1,938,239,686**	**$5,636,825,127**
Federal	**Total**	**139**	**$980,846**	**$980,846**	**$1,961,692**
	Total	**5474**	**$4,147,813,742**	**$2,226,986,187**	**$6,374,799,929**

TABLE 30- RISK SCORE: FLOODING

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Flood	2	2.5	2.5	2.5	2.5	2.4

For the purposes of developing the Risk Score for Flood, the 1%-annual-chance or 100-year flood event was chosen. As-such, scoring for event probability and other categories is based off this event magnitude, recognizing that floods of different magnitudes can and do occur, especially during spring runoff each year. Impacts could result in injuries and deaths, and critical facilities could be impacted for days. Warning Time could sometimes depend on weather and precipitation prediction; however, flash flooding can occur with very little lead time. Lead time increases in the downstream direction. For duration, again the type of flooding comes into play for this score. Flash flood waves tend to rise and fall quickly, but longer-duration rainfall events as well as larger river systems can create flooding conditions that persist.

2.6.4 Future Impacts

Flood probability, or frequency, is commonly based on the chance of flooding in any given year. Realistically, both Teton County and the Town of Jackson are prone to smaller but more frequent flooding events as a result of high snowfall totals and warming spring temperatures. Rainfall events occurring during Spring months can exacerbate flooding associated with snowmelt runoff. Larger flooding events are also possible under these same conditions.

2.6.5 Land Use and Development

Both Teton County and the Town of Jackson participate in the National Flood Insurance Program (NFIP), which is a program created by congress in 1968 designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods, and to reduce flood damages by placing minimum restrictions on floodplain development. As a participating community, Teton County and the Town of Jackson agree to enforce these minimum standards, and have the option to set higher standards, through adoption of a floodplain development ordinance. The Federal Emergency Management Agency produces a series of maps to help communities regulate their ordinance, and to determine who qualifies for the insurance policy Mandatory Purchase requirement. There are currently 458 total NFIP policies in force in the planning area with a total policy coverage amount of $149,821,500. Since 1978, 23 total NFIP claims have been made to address flood damages. There are no properties in the planning area that qualify as Repetitive Loss or Severe Repetitive Loss properties. NFIP status and claims information for Teton County and the Town of Jackson are provided in Table 31 and Table 32.

TABLE 31- NFIP STATUS

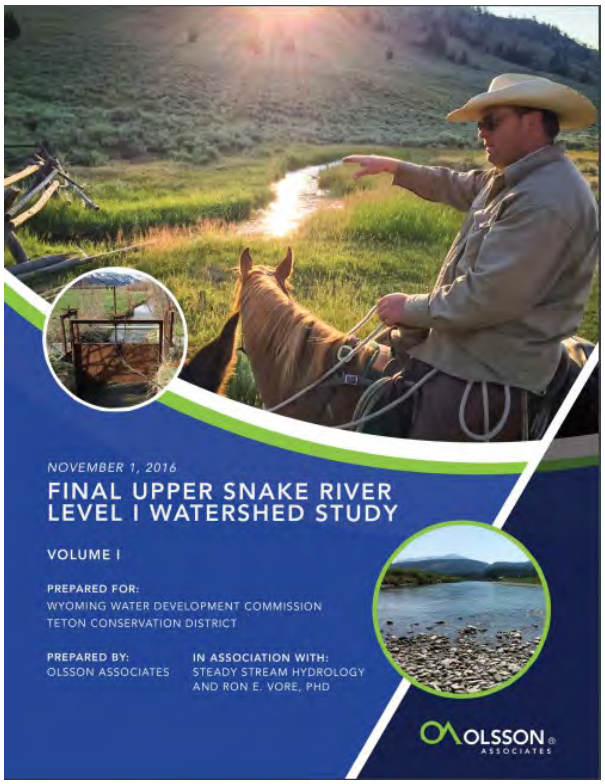
Community	Date of NFIP Entry	Current Effective Map Date
Jackson, Town of	5/4/1989	9/16/2015
Teton County	5/4/1989	9/16/2015

TABLE 32- NFIP INSURANCE REPORT (AS OF APRIL 2019)

Community Name	NFIP Community CID	Total Premium	No. Policies	Total Coverage	Total Claims Since 1978	No. Rep Loss/SRL Properties	Total Paid Since 1978
Jackson, Town of	560052	$35,748	63	$20,215,200	2	0	$6,613
Teton County	560094	$211,526	395	$129,606,300	21	0	$110,285

Teton County has a floodplain ordinance that was last amended September 15, 2015 to adopt the new effective FIRMs. The ordinance is available on the county's website and provides for a floodplain administrator, requires development permits, and provides penalties for non-compliance. The floodplain manager processes floodplain permits and enforces the county ordinance. The ordinance requires construction to be a minimum of one foot above the base flood (aka 1% annual chance or 100-year flood) elevation. In addition to the floodplain regulations, the county Land Development Regulations require all physical development and use to be setback from rivers and streams anywhere from 50 feet minimum up to 150 feet. The county currently has a contract floodplain administrator. Land development regulations guide all development within the Town of Jackson and require a general building permit or floodplain development permit if applicable.

In November 2016, Teton Conservation District (TCD), with funding from the Wyoming Water Development Office (WDDO), completed a watershed study in the Upper Snake River Basin. The purpose of the study was to evaluate watershed conditions, needs, and opportunities on irrigated lands, range lands, wetlands and streams. The result of the study was a watershed plan created by the project consultants, Olsson Associates, outlining possible land and water improvements that could be made in partnership with landowners. While this Plan has a larger focus than just flooding and floodplain management, it includes issues discussion and watershed management approaches for dealing with flooding, flood mitigation, and floodplain use and development. Specifically, the study discusses:



- fish passage for native species as it applies to stormwater infrastructure and mitigation design
- Engineered wetland design for flood, water quality, and ecosystem mitigation
- Winter flooding along Flat Creek that continues to impact the residents of Jackson
- Water availability for fire suppression throughout the planning area (an important consideration for wildland fire fighting)
- Levee improvements (along the Snake River and elsewhere) to provide continued flood protection

2.7 Hail

2.7.1 Definition and Extent

Hail is precipitation that is formed when updrafts in severe storms carry raindrops upward into extremely cold areas of the atmosphere. The super cooled raindrops grow into balls of ice, which pose a hazard to property, people, livestock, and crops when they fall back to the earth. The process of falling, thawing, moving up into the updraft and refreezing before falling again may repeat many times, increasing the size of the hailstone. Usually hailstones are less than 2" in diameter but have been reported much larger and may fall at speeds of up to 120 mph. Hailstorms occur throughout the spring, summer, and fall in the region, but are more frequent in late spring and early summer. These events are often associated with thunderstorms that may also cause high winds and tornadoes. Hail causes nearly $1 billion in damage to crops and property each year in the United States. Hail is also one of the requirements which the National Weather Service uses to classify thunderstorms as 'severe.' If hailstones of more than one inch in diameter are produced in a thunderstorm, the storm qualifies as severe.

The National Weather Service (NWS) classifies hail by diameter size and corresponding everyday objects to help relay scope and severity to the population. Table 33 indicates the hailstone measurements utilized by the National Weather Service.

TABLE 33- COMMON HAILSTONE MEASUREMENTS

Average Diameter (in Inches)	Corresponding Household Object
.25	Pea
.5	Marble/Mothball
.75	Dime/Penny
.875	Nickel
1.0	Quarter
1.5	Ping-pong Ball
1.75	Golf Ball
2.0	Hen Egg
2.5	Tennis Ball
2.75	Baseball
3.0	Teacup
4.0	Grapefruit
4.5	Softball

Hailstorms occur during severe storms, which are regional in nature. However, just as the amount of precipitation in the form of snow or rain may vary significantly within a single storm, so may the amount, size, and duration of hail within a severe storm. This can have a wide range of impacts.

2.7.2 Hazard History and Location

There have been three damaging hail storms in Teton since 1959, which equates to a damaging hail storm about every 15 years. 37 documented hailstorms have occurred in total. Table 34 presents a history of documented, damaging hail storms. The data were derived from the monthly Storm Data reports generated and released by the National Oceanic and Atmospheric Administration's National Climate Center. Other sources include unpublished reports from the Wyoming Office of Homeland Security, newspaper accounts, and periodicals from public libraries. The table represents hail storms that have caused damage, injuries, or loss of life, plus more recent storms without documented damage. Fortunately, there has been no documented loss of life caused by hail in Teton County.

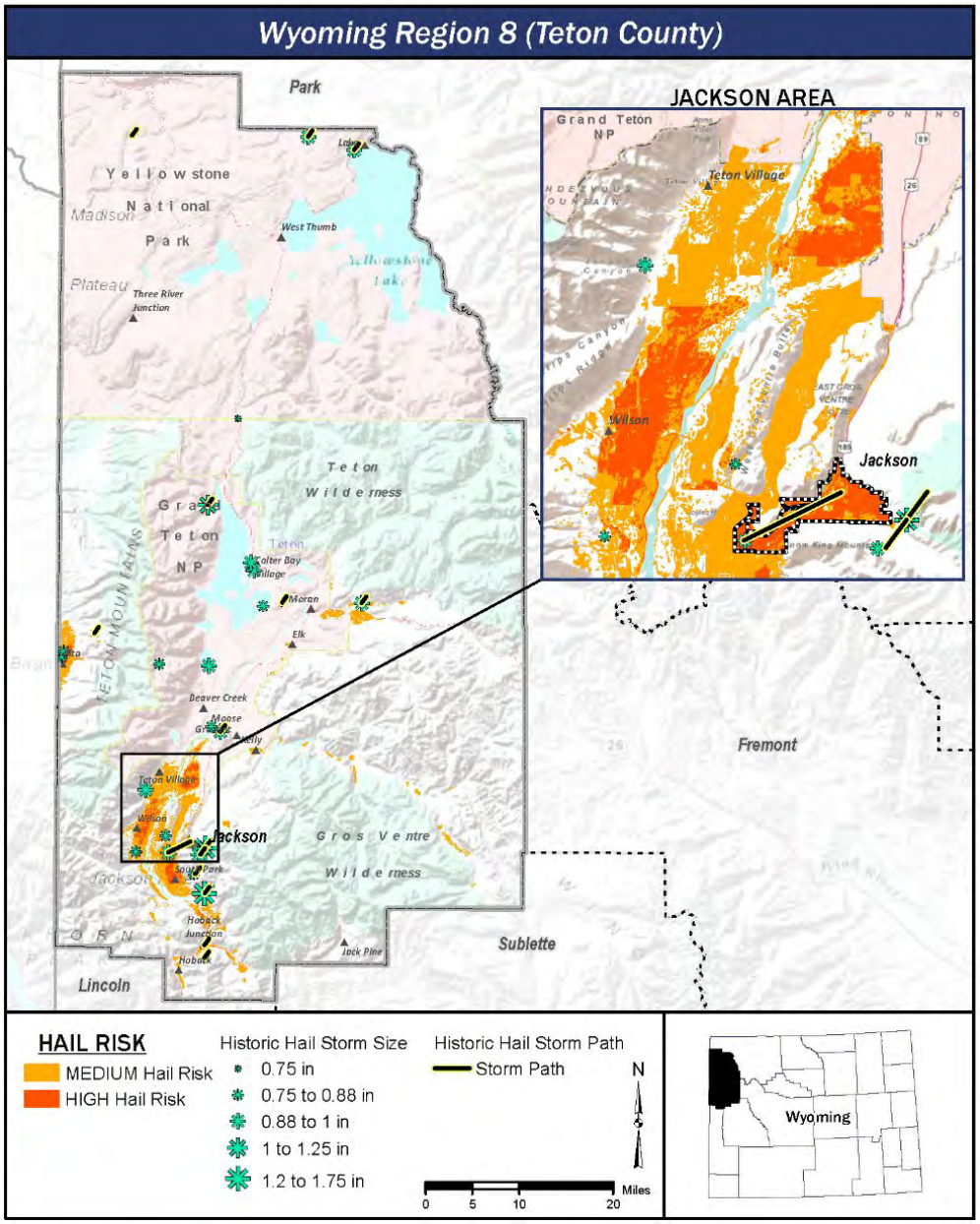
TABLE 34. PAST HAIL EVENTS

Date	Est. Property Damage	Est. Crop Damage	No. Injured	Extent (inch)	Event Description
8/1960	$27,500	$27,500	-		
6/1977	$275,000	-	-	1.25	Hail up to 1.25 inches diameter and up to 4 inches deep in the Hayden Valley area caused damage to campers, trailers, tents, etc.
7/1982		-	-	0.75	
7/1987	$27,500	-	-	1.25	Some unusually severe thunderstorms swarmed over northwest Wyoming during the afternoon. One of the first

Date	Est. Property Damage	Est. Crop Damage	No. Injured	Extent (inch)	Event Description
					indications of these severe thunderstorms was the 60 MPH wind gusts reported by a radio station in Jackson at 1300 MST. As these severe thunderstorms moved northeast additional reports of hail between 1 and 2.25 inches in diameter were observed along with winds gusting above 58 MPH. Also, torrential rains were noted from Jackson northeast to Cody. When these severe thunderstorms moved northeast of Jackson over the Teton Wilderness Area it spawned the highest elevation F4 tornado ever documented. The devastating winds from the tornado produced a massive blow down of 15,000 acres of mostly mature lodge pole pines which ranged from 80 to 100 feet tall. The massive blow down stretched slightly over 24 miles from Box Creek Trailhead, 10 miles east-northeast of Moran Junction, on the south to beyond the Yellowstone River on the north and was about 1 to 2 miles wide, 2.5 miles at the widest. An eyewitness to the blow down stated, "You could look up a hillside where there had been a dense forest and count the trees left standing." Later, as these severe thunderstorms moved over the East Entrance of Yellowstone National Park, torrential rains produced mudslides which closed highways for a few hours. The Park County sheriff reported that some of these mudslides buried about 50 yards of highway to a depth of 2 feet.
7/1989	-	-	-	1	Not Available
8/1989	-	-	-	0.75	Not Available
7/1989	-	-	-	0.75	Not Available
6/1992	-	-	-	1	Not Available
6/1996	-	-	-	1.75	Not Available
6/1996	-	-	-	1.75	Not Available
6/1997	-	-	-	1.75	Not Available
7/2002	-	-	-	1	Not Available
7/2002	-	-	-	0.75	Not Available
7/2002	-	-	-	1	Not Available
5/2003	-	-	-	0.75	Not Available
6/2005	-	-	-	1.75	Not Available
6/2005	-	-	-	0.75	Not Available
6/2005	-	-	-	0.75	Not Available
6/2006	-	-	-	0.75	Not Available
6/2006	-	-	-	1.75	Golf-ball size hail fell on Jackson. Damaged numerous cars, ripped tree limbs and leaves. Blocked storm drains causing minor flooding.
8/2007	-	-	-	0.88	Hail of pea to nickel size fell southwest of Jackson for 15 minutes.
8/2007	-	-	-	1	One-inch diameter hail fell on South Park Loop Road for 10 minutes.

Date	Est. Property Damage	Est. Crop Damage	No. Injured	Extent (inch)	Event Description
8/2007	-	-	-	1	
7/2008	-	-	-	1	Hail of one inch in diameter fell near Teton Village.
7/2008	-	-	-	0.88	Nickel sized hail was recorded by a cooperative observer near Alta.
8/2008	-	-	-	0.75	National Park Service personnel estimated penny sized hail at the South Entrance to Yellowstone National Park.
7/2008	-	-	1	1	Nickel to quarter sized hail accumulated to a depth of three to four inches at Jenny Lake in Grand Teton National Park. One person received lacerations and several other people had welts.
7/2008	-	-	1	0.88	A cooperative observer near Alta observed nickel sized hail.
8/2009	-	-	-	0.88	Hail to the size of nickels was reported at Signal Mountain Lodge.
8/2009	-	-	-	0.88	Nickel sized hail and wind gusts approaching 50 mph were reported at the Signal Mountain Marina.
6/2013	-	-	-	0.88	Nickel sized hail was reported a few miles south of Wilson.
7/2013	-	-	-	0.88	A public report indicated hail of penny to nickel size fell a few miles west of Jackson.
6/2013	-	-	-	1	Numerous storm spotters reported pea to quarter sized hail in Jackson.
7/2013	-	-	-	0.88	Nickel sized hail was seen at Moose by a trained spotter.
5/2014	-	-	-	1	Numerous spotters reported nickel to quarter sized hail in and around Colter Bay.
8/2016	-	-	-	1	The public reported quarter sized hail at Colter Bay Village.
7/2017	-	-	-	0.88	A trained spotter reported nickel size hail north of Teton Village.

FIGURE 24. HAIL LOCATIONS AND RISK IN REGION 8



2.7.3 Vulnerability

The planning area's vulnerability to hail hazards is dependent upon the presence or absence of commodities (like drought risk areas) as well as population density. The presence of buildings and people increase the potential for damage, injuries, and even death. As such, hail risk and vulnerability are higher for the Town of Jackson than it is for Teton County. Still, areas of the county outside of public lands exist that exhibit higher density of people and buildings, such as Teton Village, Wilson, South Park, and areas surrounding the airport. In these hail-vulnerable areas, 135 Critical Facilities that serve the public are present. Figure 24 depicts areas of hail risk, based on cultivated lands and population density. Exposure within medium and high-risk hail areas are tabulated in Table 35.

TABLE 35- EXPOSURE VALUES: HAIL

Jurisdiction	Property Types	Property Count	Improved Value	Content Value	Total Value
Town of Jackson	Residential	3677	$1,491,879,428	$745,939,714	$2,237,819,142
	Commercial	882	$587,256,295	$587,256,295	$1,174,512,590
	Other	668	$4,059,409	$0	$4,059,409
	Total	**5227**	**$2,083,195,132**	**$1,333,196,009**	**$3,416,391,141**
Unincorporated Areas	Residential	6823	$5,980,357,349	$2,990,178,675	$8,970,536,024
	Commercial	255	$303,084,810	$303,084,810	$606,169,620
	Agricultural	427	$99,196,014	$99,196,014	$198,392,028
	Other	453	$5,424,029	$5,424,029	$10,848,058
	Total	**7958**	**$6,388,062,202**	**$3,397,883,528**	**$9,785,945,730**
Federal	**Total**	**119**	**$900,627**	**$900,627**	**$1,801,254**
	Total	**13304**	**$8,472,157,961**	**$4,731,980,164**	**$13,204,138,125**

TABLE 36- RISK SCORE: HAIL

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Hail	3.5	2	1	2	1	1.9

2.7.4 Future Impacts

Information on previously reported hail events in the planning area demonstrate that while hail can be a considerable and destructive hazard, the frequency of such a hazard has historically been low. Based on information from the past 60 years reported above, Teton County and the Town of Jackson can expect a hail event approximately every other year. Strikingly, the amount of large hail being reported in areas of similar physiography and terrain (such as portions of Colorado) has been on the rise. This may be due, in part, to increases in storm activity and intensity resulting from warming daytime surface temperatures that creates increasingly unstable air masses ripe for intense storm formation. Buoyancy (how easily the air can rise) and vertical winds (the difference in wind speeds at various altitudes) are two necessary components of hailstone formation. Increases in each of these as a result of building energy due to daytime heating is certainly possible, leading to increases in hailstone size. The FEMA Region VIII office projects that the frequency and duration of hail-producing storms has the potential to increase, although climate scientists and whether experts say that more data is needed to determine patterns with respect to hail size and frequency. So far, in the last 30 years, there have been no clear trends up or down.

Pinpointing potential locations for the occurrence of hail is difficult, and hail falling in areas outside of those included in the vulnerability assessment (cultivated lands and population density) can be assumed to have low potential for future hail impacts. This is mainly due to land ownership and the potential for

development throughout the planning area. Since the planning area is comprised largely of public lands, increased development is not anticipated to spread far outside of areas of existing development.

2.7.5 Land Use and Development

Comprehensive planning in the Town of Jackson and Teton County purposefully directs density and services to established population centers and clustered developments throughout the planning area. This practice ensures new areas of density are limited and hail damage susceptibility is not significantly increased. Goals in rural planning areas include continued stewardship of agriculture, including both livestock and crops. This approach for many hazards is preferable but leaves these commodities susceptible to continual damage and destruction from hail storms.

2.8 Landslide

2.8.1 Definition and Extent

Landslides are the downward and outward movement of slopes composed of natural rock, soils artificial fills, or combinations thereof. Common names for landslide types include slump, rockslide, debris slide, lateral spreading, debris avalanche, earth flow, and soil creep. The impacts of landslides range from inconvenient debris removal, to life-threatening failure of a steep slope. Additionally, the interaction of geologic hazards with other events such as seismicity and flooding increase the overall threat to people, community services, and facilities. According to the Wyoming State Geological Survey, landslides are one of the most common geologic hazards in Wyoming.

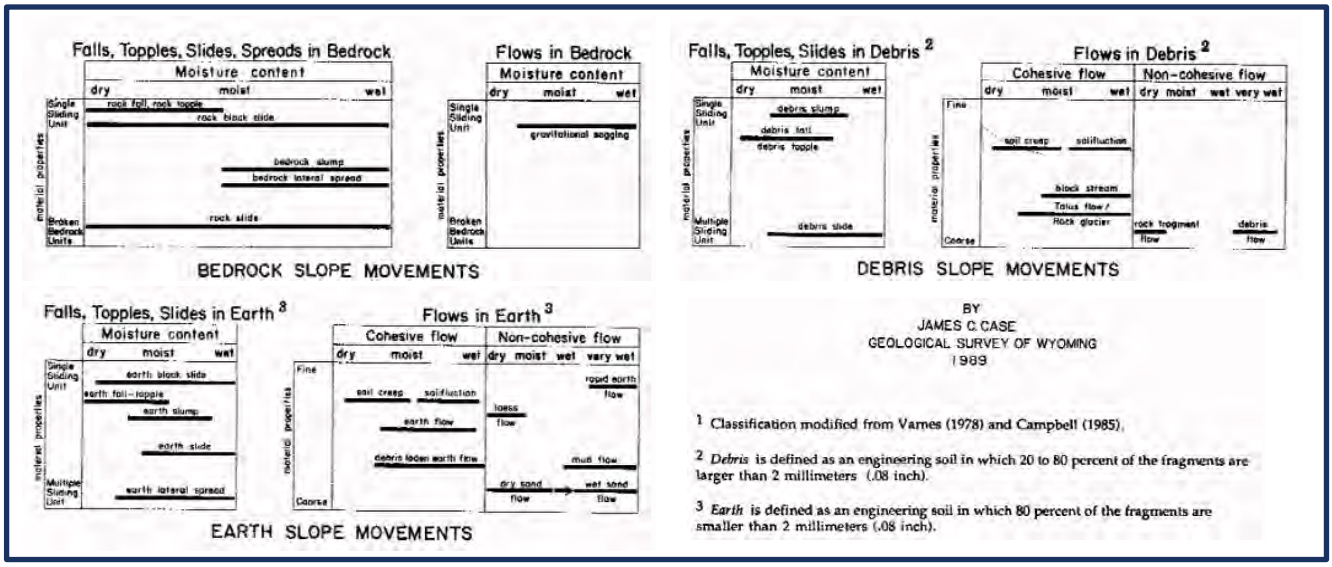
TABLE 37- LANDSLIDE CLASSIFICATION

Landslide Type	Description
Debris Flow	A mass of loose, water-laden and poorly sorted debris of fragmented rock, soil, and mud that surges down a slope in response to gravitational processes. Debris flows can be triggered by heavy rainfall, rapid snowmelt or by other landslides.
Falls	Unexpected release of rock or coarse material from a steep slope.
Topples	Comparable to falls, but the primary motion involves forward rotation and mass movement of rock or debris out of a slope face.
Creep	Slow movement of a material down a slope.
Rotational (slump)	Block of material moving down a slope along a concave surface.
Translational	Block of material moving down-slope that occurs along a distinctive surface of weakness (soil horizon, bedding or fault) or parallel to the ground surface.

Landslides can be massive, or they may disturb only a few cubic feet of material. They can also occur as acute failures or as small movements over time. While individual landslide types can occur in nature, most landslides in Wyoming are complex, or composed of combinations of basic types of landslides, together referred to as complex slope movements. The most common combination is a slump/earth flow. Destabilization on a slope can begin with a slump, which generally breaks down into smaller components. The downslope and basal portion of the slump can become highly fractured and disaggregated. If the water content is high enough, those portions of the slump may begin to flow, resulting a slump/earth flow. Other common types of complex slope movements include

debris/slump/debris-laden earth flow, rock slide/rock fall, and slump/topple. Most landslides occur where levels of precipitation are high. Local geology, geologic structures, hydrology, and precipitation, as well as soil type/grain size and slope angle, are the primary contributors to landslide activity. Human activities such as road construction and surface water diversion can also influence the occurrence of slides. Often the determining factor in magnitude and frequency is elevated soil moisture or groundwater pressure as a result of heavy precipitation or melting snowpack that leads to soil saturation. Other mechanisms may also precipitate a slide, such as the loss of vegetation as after a wildfire, erosion of the toe of the slope by rivers, or earthquakes.

FIGURE 25. WYOMING LANDSLIDE CLASSIFICATIONS



2.8.2 Hazard History and Location

Yellowstone National Park, of which a portion lays in Teton County, is one of the most volcanically and seismically active regions in the United States. There are many known active faults throughout the park and surrounding area. Additionally, thousands of earthquakes have been recorded inside park boundaries. The largest earthquake in the Yellowstone region was recorded on August 17th, 1959. The event occurred just outside of Yellowstone National Park, near Hebgen Lake in Montana. It was a magnitude 7.5, intensity X event. This triggered a landslide that dammed the Madison River, creating Earthquake Lake. In total, 28 people lost their lives. While this event did not occur in Teton County, it is indicative of the type of damage the community could see should an event of this extent occur.

Landslides are one of the most common geologic hazards in Wyoming. Landslides occur every year in Wyoming, however, most occur in remote areas and do not typically cause damage. When landslides do occur in populated areas, they can cause significant damage and loss of life. Landslides of note in the planning area are listed in Table 38 and described below.

TABLE 38- LANDSLIDES OF NOTE IN WYOMING REGION 8

Landslide Reference Name	Year
Gros Ventre Slide	6/22/1925
Crystal Peak Slide	2007
Double Draw Slide	5/14/2011
West Broadway (Budge) Slide	5/16/2014*

*This date corresponds to the date of the start of rapid slide motion.
Earliest ground movements track back to 2011

Gros Ventre Slide

During the 1920's, several persistent small earthquakes shook areas of Teton County, especially the eastern side. These earthquakes increased in number during the spring of 1925, which coincidentally was an unusually wet year. Several Jackson Hole residents in the Gros Ventres reported seeing new freshwater springs pop up in hillsides where they never existed before. On June 22, 1925 the valley experienced, what is estimated through first-hand accounts to be, a magnitude 4 earthquake. Around 4 p.m. on June 23, 1925, local farmer Guil Huff was on horseback in the Gros Ventre canyon looking for loose cattle. All of a sudden, he saw a 30-to-40-foot-high riverbank on the south side of the Gros Ventre river collapse into the water. After that the entire side of the mountain came rushing down, carrying with it boulders, trees, and earth. Guil estimated that the entire event happened in about a minute and a half, and if it weren't for the horse he was riding he would have been buried instantaneously. The Gros Ventre Slide brought down 50 million cubic yards of debris from the south side of the Gros Ventre canyon. The slide moved 2,100 vertical feet while traveling 1.5 miles. The entire debris field was 2,000 feet wide, 225 feet deep at the river, and climbed 350 feet up the opposite north side of the canyon. This huge amount of earth formed a natural dam in the Gros Ventre river that formed Lower Slide Lake. No one was injured or killed by the Gros Ventre Slide itself, but two years later 6 people in the town of Kelly were killed by the ensuing flash flood when the natural dam formed by the slide broke.

Crystal Peak Slide

In 2007, earth on the northern flank of Crystal Peak, in the Gros Ventre Wilderness, began moving significantly, sending bus-sized boulders, trees, silt, dirt, and mud down to the valley below. In 2008, silt and sediment from the upper mountain cascaded down a drainage through the slide debris and formed an alluvial fan feature that pushing Crystal Creek across the valley. Additional flows in 2009 and 2010 buried the valley deeper with rock and sediment, and in 2012, a lake, named Crystal Lake, began to form above the earthen constriction of Crystal Creek. Over time, the slides resulted in major rerouting of the Crystal Creek Trail by Bridger-Teton National Forest employees and has impacted recreational use and travel through the Gros Ventre Wilderness.

Crystal Peak Slide. Photo courtesy Dina Mishev-Jackson Hole Magazine

Double Draw Slide

The state's record snow pack and above-average precipitation in the spring of 2011 caused a massive landslide in Snake River Canyon on May 14, 2011. The slowly moving mass of mud, rock and trees crossed South Highway 89, blocking about 300 feet of the road, covering the pavement to depths of up to 50 feet and eventually flowing into the Snake River. The length of slide was about 2,000 feet and contractors hauled away an estimated 200,000 cubic yards of debris. The commuter corridor for residents of Alpine and Star Valley remained closed for almost 2 weeks, forcing the average of 5,740 vehicles that commute to and from Jackson every day to take a 74-mile long detour through Idaho and Teton Pass. WYDOT conveyed additional risks that existed at the time as a result of high-water levels, fast currents, and floating debris such as large trees in the Snake River near the slide. River dynamics, channels, and rapids can change as a result of landslides such as this one and create unfamiliar conditions for even the most experienced boaters and other recreationalists.

Photo courtesy Teton Squadron Civil Air Patrol

West Broadway (Budge) Slide

The Budge Drive Landslide (later renamed the West Broadway Slide) nucleated behind a steep rock face created by extensive quarrying from the late 1950s through the 1970s. This rock face has slopes up to 55 degrees, more than three times the 15-degree slopes typical in the region that had become stable over thousands of years. The presence of highly flow-foliated and fractured andesite resting on clays at the site means that water flowed readily downward through the andesite where it could then flow towards the valley floor on the underlying clay, providing a natural surface of potential slip. A high rate of precipitation May 29, 2014 and snow melt appears to have triggered rapid motion of this slide in 2014. But the fractures surrounding the slide mass began to form and nucleate by the fall to winter of 2011. Nucleation could have been caused by a plumbing water leak in April, 2011, removal of additional quarry material during the summer of 2011, spontaneous failure resulting from the much earlier quarrying, or some combination of all of the above. The Town of Jackson and Teton County may wish to consider all these factors while working towards a solution of the present landslide and while considering regulations and practices designed to minimize future instances of slope failure.

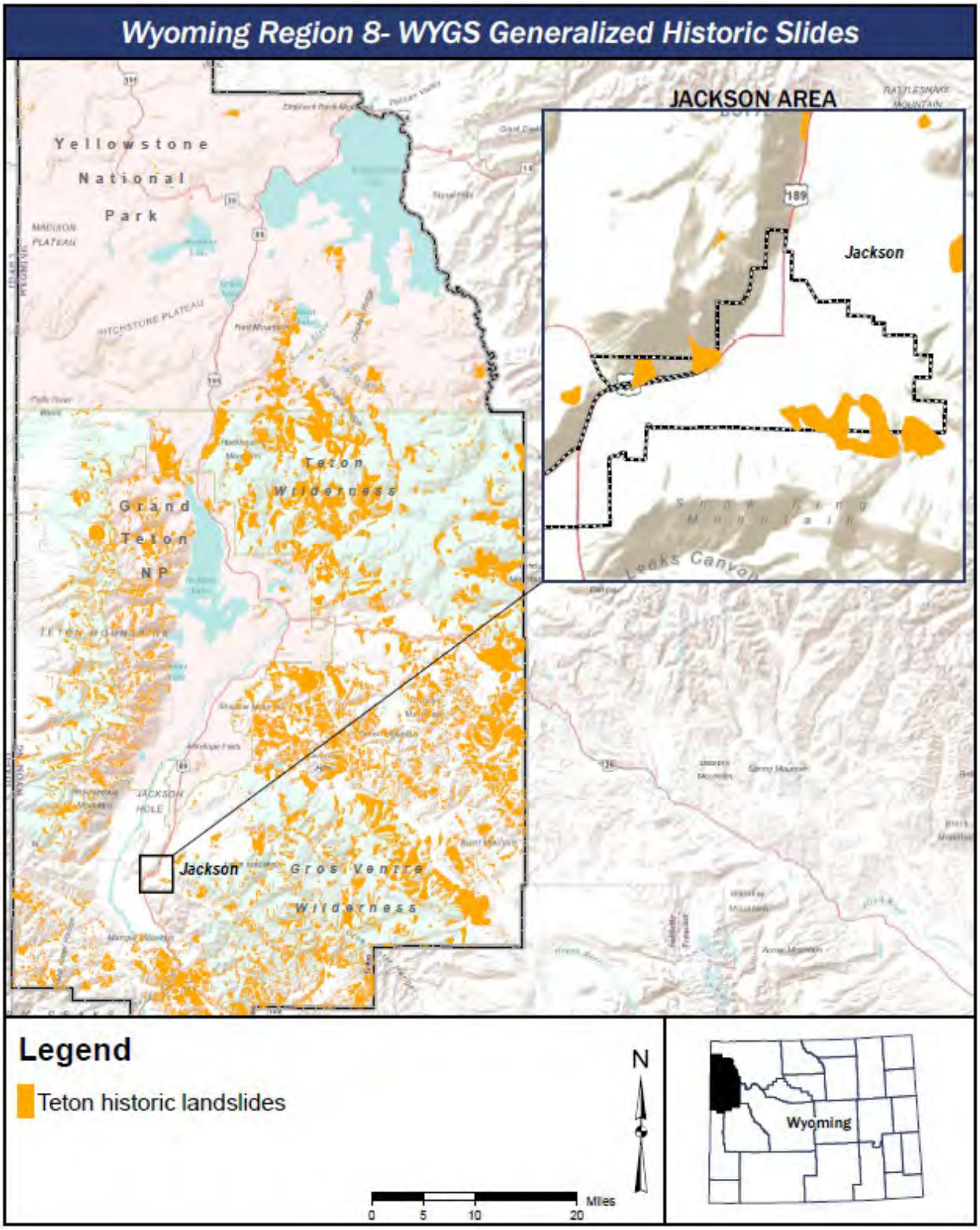
Photo courtesy JH News & Guide

Beginning in the fall to winter of 2011, deformation of the home at 1045 Budge Drive was observed, suggesting the possibility of earth movements. By June 5, 2013, the floor on the south wing of the residence had sunk 6.1 inches. The house was then ripped in two, primarily between April 16 and 20,

2014, with the southern part of the house having sunk close to 20 feet by late May along a scarp at the head of a landslide. At the same time, the toe of the landslide, including a pump house belonging to the Town of Jackson, moved nearly 11 feet to the south towards West Broadway.

The Wyoming State Geological Survey has examined, mapped, and classified landslide areas within the USGS 7.5 Minute quadrangles covering Teton County and the Town of Jackson. Each slide has been classified with basic classifications as well as with complex classifications/abbreviations depending on the combinations of basic forms. Figure 26 presents all slides documented by WSGS through this effort, but they have been generalized for simplicity. A detailed description of slides mapped on each quadrangle follows.

FIGURE 26- HISTORIC LANDSLIDES IN TETON COUNTY AND THE TOWN OF JACKSON



Angle Mountain Quadrangle: U.S. Highway 26/287 passes by or through several landslides, including blockslide/rockslide/flow, alluvial fan/debris flow, debris flow/flow, and slump/flow complexes. If these landslides destabilize, damage could occur to the highway. Secondary roads off the highway are also at risk of being damaged if the nearby slump/flow, rockslide/flow, flow, and blockslide/flow complexes destabilize. Buffalo Fork River, South Buffalo Fork River, Black Rock Creek, and the North Fork Spread Creek could be dammed by the, slump/flow, blockslide/flow, blockslide/ rockslide/flow, rockslide/flow, blockslide/rockslide/ flow/debris flow, or debris flow/Quaternary alluvium complexes that are present on the south side of the rivers. Heavy periods of precipitation or significant development could have an effect on slope stability.

Blue Miner Lake Quadrangle: Flat Creek could potentially be dammed by the debris flow/alluvial fan, debris flow/talus flow, rockslide/flow, debris flow/flow, blockslide/rockslide/flow/Quaternary terrace, and talus flow/flow/debris flow complexes that are present along the creek. In addition, Flat Creek Ranch is located on a talus flow/flow/debris flow complex. If this landslide destabilizes, damage could occur to ranch structures. Heavy periods of precipitation or significant development could have an effect on slope stability.

Bull Creek Quadrangle: U.S. Highway 187/189 passes through several landslides in the southwestern portion of the quadrangle. If these landslides (which include rockslide/Quaternary terrace, Quaternary terrace/rockslide/debris flow, rockslide/flow, rockslide/debris flow, blockslide/slump/flow, rockslide/debris flow/alluvial fan, and rockslide/flow/debris flow complexes) destabilize, damage could occur to the highway, either directly or by flooding if the landslides dam the Hoback River. Although the southeast corner of the quadrangle is in Sublette County, landslide dams or a damaged/destroyed highway in that area would have a significant impact on Teton County. Hoback Campground structures could also be damaged if the landslides in this area destabilize. In addition, the secondary road in the east-central portion of the quadrangle could be damaged if the nearby debris flow/surface wash, debris flow/Quaternary alluvium, rockslide/flow, or debris flow/alluvial fan complexes reactivate. Finally, Bull Creek, Granite Creek, and Little Granite Creek could be dammed if any of the landslides along the creeks destabilize. This could damage structures near Little Granite Creek in T39N R114W Section 27. Heavy periods of precipitation or significant development could have an effect on slope stability.

Cache Creek Quadrangle: Flow, slump/flow, and colluvium/rockslide/flow complexes are present in the northwestern corner of the quadrangle near the town of Jackson (T41N R116W Sections 34 and 35). If these landslides destabilize, damage could occur to structures and roads in Jackson, some of which have been built on top of these landslides. Cache Creek could also be dammed if the colluvium`/rockslide/flow, rockslide/slump/flow, blockslide/rockslide/flow, rockslide/flow, or debris flow/alluvial fan landslide complexes located along the creek reactivate. A rupture of a landslide dam could, in turn, cause flooding in Jackson. Several landslides, including slump/flows, flow, and blockslides are present in the southwestern corner of the quadrangle (T40N R116W Section 34; T39N R116W Section 3). If these landslides reactivate, damage could occur to U.S. Highway 26/89 or the secondary road, either directly or by flooding if the landslides dam the Snake River. Heavy periods of precipitation or significant development could have an effect on slope stability.

Camp Davis Quadrangle: Numerous landslides are present on this quadrangle. If any of the landslides along U.S. Highway 26/89 or U.S. Highway 187/189 destabilize, damage could occur to the highways, secondary roads, and structures along the highways, either directly or by flooding if the landslides dam the Hoback or Snake Rivers. A large blockslide/slump/flow complex is in the southeastern corner of the quadrangle. If this landslide destabilizes, damage could occur to Camp Davis (T38N R115W Section 5),

nearby structures, and nearby secondary roads. Heavy periods of precipitation or significant development could have an effect on slope stability.

Colter Bay Quadrangle: A slump/flow complex is present in the northern portion of the quadrangle. U.S. Highway 89/287 passes through this landslide. If the landslide were to reactivate, damage could occur to the highway. Heavy periods of precipitation or significant development could have an effect on slope stability.

Crystal Peak Quadrangle: Numerous rockslide/flow, rockslide/flow/debris flow, debris flow/alluvial fan, and rockslide/alluvium complexes are present along Granite Creek. If any of the landslides destabilize, they could dam the creek. Heavy periods of precipitation or significant development could have an effect on slope stability.

Darwin Peak Quadrangle: A rockslide/flow complex is present along the Gros Ventre River near Chateau Lake. If it destabilizes, it could dam the Gros Ventre River. Heavy periods of precipitation or significant development could have an effect on slope stability.

Davis Hill Quadrangle: A slump/flow complex is in T45N R114W Section 25. If this landslide destabilizes, damage could occur to U.S. Highway 26/287. Damage could also occur to the Buffalo Valley road in T45N R113W Sections 22 and 23 if the blockslide/terrace or rockslide/flow complexes in these sections destabilizes. In addition, if the large blockslide/rockslide/slump/flow, rockslide/flow, flow, and slump/flow complexes in the southern portion of the quadrangle destabilize, they could dam Spread Creek. Heavy periods of precipitation or significant development could have an effect on slope stability.

Granite Basin Quadrangle: Several landslides, including debris flow/alluvial cone and blockslide/rockslide/flow/debris flow complexes are present along Teton Creek in the southern portion of the quadrangle. If these landslides activate, damage could occur to the nearby road. Campgrounds in this area may also be at risk of being damaged. Heavy periods of precipitation or significant development could have an effect on slope stability.

Granite Falls Quadrangle: Numerous slump/flow, debris flow/alluvial fan, debris flow/flow/alluvial fan, flow/alluvial fan, slump, debris flow, debris flow/alluvial cone, slump/flow/debris flow/alluvial cone, and rockslide/talus flow/flow complexes are present along Granite Creek. If any of these landslides destabilize, damage could occur to the road that parallels Granite Creek, and which crosses through several of the landslides. The Granite Creek campground could also sustain damage if the debris flow/alluvial fan complex on which it is built destabilizes. In addition to being directly damaged, the road and campground could be flooded if the landslides dam Granite Creek. Heavy periods of precipitation or significant development could have an effect on slope stability.

Grizzly Lake Quadrangle: Several landslides, including slump/flow, slump, rockslide/flow, debris flow/alluvial fan/surface wash, blockslide/rockslide/flow, rockslide/flow, and flow complexes are present in the northern portion of the quadrangle. If any of these landslides activate, damage could occur to the road and/or campgrounds near the Gros Ventre River. If any of the landslides dam the Gros Ventre River, the road and campground structures could also be flooded. Heavy periods of precipitation or significant development could have an effect on slope stability.

Gros Ventre Junction Quadrangle: A blockslide and a blockslide/flow complex are present in T41N R116W Sections 10 and 15. If these landslides destabilize, damage could occur to U.S. Highway

26/89/187. In addition, a road passes through the debris flow/alluvial fan/Quaternary alluvium complex in T41N R116W Section 23 and 24. If this landslide destabilizes, damage could occur to the road. Heavy periods of precipitation or significant development could have an effect on slope stability.

Huckleberry Mountain 15' Quadrangle: Blockslide/flow, blockslide/slump/flow, and slump/flow complexes are present along U.S. Highway 89/287. If these landslides destabilize, damage could occur to the highway and/or structures at Flagg Ranch. If the landslides near the south entrance to Yellowstone National Park dam the Snake River, flooding could also affect the highway and/or Flagg Ranch. If the flows, rockslide/flow, and slump/flow complexes around Jackson Lake activate, they could pose a hazard to tourists, fishermen, or boaters. Heavy periods of precipitation or significant development could have an effect on slope stability.

Jackson Quadrangle: Several landslides are present near the town of Jackson. If the alluvial fan/debris flow complex in T41N R116W Section 33 destabilizes, damage could occur to U.S. Highway 26/89/187 and nearby structures. If the landslide dams Flat Creek, flooding could affect the highway and structures in Jackson. Structures in Jackson could also be damaged if the rockslide/flow, slump/flow, and loess/slump/flow complexes in T41N R116W Sections 33 and 34 activate. In addition, if the debris flows in T40N R116W Section 8 and the Quaternary alluvium/debris flow complex in T40N R116W Sections 21 and 28 activate, U.S. Highway 26/89/187 could again be damaged. Heavy periods of precipitation or significant development could have an effect on slope stability.

Jenny Lake Quadrangle: Debris flow/Quaternary alluvium, rock fall/Quaternary terrace, and rockslide/Quaternary terrace complexes are present on the west side of Jenny Lake. If these landslides activate, damage could occur to tourist-frequented trails in the area. Heavy periods of precipitation or significant development could have an effect on slope stability.

Lava Mountain Quadrangle: A large blockslide/slump/flow complex is present in the northern part of the quadrangle on the Teton County-Fremont County border. If this landslide destabilizes, damage could occur to U.S. Highway 26/287, a secondary road, and a picnic area, all of which are located within the landslide complex. Heavy periods of precipitation or significant development could have an effect on slope stability.

Moran Quadrangle: Blockslide/slump, blockslide, and blockslide/slump/flow complexes are present in T44N R114W Sections 16, 17, and 20. If these landslides activate, damage could occur to U.S. Highway 26/89/187 and/or a secondary road in Section 20. Heavy periods of precipitation or significant development could have an effect on slope stability.

Mount Hancock Quadrangle: If the blockslide/rockslide/flow complex in the south-central portion of the quadrangle destabilizes, damage could occur to the Gravel Creek Patrol Cabin. Heavy periods of precipitation or significant development could have an effect on slope stability.

Mount Leidy Quadrangle: Several landslides, including debris flow/Quaternary alluvium, flow, slump, and slump/flow complexes, are present in the southwestern corner of the quadrangle. If these landslides destabilize, damage could occur to the nearby road or the Gros Ventre River could be dammed. There are also several flow/debris flow, blockslide, rockslide/flow, and rockslide/slump/flow complexes along Slate Creek. If any of the landslides destabilize, they could dam the creek. Heavy periods of precipitation or significant development could have an effect on slope stability.

Munger Mountain Quadrangle: Blockslide/rockslide/flow, rockslide/flow, flow, blockslide/slump, alluvial fan/debris flow, debris flow/alluvial fan, and debris flow/Quaternary alluvium complexes are present near the Snake River in the east-central portion of the quadrangle. If these landslides activate, damage could occur to U.S. Highway 26/89 or to the road on the south side of the Snake River. U.S. Highway 26/89 could also be damaged if the slump/flow/debris flow complex through which it passes in the south-central portion of the quadrangle destabilizes. Heavy periods of precipitation or significant development could have an effect on slope stability.

Ouzel Falls Quadrangle: Large blockslide/rockslide/flow, rockslide/flow, and slump/flow complexes are present along the Gros Ventre River. If these landslides destabilize, the Gros Ventre River could be dammed. Heavy periods of precipitation or significant development could have an effect on slope stability.

Rendezvous Peak Quadrangle: State Highway 22 passes through several landslides in the southern portion of the quadrangle. If any of these rockslide/debris flow/alluvial fan, blockslide/rockslide/slump, Quaternary alluvium/rockslide/debris flow, avalanche/rockslide, rockslide, and debris flow/alluvial fan complexes destabilize, damage could occur to the highway. A transmission line in the southwestern corner of the quadrangle could also be damaged if the landslides in this area destabilize. Heavy periods of precipitation or significant development could have an effect on slope stability.

Rosie's Ridge Quadrangle: Slump/flow, flow, and debris flow/alluvial fan complexes are present in the northern portion of the quadrangle. If these landslides destabilize, damage could occur to the road that passes through the flow. Several landslides, including debris flow/flow, rockslide/flow, flow, blockslide, talus flow/debris flow/flow, slump/flow, and blockslide/slump/flow complexes, are also present along U.S. Highway 26/89 and Black Rock Creek. If these landslides activate, Black Rock Creek could be dammed, and damage could occur to the highway, a ranger station, and/or a secondary road in T45N R113W Section 36. In addition, flow, flow/surface wash, rockslide/flow, slump/flow, and rockslide/slump/flow complexes are present along Flagstaff Creek in the southeastern portion of the quadrangle. If these landslides destabilize, damage could occur to the nearby road. Numerous rockslide/slump, rockslide/flow, flow, and rockslide complexes are present along Spread Creek and the North and South Forks of Spread Creek in the southern part of the quadrangle. If any of these landslides activate, the creeks could be dammed. Heavy periods of precipitation or significant development could have an effect on slope stability.

Shadow Mountain Quadrangle: The southern portion of this quadrangle is well known for the Gros Ventre Slide that occurred on June 23, 1925. A large blockslide/rockslide/rock fragment flow/flow complex activated and dammed the Gros Ventre River, creating Lower Slide Lake. Local seismic activity may have contributed to the landslide. This area contains numerous other landslides, including debris flow/flow/Quaternary alluvium, debris flow/alluvial cone, blockslide/rockslide/flow, rockslide/flow, blockslide/flow, slump/flow, slump/rockslide/flow, slump/blockslide/flow, and flow complexes. If any of these landslides were to activate, the Gros Ventre River could again be dammed. In addition to flooding problems, the Gros Ventre Road, the Atherton Creek campground, and other local structures could be damaged directly by a landslide. Rockslide/flow and slump/flow complexes are also present in T43N R115W Sections 24 and 25. If these landslides destabilize, damage could occur to the nearby road. Finally, structures at the Lost Creek Ranch (T44N R114W Section 30; T44N R115W Section 36) could be damaged if the nearby rockslide/flow and rockslide/blockslide/flow complexes destabilize. Heavy periods of precipitation or significant development could have an effect on slope stability.

Teton Pass Quadrangle: Slump/rockslide/flow, avalanche/rockslide, slump/flow, and debris flow/alluvial fan complexes are present in the northern portion of the quadrangle. If these landslides destabilize, damage could occur to State Highway 22, which passes through several of the landslides, and/or to structures at Trail Creek Ranch. Also, the road paralleling Mosquito Creek in the center of the quadrangle could be damaged if any of the nearby slump/flow, rockslide/flow, or blockslide/flow complexes activate. Heavy periods of precipitation or significant development could have an effect on slope stability.

Teton Village Quadrangle: Rockslide/debris flow/alluvial fan and debris flow/alluvial fan complexes are present in the western portion of the quadrangle in T42N R117W Section 35 and T41N R117W Section 2. If these landslides activate, damage could occur to the nearby road. Heavy periods of precipitation or significant development could have an effect on slope stability.

Togwotee Pass Quadrangle: Large blockslide/rockslide/flow, slump/flow, and blockslide/slump/flow complexes are present in the southwestern portion of the quadrangle. If these landslides destabilize, damage could occur to U.S. Highway 26/287. A remote chance also exists that the rockslide/flow complex in the northern portion of the quadrangle could deflect South Buffalo Fork. Heavy periods of precipitation or significant development could have an effect on slope stability.

Two Ocean Lake Quadrangle: Landslides are present along the edges of Two Ocean Lake and Emma Matilda Lake. If these landslides activate, they may pose a risk to tourists, fishermen, or boaters. Heavy periods of precipitation or significant development could have an effect on slope stability.

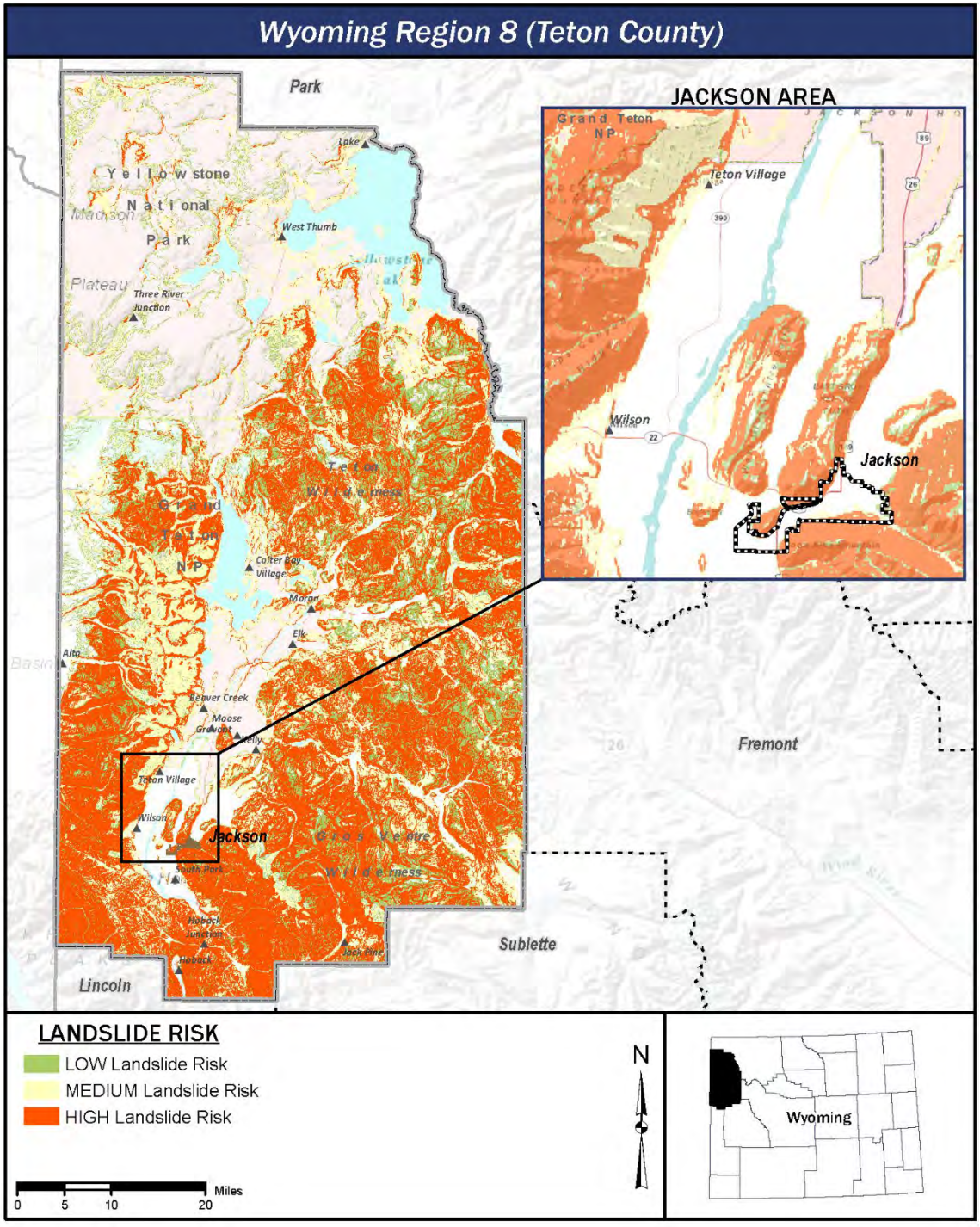
Upper Slide Lake Quadrangle: Upper Slide Lake in this quadrangle was formed when a large blockslide/rockslide/flow complex activated and dammed the Gros Ventre River. Other large blockslide/rockslide/flow, rockslide/flow, alluvial fan/debris flow, and slump/flow complexes are present along the Gros Ventre River. If these landslides activate, the Gros Ventre River could be dammed again. The road that parallels the river could also be damaged, either directly or by flooding. Heavy periods of precipitation or significant development could have an effect on slope stability.

Whetstone Mountain Quadrangle: Several landslides, including slump/flow, rockslide/blockslide/slump/flow, and rockslide/flow complexes are present on the west and northwest side of Pacific Creek. If these landslides destabilize, damage could occur to Pacific Creek Road, which passes through some of the landslides. Activated landslides could also damage the Wilderness Ranch. Blockslide/slump/flow, rockslide/slump/flow, and blockslide/flow complexes are present near the confluence of Pacific Creek and Whetstone Creek. If any of the landslides destabilize, they could dam either of the creeks. Heavy periods of precipitation or significant development could have an effect on slope stability.

2.8.3 Vulnerability

The planning area's vulnerability to landslide hazards is a direct result of development and infrastructure that has occurred on or below steep slopes or other areas prone to slide activity. In 2019, the WSGS released a landslide susceptibility dataset (Figure 27) which categorized slide-prone areas according to soil/rock type and slope angle. While this dataset will admittedly be refined in the future, it represents the best data available to-date for the planning area in determining landslide risk.

FIGURE 27. LANDSLIDE SUSCEPTIBILITY IN REGION 8



Paired with local parcel and structure data and tax assessor valuations, this information was used to determine landslide vulnerability for both Teton County and the Town of Jackson. In-total, over 1,500 properties are exposed to medium or high landslide hazards totaling over $6 billion in exposed value. Exposure information is presented in Table 39.

TABLE 39- PROPERTIES EXPOSED TO MEDIUM AND HIGH LANDSLIDE HAZARDS

Jurisdiction	Property Types	Property Count	Improved Value	Content Value	Total Value
Town of Jackson	Residential	991	$473,499,938	$236,749,969	$710,249,907
	Commercial	195	$180,502,154	$180,502,154	$361,004,308
	Other	140	$0	$0	$0
	Total	**1326**	**$654,002,092**	**$417,252,123**	**$1,071,254,215**
Unincorporated Areas	Residential	3187	$2,979,538,943	$1,489,769,472	$4,469,308,415
	Commercial	252	$362,619,482	$362,619,482	$725,238,964
	Agricultural	246	$75,384,765	$75,384,765	$150,769,530
	Other	289	$4,051,949	$4,051,949	$8,103,898
	Total	**227**	**$33,260,449**	**$1,931,825,668**	**$5,353,420,807**
Federal	**Total**			**$0**	**$0**
	Total	**1553**	**$687,262,541**	**$2,349,077,791**	**$6,424,675,022**

TABLE 40- RISK SCORE: LANDSLIDE

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Landslide	3	2	1	3	2.5	2.3

Landslide warning time is highly dependent upon the type of slide and the trigger, if any. Acute triggers like earthquakes can result in little warning time and increases the potential for injuries and fatalities. Slides that occur over the course of longer time periods like slumping earth are more predictable and manageable. These same assumptions can affect slide duration as well.

2.8.4 Future Impacts

The occurrence of landslides is highly dependent upon availability of moisture, soil saturation, and freeze/thaw cycles. Teton County and the Town of Jackson should expect to see landslide activity that is commensurate with rainfall frequency and intensity as well as snowpack condition. The same climate impacts that bring heavy snowfall to the Tetons and surrounding ranges in the planning area can also create conditions of rapid warming and snowmelt, which can increase landslide activity, especially the rockfall variety in steep terrain. Continued development and re-development, including reconstruction, road repairs and maintenance, and other uses near and along hillsides, especially in areas surrounding the Town of Jackson like Snow King Mountain, East and West Gros Ventre Buttes, and Boyles Hill, as well as areas along the base of the Tetons in the County, perpetuates the risk associated with these areas.

2.8.5 Land Use and Development

The Comprehensive Plan covering Teton County and the Town of Jackson include policies specific to landslides (policy 3.4.b) and development on steep slopes (Policy 3.4.c), which state that development in potential landslide paths and on steep slopes should be avoided. Specifically, Development on steep slopes decreases the stability of the slopes, which can lead to erosion and landslides. In addition, the level of disturbance required to develop on steep slopes has a disproportionate impact on natural resources. Slope development also poses difficulties for emergency access. Development on steep slopes will be avoided to the greatest extent possible. When development is not avoidable, it should employ best management practices for slope stabilization, erosion control and stormwater management. Impacts should be reduced by minimizing disturbance and adapting development to fit the topography, rather than modifying the topography to accommodate development.

Hillside Land Development Regulations (LDRs) are currently being updated by the Town of Jackson with the goal of improving landslide information and establishing best practices for identifying, avoiding, and mitigating hazards in hillside development. Current regulations focus solely on slope angle and ignore soil conditions, slide history, and other factors.

2.9 Lightning

2.9.1 Definition and Extent

Lightning is an electrical discharge between positive and negative regions of a thunderstorm. Intra-cloud lightning is the most common type of discharge. This occurs between oppositely charged centers within the same cloud. Usually it takes place inside the cloud and looks from the outside of the cloud like a diffuse brightening that flickers. However, the flash may exit the boundary of the cloud, and a bright channel can be visible for many miles.

Although not as common, cloud-to-ground lightning is the most damaging and dangerous form of lightning. Most flashes originate near the lower-negative charge center and deliver negative charge to earth. However, some flashes carry positive charge to earth. These positive flashes often occur during the dissipating stage of a thunderstorm's life. Positive flashes are also more common as a percentage of total ground strikes during the winter months. This type of lightning is particularly dangerous for several reasons. It frequently strikes away from the rain core, either ahead or behind the thunderstorm. It can strike as far as 5 or 10 miles from the storm in areas that most people do not consider to be a threat. Positive lightning also has a longer duration, so fires are more easily ignited. And, when positive lightning strikes, it usually carries a high peak electrical current, potentially resulting in greater damage.

Lightning Facts

- The human body does not store electricity, and lightning victims require immediate medical attention. It is perfectly safe to touch a lightning victim in order to give them first aid.

- Lightning often strikes several miles from the center of a thunderstorm, far outside the rain or thunderstorm cloud. It can strike as far as 10 miles out from the parent thunderstorm. That's why it's important to seek shelter at the first indication of a thunderstorm and stay there until 30 minutes after the last clap of thunder.

- Rubber-soled shoes and rubber tires provide NO protection from lightning, but most vehicles with metal tops and sides do provide adequate shelter from lightning because the charge travels through the metal frame and eventually into the ground. Just be sure to avoid contact with anything inside the vehicle that conducts electricity. Remember, convertibles, motorcycles, bicycles, open-shelled outdoor recreational vehicles and cars with fiberglass shells offer no protection from lightning.

- Many people incorrectly think that "heat lightning" is a specific type of lightning. It is just lightning from a thunderstorm that is too far away for any thunder to be heard (thunder is seldom heard beyond 10 miles under ideal conditions). If the storm approaches, the same lightning safety guidelines above should be followed.

- Lightning often strikes the same place or object repeatedly, especially if it's tall, pointy, and isolated. The Empire State Building is struck by lightning nearly 100 times each year.

- Seeking shelter under a tree is one of the leading causes of lightning related fatalities. Remember, NO PLACE outside is safe when thunderstorms are in the area. If you are caught outside in a thunderstorm, keep moving toward a safe shelter.

- The presence of metal has no bearing on where lightning will strike. Mountains are made of rock but get struck by lightning many times a year. Rather, an object's height, shape, and isolation are the dominant factors that affect its likelihood of being struck by lightning. While metal does not attract lightning, it obviously does conduct electricity, so stay away from metal fences, railings, bleachers, etc. during a thunderstorm.

According to the National Lightning Safety Institute, lightning causes more than 26,000 fires in the United States each year. The institute estimates property damage, increased operating costs, production delays, and lost revenue from lightning and secondary effects to be in excess of $6 billion per year. Impacts can be direct or indirect. People or objects can be directly struck, or damage can occur indirectly when the current passes through or near it.

A recent study conducted by the University of South Florida School of Geosciences partnered with Independent Geological Sciences, Inc. aimed to determine the amount of energy associated with individual lightning strikes, in an attempt to possibly develop an energy classification system based on after-the-fact analysis of sand fulgurites (fulgurites are tubular masses of material, usually sand or soil, formed when lightning discharges into the material). Using the size of the fulgurites, the team developed rating curves associating the energy (reported in megajoules) between strikes. This way, they can determine the energy of strikes relative to one another, but again only after the strike has occurred.

Lightning magnitude can also be measured in voltage. Voltage is equivalent to the work done by an electric current as it flows through a given cross-sectional area in one second. The voltage of lightning varies with certain altitudes and thickness of the bolt. These fluctuating values are caused by the fact that the cloud and earth act as capacitors. A capacitor is a device used to store charge. When the spacing between them increases, the voltage needed to produce lightning increases. So, for a given cloud-to-ground lightning strike voltage can be assumed to increase as the height of the cloud base

increases. A comparison of approximated lightning voltage to other common/average voltages demonstrates lightnings massive energy potential.

TABLE 41- VOLTAGE COMPARISON

Item	Volts
Flashlight battery	1.5
Car battery	12
Supply from power company to consumer	120
Carried in overhead transmission lines	1,000,000
Lightning	120,000,000

2.9.2 Hazard History and Location

Examining lighting flash density provides a means for exploring hazard history in the planning area and throughout the state. The National Weather Service reports that of the approximately 23 million cloud-to-ground lightning strikes that occur each year in the United States, just shy of 300,000 of them occur in Wyoming. According to The Vaisala Group, a private company that tracks environmental data, including lightning strike data, Wyoming averaged 304,973 strikes per year between the years 1997 and 2010. The state's strike density was 3.1 strikes per square mile for that time period, the 38th highest strike density in the nation (excluding Alaska and Hawaii). Updated strike density for the state, including Teton County and the Town of Jackson, is shown in Figure 28.

FIGURE 28- 2009-2018 AVERAGE ANNUAL FLASH DENSITY (FLASHES/SQ. MI./YEAR)

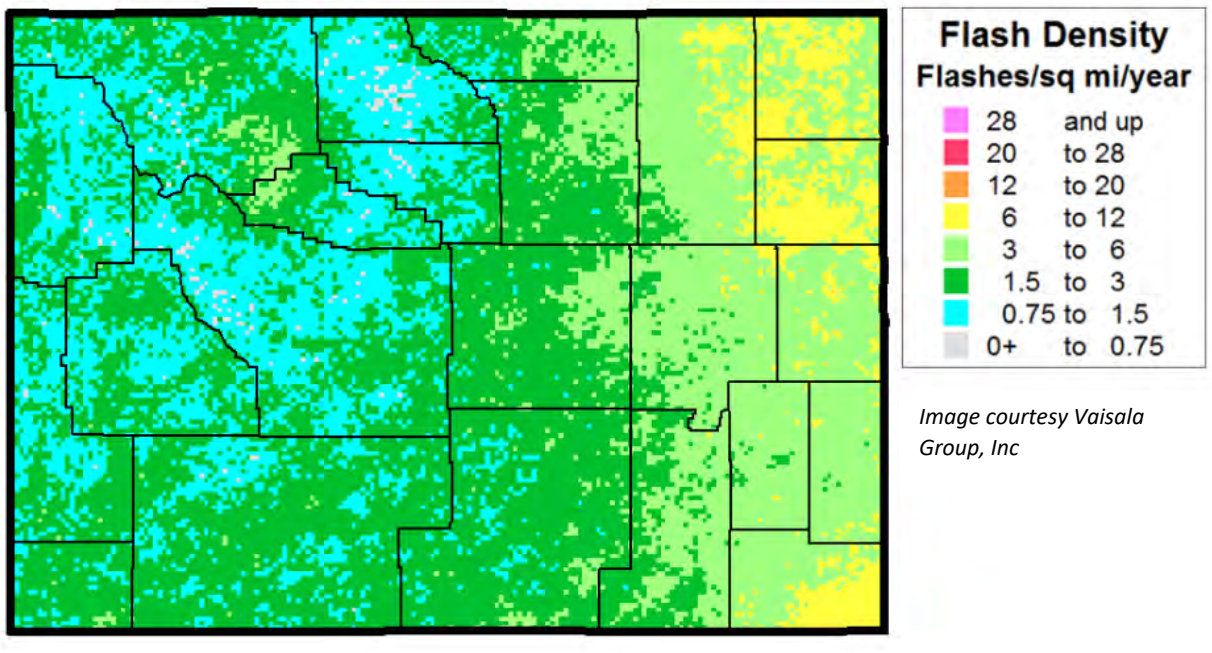


Image courtesy Vaisala Group, Inc

Lighting is responsible for more deaths and injuries across Wyoming each year than from any other thunderstorm phenomena. From 1959 through 2012, Wyoming was ranked 1st in the number of

lightning deaths and injuries per capita. Since 1995, *all* lightning fatalities have occurred in the mountains. So, while densities are highest in eastern Wyoming, risk of strikes resulting in fatalities are a serious concern in Teton County and the Town of Jackson. In the planning area, 20 significant strikes have occurred for the time period 1967-2019, resulting in 4 fatalities, 51 injuries, and $1,872,990 in damages. The total damages recorded includes strikes that included cascading hazard effects, namely, the generation of wildfire that amplifies both hazard impacts and damages. TABLE 42 displays a record of significant lightning strikes in Teton County that resulted in reportable losses such as damages, injuries, or casualties, as well as those strikes that resulted in fires that burned greater than 100 acres. Figure 29 maps the location of a portion of these significant strikes dating back to 1999.

TABLE 42- HISTORY OF LIGHTNING EVENTS IN REGION 8 (1967-2019)

DATE	EST. DAMAGE	NO. KILLED	NO. INJURED	EVENT DESCRIPTION
7/31/1963	-	-	-	A Lightning strike caused the Gravel Creek Fire in Bridger-Teton National Forest totaling 442 acres
9/1967	-	-	2	Lightning struck two road construction workers causing minor injuries in Teton County.
7/20/1968	-	-	-	A lightning strike caused the Bull Creek Fire in BTNF totaling 179 acres
8/24/1971	-	-	-	A lightning strike caused the Pacific Creek Fire in BTNF, burning 459 acres and requiring 136 total personnel to contain
7/8/1973	-	-	-	A lightning strike caused the Shoal Creek Fire in BTNF, burning a total of 600 acres.
8/1975	-	1	-	Man struck by lightning while canoeing on Lewis Lake, thrown into water and either killed by lightning or drowned in Teton County.
8/1977	-	1	1	A boy, 8 years old, was killed and a young lady, 26, injured while on a hiking trip 15 miles northeast of Jackson on the Gros Ventre River drainage.
8/1985	$140,000	-	-	A blaze sparked by a lightning strike burned 1080 acres in Grand Teton National Park, destroying 10 cabins and inflicting an estimated $140,000 worth of damage.
6/1987	$350,000	-	-	Lightning strikes near the Gros Ventre River destroyed a $350,000 home.

TABLE 42- HISTORY OF LIGHTNING EVENTS IN REGION 8 (1967-2019)

DATE	EST. DAMAGE	NO. KILLED	NO. INJURED	EVENT DESCRIPTION
7/1987	$2,750	-	-	Some unusually severe thunderstorms swarmed over northwest Wyoming during the afternoon. One of the first indications of these severe thunderstorms was the 60 mph wind gusts reported by a radio station in Jackson at 1300 MST. As these severe thunderstorms moved northeast additional reports of hail between 1 inch and 2.25 inches in diameter were observed along with winds gusting above 58 mph. Also, torrential rains were noted from Jackson northeast to Cody. When these severe thunderstorms moved northeast of Jackson over the Teton Wilderness Area it spawned the highest elevation F4 tornado ever documented. The devastating winds from the tornado produced a massive blowdown of 15,000 acres of mostly mature lodgepole pines which ranged from 80 to 100 feet tall. The massive blowdown stretched slightly over 24 miles from Box Creek Trailhead, 10 miles east-northeast of Moran Junction, on the south to beyond the Yellowstone River on the north and was about 1 to 2 miles wide, 2.5 miles at the widest. An eyewitness to the blowdown stated, "You could look up a hillside where there had been a dense forest and count the trees left standing." Later, as these severe thunderstorms moved over the East Entrance of Yellowstone National Park, torrential rains produced mudslides which closed highways for a few hours. The Park County sheriff reported that some of these mudslides buried about 50 yards of highway to a depth of 2 feet.
7/1988	$364,340	-	-	During the month of July, at least 59 fires were started by lightning from mostly high-based thunderstorms that produced little rainfall. These included very large forest fires such as the Clover Mist Blaze in Yellowstone National Park and the Lost Fire over the Big Horn Mountains of northern Wyoming. On a week-by-week basis, the breakdown of lightning fire is as follows. Before and including the 2nd, fourteen lightning fires were started. During the 10th through the 16th, 18 such fires were reported, including the extensive Moss Fire which was discovered on 7/11/1988. From the 17th through the 23rd, there were eight fires. Between the 24th and 30th, ten lightning blazes occurred. Finally, on the 31st, there were four fires. According to the BLM for Wyoming, 3,644.3 acres were torched with an estimated lost resource value of $364,430. This does not include the fires started by lightning in Yellowstone National Park because this information is not available.
8/1988	$415,900	-	-	Continuation from 7/1988 event, including the Emerald Lake and Huck Fires which were ignited by lightning strikes on 8/16/1988 and 8/20/1988, respectively.

TABLE 42- HISTORY OF LIGHTNING EVENTS IN REGION 8 (1967-2019)

DATE	EST. DAMAGE	NO. KILLED	NO. INJURED	EVENT DESCRIPTION
8/1994	$60,0000	-	-	Lightning started the Mormon Row fire in the Antelope Flats area on the 28th and the fire grew quickly to 3200 acres by the end of the month.
9/9/1994	-	-	-	A lightning strike started the East Miner Fire in BTNF, burning 105 acres
8/8/1998	-	-	-	The Emma Fire in Grand Teton National Park burned 100 acres and was started by lightning.
7/1999	-		1	Person struck by lightning on Table Mountain.
8/1999	-		2	Two people struck by lightning on the Grand Teton.
9/2/1999	-	-	-	The Alder Fire burned in GTNP after a lighting strike, consuming 347 acres.
6/5/2000	-	-	-	A lightning strike started the Upper Slide Fire, burning 350 acres.
7/31/2000	-	-	-	Lightning was to blame for the Boulder Fire in BTNF in the Summer of 2000, burning 4,500 acres.
8/9/2000	-	-	-	Lightning started the large Enos Fire, burning 6,600 acres in BTNF.
8/2000	-	-	-	IN GTNP, multiple fires started by lightning strikes and consumed nearly 10,000 acres.
8/6/2001	-	-	-	The Falcon Fire was started by a lightning strike that burned over 4,000 acres in BTNF.
6/2002	-		3	A boat was hit by lightning in Moran. The lightning blasted a hole in the boat floor.
7/2003	-	1	3	One person died and five were seriously injured when they were struck by lightning while climbing Grand Teton.
8/10/2003	-	-	-	The Blacktail Wildfire was started by lightning on August 10. On August 11, Gros Ventre Campground had to be evacuated as the fire approached. Smoke impacted air traffic at Jackson Airport and Highway 26/89/91 was temporarily closed on August 12. The fire burned 2,650 acres.
8/11/2003	-	-	-	The East Wildfire, located near the East Entrance of Yellowstone National Park, was started on August 11 by lightning. Thirty-one residences and 43 commercial buildings needed protection as gusty winds caused rapid fire growth. The wildfire burned four private vehicles. On August 15, the East Entrance of Yellowstone National Park was closed, only to be opened temporarily, 3 hours in the morning and 3 hours in the afternoon, from August 29-31. The fire burned 23,500 acres. The estimated cost of fighting the fire was $6.6 million.
8/14/2003	-	-	-	The Bobcat Fire burned 252 acres in BTNF and was started by a lightning strike.
8/16/2003	-	-	-	The Moss Ridge Fire started after lightning struck within BTNF and burned over 3,000 acres

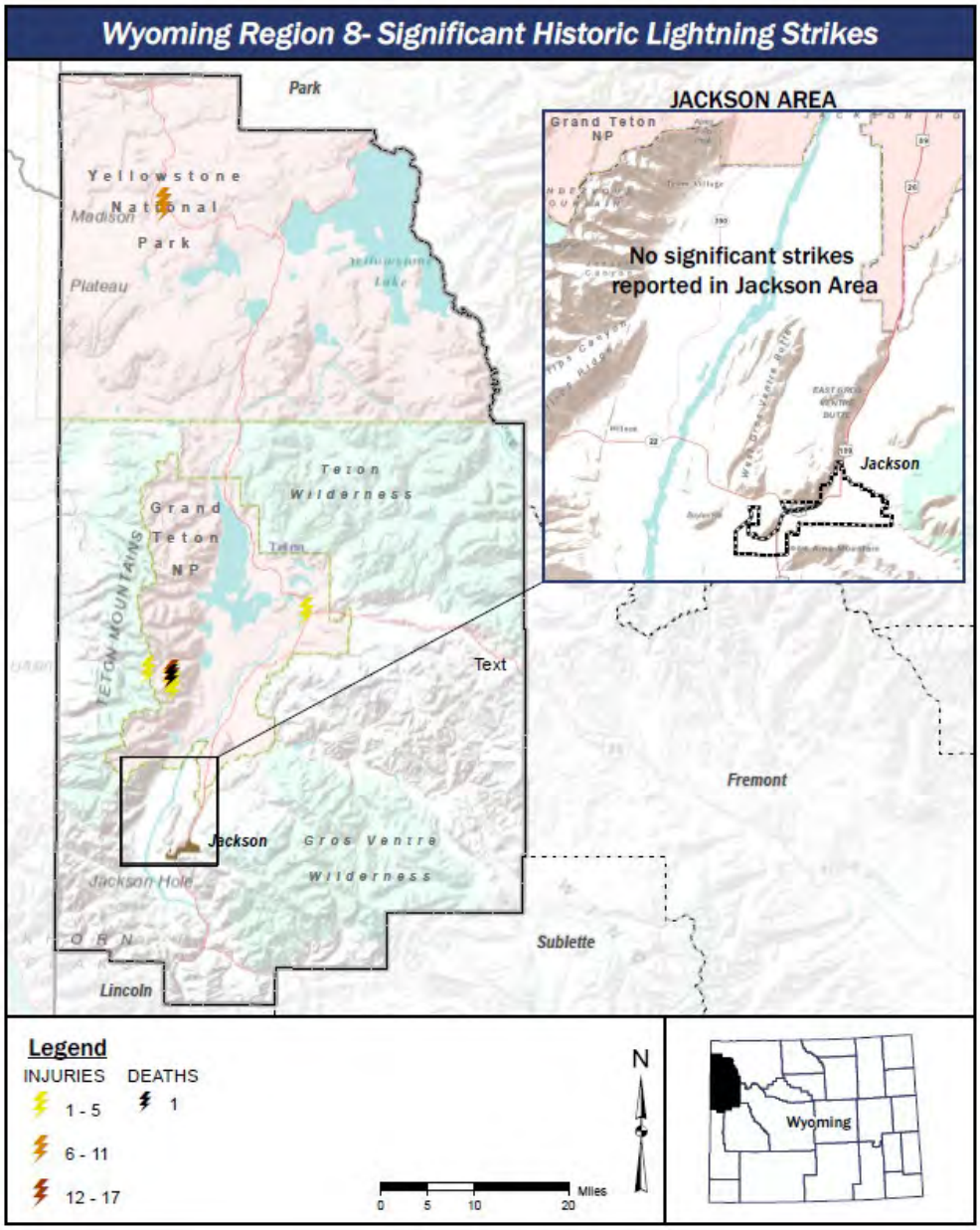
TABLE 42- HISTORY OF LIGHTNING EVENTS IN REGION 8 (1967-2019)

DATE	EST. DAMAGE	NO. KILLED	NO. INJURED	EVENT DESCRIPTION
6/2005	-		11	Lightning struck about 15 yards from a boardwalk encircling Old Faithful Geyser in Yellowstone National Park. The strike injured eleven bystanders who were awaiting the eruption of the famous geyser. One of the victims, a 12-year-old boy, received immediate CPR and was resuscitated. He was then taken by helicopter to a regional medical center.
8/5/2006	-	-	-	The Purdy Fire grew to almost 17,000 acres following a lighting strike in BTNF.
8/16/2006	-	-	-	The Horse Creek fire burned 703 acres within BTNF and was started by a lightning strike.
8/19/2006	-	-	-	The Hetchman Fire was started by lightning in GTNP and burned 1,344 acres.
7/2007	-		1	Lightning struck a climber on Grand Teton prompting a search and rescue from National Park Service officials. The victim was able to climb down under their own power.
7/19/2007	-	-	-	Lighting caused the Granite Creek Fire in BTNF, burning 1,742 acres.
8/9/2007	-	-	-	The Hardscrabble Fire burned over 3,000 acres in BTNF
9/2/2009	-	-	-	A lightning strike in GTNP started the Bearpaw Bay Fire and burned over 2,900 acres.
6/2010	-		9	A single lightning bolt injured nine visitors at Old Faithful in Yellowstone National Park. The visitors were on walkways and boardwalks surrounding Old Faithful Geyser when the strike occurred around 1430MST. One victim was air lifted to an Idaho medical center to receive treatment for burns and a ruptured eardrum. He also had his hat burned and his shoes had holes in them. The other eight victims were treated for minor injuries.
7/21/2010	-	1	17	Lightning struck Grand Teton mountain in Grand Teton National Park injuring 17 climbers that were among three separate private climbing parties. One of the injured ultimately fell 2,000 feet to his death as an indirect result of the lightning strike. The climbers were all above 13,000 feet MSL when the lightning storm hit about 1100MST. Helicopters ferried National Park Service rangers to the famed mountain to rescue the injured climbers and search for the body of the deceased. Moderate to severe injuries, ranging from burns to numbness, were suffered by the surviving climbers. The rescue involved the efforts of 83 people.
7/23/2010	-	-	-	Lighting caused the large Bull Fire in BTNF, totaling 5,429 acres.
8/19/2010	-	-	-	A 1,144 acre wildfire, known as the Gravel Fire, was sparked by a lightning strike in BTNF.
8/21/2010	-	-	-	The Crystal Fire started following a lightning strike in BTNF and burned 541 acres.

TABLE 42- HISTORY OF LIGHTNING EVENTS IN REGION 8 (1967-2019)

DATE	EST. DAMAGE	NO. KILLED	NO. INJURED	EVENT DESCRIPTION
8/20/2011	-	-	-	The large Red Rock Fire in BTNF burned 9,670 acres following a lighting storm.
8/26/2011	-	-	-	The Nowlin Fire in BTNF burned 4,686 acres and was caused by lightning
9/12/2011	-	-	-	The Gray Hills Fire started on November 12th in the same vicinity of the Red Rock Fire. The Gray Hills Fire burned 2,468 acres.
8/3/2013	-	-	-	Lightning caused the Moose Fire in GTNP, burning 240 acres.
7/25/2016	-	-	-	The Berry Fire originated in GTNP from a lightning strike. Due to high winds, the fire grew and spread outside of the park, resulting in road closures and threatening other infrastructure. The fire burned a total of 20,825 acres.
7/3/2019	-		1	A man was struck in the parking lot of the Jackson Hole Airport. The resulting fall to the asphalt produced a broken nose, broken jaw, and three broken ribs.

FIGURE 29- SIGNIFICANT STRIKES IN TETON COUNTY AND THE TOWN OF JACKSON (1999-2019)



2.9.3 Vulnerability

Lightning vulnerability in the planning area was assessed using 3 specific factors:

- Areas above tree line
- Open water areas
- Areas with significant electrical infrastructure

These areas were selected as they pose the most significant exposure to the hazard. Hikers, climbers, and other recreational users in alpine and above-tree line areas present a significant risk, as the ability to shelter during lightning storms is difficult or impossible. Open water areas present a similar danger.

Electrical infrastructure such as powerlines, transformers, towers, and substations represent higher-risk elements, and collectively they create hotspots of lightning risk, especially considering the threat of residual power outages. Figure 30 depicts areas most vulnerable to lightning strikes in Teton County and the Town of Jackson.

FIGURE 30. LIGHTNING STRIKE LOCATION AND RISK IN REGION 8

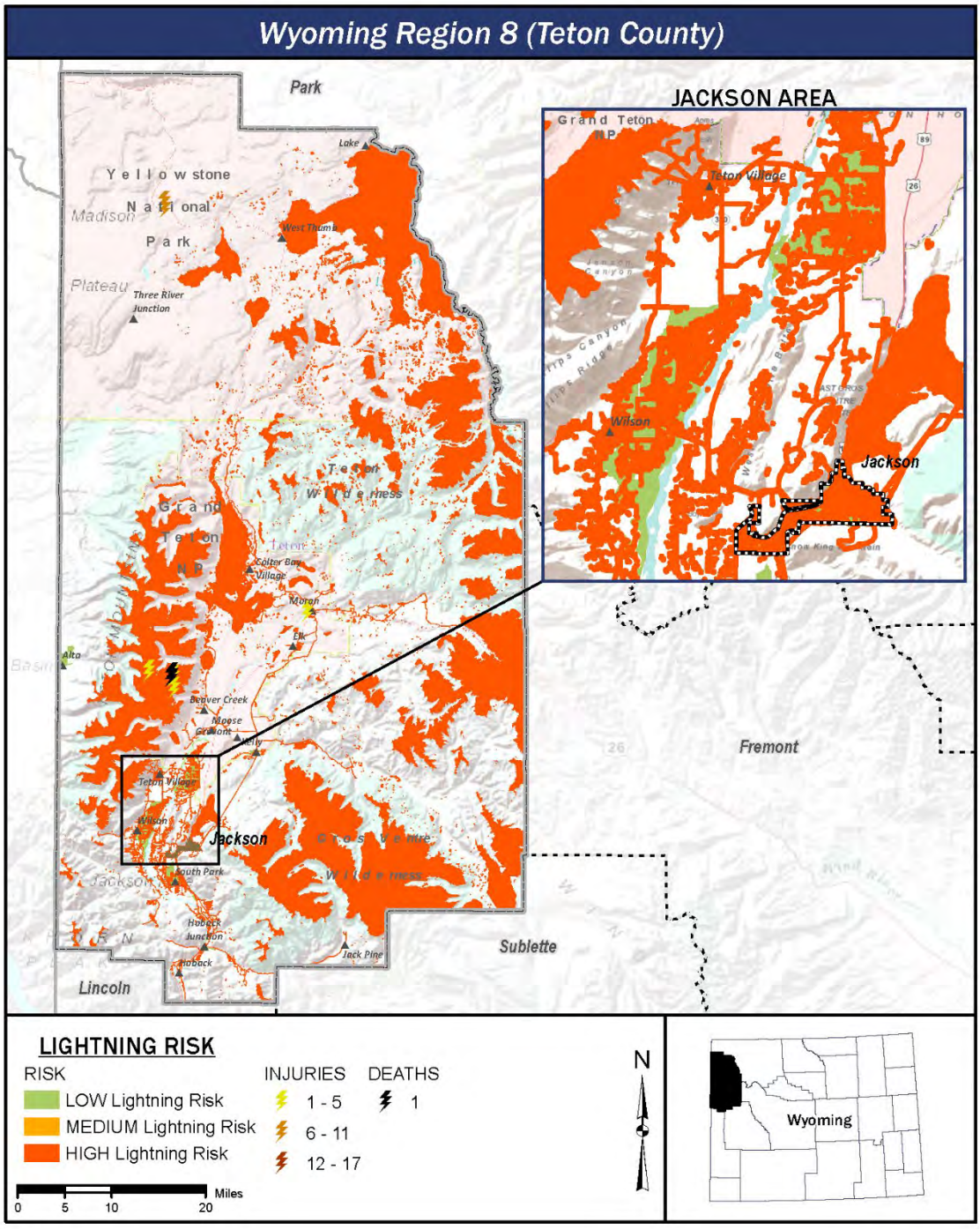


TABLE 43- RISK SCORE: LIGHTNING

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Lightning	4	1	1.5	2.5	1	2

Warning time for lightning applies to the overall potential for strikes, and not for individual strikes in each location.

2.9.4 Future Impacts

Past events in Teton County and the Town of Jackson indicate that the frequency of significant lightning events will likely be limited to approximately 1 significant event every 2-3 years. Impacts in above-tree line and open water areas can be directly tied to the number of backcountry users throughout public lands in Teton County. Losses associated with the power grid, as well as other infrastructure and buildings (including critical facilities) should not see a change in future risk; there may be, however, a change in the frequency of strikes that can be directly tied to a change in the frequency and intensity of spring and summer thunderstorm activity. Also, residual impacts from lightning strikes, including wildfires, are probable and can increase the amount of damage and response activities necessary. Wildfire impacts to the planning area are described in further detail in the Wildfire profile section.

2.9.5 Land Use and Development

Comprehensive planning for Teton County and the Town of Jackson has led to a growth management approach that includes policies that direct development toward suitable Complete Neighborhood subareas (Policy 3.1.b in the Jackson-Teton Comp Plan) and that cluster nonresidential development in existing locations (Policy 3.1.d). Strategies that align with these policies aim at transferring and directing development away from areas of ecological significance and toward stable and more transitional or developed sub-areas in the Town and County. That said, any new development that occurs will be at risk to lighting strikes, and as the population grows in these areas, so does the risk.

There are currently no standards in place in Teton County or the Town of Jackson for the use of lightning protection in building construction or other development. Strike Termination Devices can sometimes be required to intercept lightning from a target and redirect it via pathways to the ground.

2.10 Avalanche

2.10.1 Definition and Extent

According to the US National Weather Service, an avalanche is a rapid flow of snow down a hill or mountainside. Given the right conditions, avalanches can happen on any steep slope; however, certain times of the year and types of locations are naturally more dangerous.

Wyoming is one of the top-ranking states for avalanche hazards because of its rural character, snowpack, terrain, and mountain recreation. Skiers, snowboarders, and snowmobile operators are most commonly at risk from avalanche hazards; however, motorists and others not engaging in recreation are also at risk of being caught in an avalanche.

An avalanche occurs when the stress (from gravity) trying to pull the snow downhill exceeds the strength (from bonds between snow grains) of the snow cover. There are four ingredients of an avalanche: steep slope, snow cover, weak layer in the snow cover, and a trigger. About 90% of all avalanches start on slopes of 30-45 degrees; about 98% of all avalanches occur on slopes of 25-50 degrees. Earthquakes during the winter months could also trigger avalanches, potentially affecting even lower angled slopes and having widespread impacts depending on the level of ground shaking. Avalanches release most often on slopes above timberline that face away from prevailing winds (leeward slopes collect snow blowing from the windward sides of ridges.) Avalanches can run, however, on small slopes well below timberline, such as gullies, road cuts, and small openings in the trees. Very dense trees can anchor the snow to steep slopes and prevent avalanches from starting; however, avalanches can release and travel through a moderately dense forest.

Teton Pass Avalanche, April 2018. Photo: JHNews&Guide

Avalanches occur regularly in the backcountry and are not a problem until human activities and land uses are affected adversely by the avalanches. Possible conflicting land uses between humans and avalanches include recreation, residential, transportation, and mining. Examples of this conflict include property damage, injury, deaths, and excessive maintenance costs (e.g., removal of debris from transportation corridors impacted by avalanches).

Avalanches are extremely destructive due to the great impact forces of the rapidly moving snow and debris and the burial of areas in the runout zone. Structures not specifically designed to withstand the impacts are generally destroyed. Where avalanches cross highways, passing vehicles can be swept away and demolished, and their occupants killed. Snow avalanches also imperil cross-country skiers, downhill skiers, snowboarders, and snowmobilers. Several backcountry visitors perish each winter. Residences planned or erected in avalanche run out zones may not qualify for financing or insurance.

TABLE 44. AVALANCHE TYPE CLASSIFICATION

SS	Soft Slab
HS	Hard Slab
WS	Wet Slab
L	Loose
WL	Wet Loose

The maximum measured impact pressure of an avalanche is 20,000 lb/ft^2 while 2,000 lb/ft^2 is more common. Impact pressure typically averages between 1,000 lb to 10,000 lb/ft^2. Air blasts from powder

avalanches commonly exert a pressure of 100 lb/ft^2 of force. Pressures of only 20-50 lb/ft^2 can knock out most windows and doors. Additional damages associated with impact pressure are shown below.

TABLE 45. IMPACT PRESSURE DAMAGE

Impact Pressure (lbs./ft^2)	Potential Damage
40-80	Break windows
60-100	Push in doors, damage walls,
200	Severely damage wood frame
400-600	Destroy wood-frame structures,
1000-2000	Destroy mature forests
>6000	Move large boulders

Additionally, two distinct scales for measuring avalanche magnitude include the Relative Size Scale, or R-Scale, and the Destructive Size Scale, or D-Scale. These are both qualitative scales that are useful when communicating avalanche activity and reporting on events or analyzing historic events. While the scales provide some structure around reporting on avalanche magnitude, scoring along the scales are still subjective in nature and rely upon consistency between event observers to produce appropriate estimates of magnitude. R-Scale is a simple estimate of the size, based on volume, of an avalanche relative to the path within which it occurs. Scoring along the R-Scale looks like this:

TABLE 46. R-SCALE SCORING

Score	Description
R1	Very small, relative to path
R2	Small, relative to path
R3	Medium, relative to path
R4	Large, relative to path
R5	Major/Maximum, relative to path

D-Scale is an assessment of the destructive potential of an avalanche. Half-sizes are sometimes reported within this scale, and the scale includes components for mass and path length associated with each score along the scale.

TABLE 47. D-SCALE SCORING

Score	Description	Typical Mass	Typical Length
D1	Relatively harmless to people	< 10 Tons	10 meters
D2	Could bury, injure, or kill a person	100 Tons	100 meters
D3	Could bury and destroy a car, damage a truck, destroy a wood frame house, or break a few trees	1000 Tons	1,000 meters
D4	Could destroy a railway car, large truck, several buildings, or a substantial amount of forest	10,000 Tons	2,000 meters
D5	Could gouge the landscape-largest snow avalanche known.	100,000 Tons	3,000 meters

2.10.2 Hazard History and Location

Nationwide, there are countless avalanches each winter resulting from a combination of factors including snowfall accumulation, snowpack conditions, terrain features, elevation, slope aspect, and avalanche trigger. Agencies and organizations in mountainous states exist to track avalanche activity, provide snowfall prediction, snowpack investigation, and avalanche prediction services, and assist with search and rescue. These organizations also rely on reports and information from backcountry travelers, resort guests, ski patrol, national forest employees, and motorists. Even with these organizations in-place, many avalanches that occur go undetected. Over the last 10 winters, an average of 27 people die in avalanches each winter in the United States, while even more have been injured. From winter 1950-1951 through Winter 2016-2017, Wyoming ranked 5th in avalanche fatalities with 83. Avalanches resulting in fatalities have also occurred in the Winters of 2017-2018 and 2018-2019 in Wyoming, resulting in an additional 9 fatalities, bringing the total to 92.

FIGURE 31. US AVALANCHE FATALITIES BY STATE (1950-51 TO 2016-17)

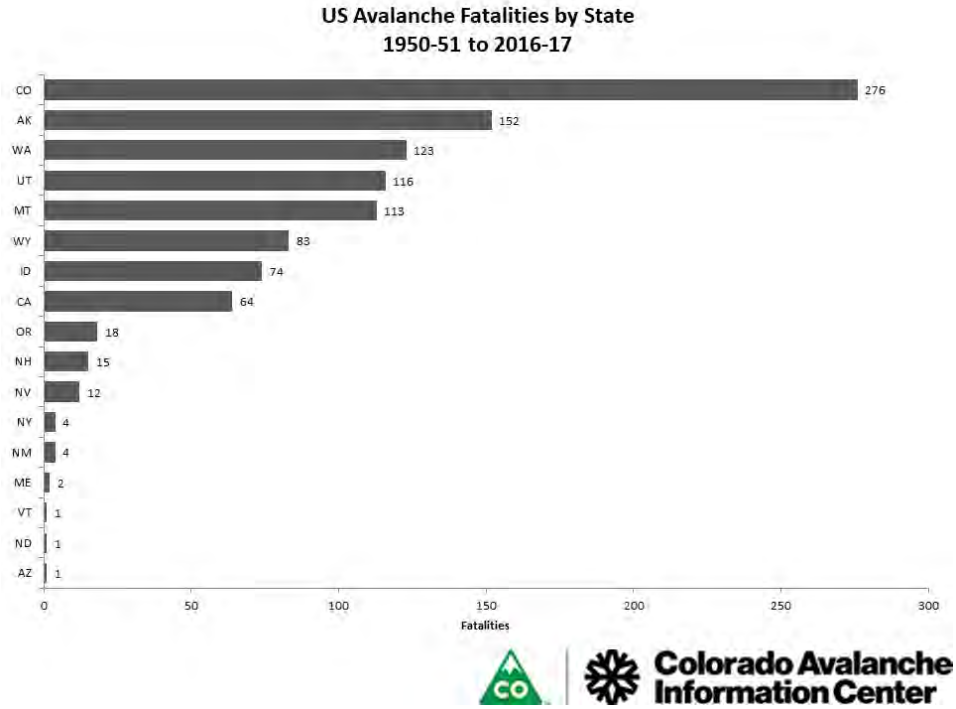
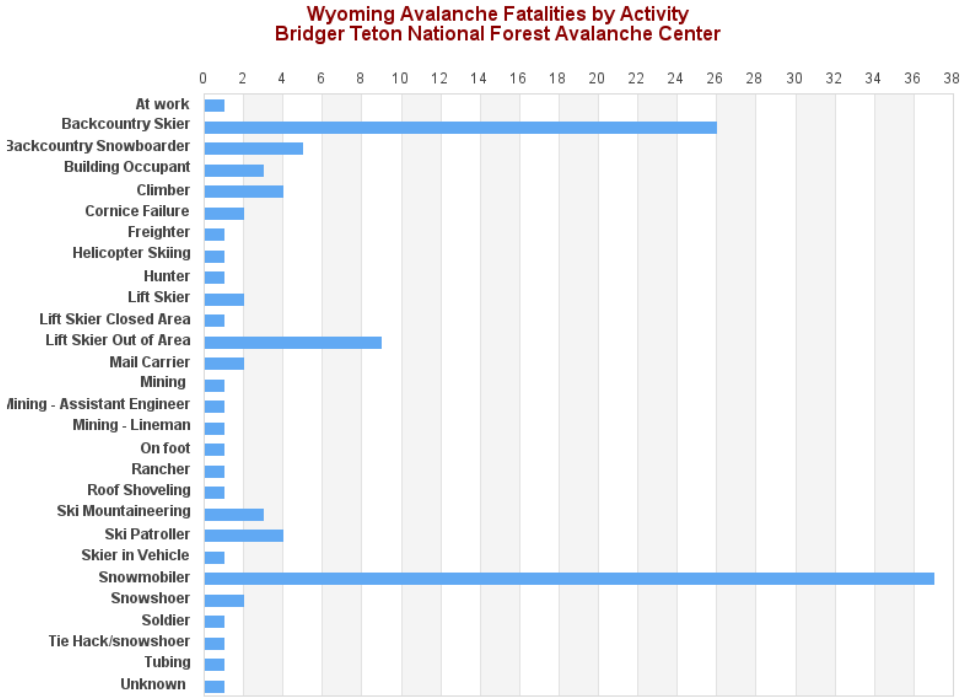


FIGURE 32- WYOMING AVALANCHE FATALITIES BY ACTIVITY



Close to 30,000 observed avalanche events have been recorded by the Bridger-Teton Avalanche Center for the time period 1974-2019. Of those 30,000 events, 704 of them are considered 'significant events' by BTAC. A significant event is an avalanche that resulted in either fatalities, injuries, or property damage.

Further analysis of the statewide significant events shows trends in certain avalanche condition characteristics, such as slope angle. Critical slope angles are dependent upon local conditions and are strongly influenced by regional snow climate; still, slope angle is one such indicator when considering avalanche risk. Of the 704 significant statewide events, 299 of them have a recorded Start Zone slope angle. Nearly 80% of the 299 events with recorded slope angles occurred on slopes that averaged between 35 and 45 degrees.

FIGURE 33. SIGNIFICANT AVALANCHE EVENTS IN WYOMING, BY SLOPE ANGLE

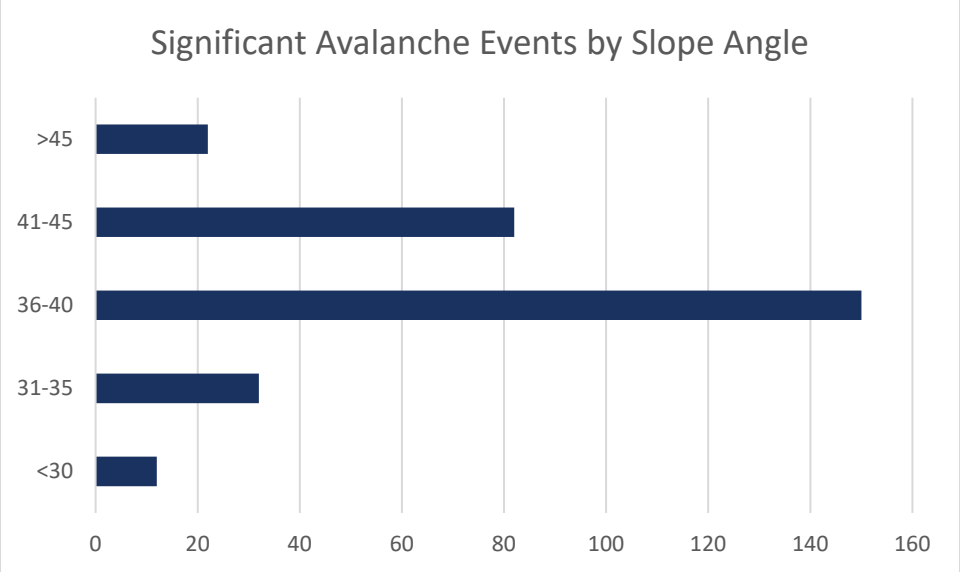


TABLE 48. TETON COUNTY AVALANCHE FATALITIES, 1964-2019

County	Location	Date	Activity/travel	Number of Fatalities
Teton	Snow King Mountain	12-Mar-64	Patroller	1
Teton	Glacier Gulch, Teton Range	16-Jan-74	Backcountry Skier	1
Teton	Glacier Gulch, Teton Range	16-Jan-74	Backcountry Skier	1
Teton	Glacier Gulch, Teton Range	16-Jan-74	Backcountry Skier	1
Teton	South Leigh Canyon, Teton Range	20-Mar-76	Backcountry Skier	1
Teton	Grand Teton, Teton Range	26-Apr-79	Climber	1

County	Location	Date	Activity/travel	Number of Fatalities
Teton	Grand Teton, Teton Range	26-Apr-79	Climber	1
Teton	Ferrin's Slide, Snow King Mt	16-Feb-84	Lift Skier Out of Area	1
Teton	Mt Wister, Teton Range	3-Feb-85	Climber	1
Teton	Rendezvous Mountain, Teton Range	2-Dec-85	Patroller	1
Teton	Rendezvous Mountain, Teton Range	17-Feb-86	Patroller	1
Teton	Dry Ridge, Teton Range	28-Feb-92	Snowmobiler	1
Teton	Simpson Peak, Togwotee Pass	28-Dec-92	Backcountry Skier	1
Teton	Taylor Mountain, Teton Range	19-Apr-95	Backcountry Skier	1
Teton	Factory Hill, Yellowstone	3-Mar-97	Backcountry Skier	1
Teton	Factory Hill, Yellowstone	3-Mar-97	Backcountry Skier	1
Teton	Dry Lake Creek, Togwotee Pass	4-Jan-99	Snowmobiler	1
Teton	Rendezvous Mountain, Teton Range	19-Jan-99	Lift Skier	1
Teton	Glory Bowl, Teton Range	1-Dec-00	Backcountry Snowboarder	1
Teton	Titmouse Ridge, Teton Pass	9-Dec-00	Backcountry Skier	1
Teton	Pyramid, Teton Range	19-Jan-16	Backcountry Snowboarder	1
Teton	Ralph's Slide, Teton Range	24-Jan-16	Lift Skier Out of Area	2
Teton	Fred's Saddle Backside, Teton Range	21-Feb-16	Lift Skier Out of Area	1
Teton	Steve Baugh Bowl, Teton Range	23-Dec-16	Lift Snowboarder Out of Area	1
Teton	East Leidy Mountain, Togwotee Pass	22-Apr-18	Snowmobiler	1
Teton	Mt Leidy, Togwotee Pass	9-Jan-19	Snowmobiler	1
Teton	Breccia Cliffs Area, Togwotee Pass	4-Mar-19	Snowmobiler	1

Avalanches are more prevalent in Teton County compared to the Town of Jackson, simply because more avalanche-prone areas exist outside of the Town. In the Town, the primary areas of risk are associated with Snow King Mountain, including the ski area and the steeper slopes that flank the ski resort to the east and west. The more expansive county lands include countless avalanche paths in the Teton and Absaroka Ranges and the Gros Ventre Mountains, including areas along Teton and Togwotee passes. Areas of increased activity by backcountry users (skiers, snowboarders, snowshoers, and snowmobilers) exist along the passes as well as adjacent to both Jackson Hole Mountain Resort and Grand Targhee Mountain Resort, where gated access to backcountry areas sees prevalent skier traffic.

FIGURE 34. WYOMING AVALANCHE FATALITIES BY AREA

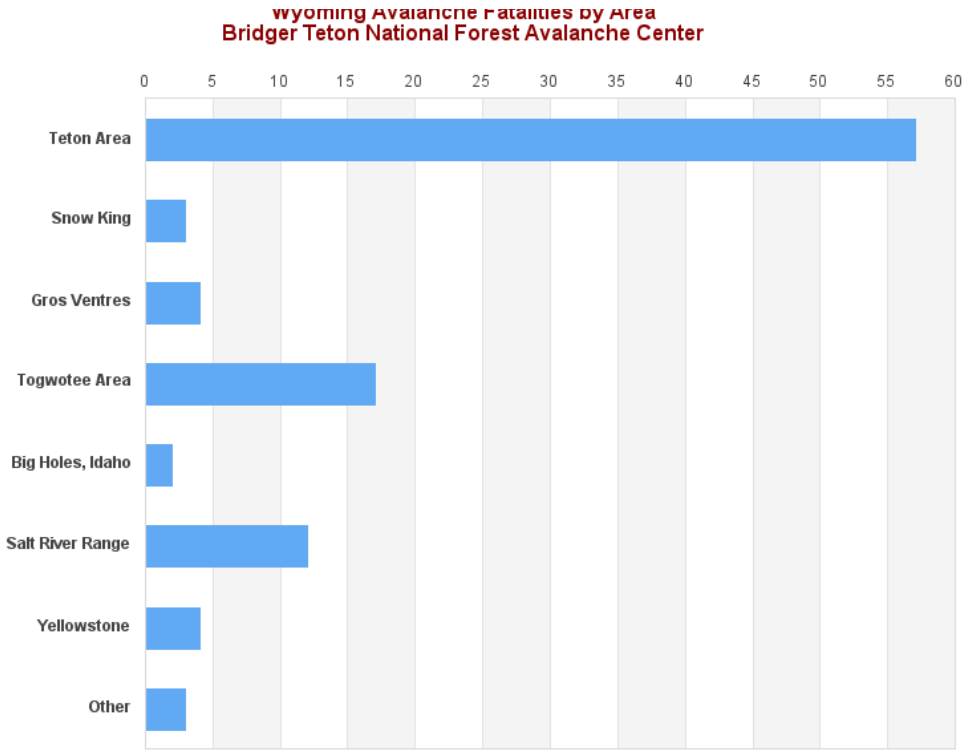
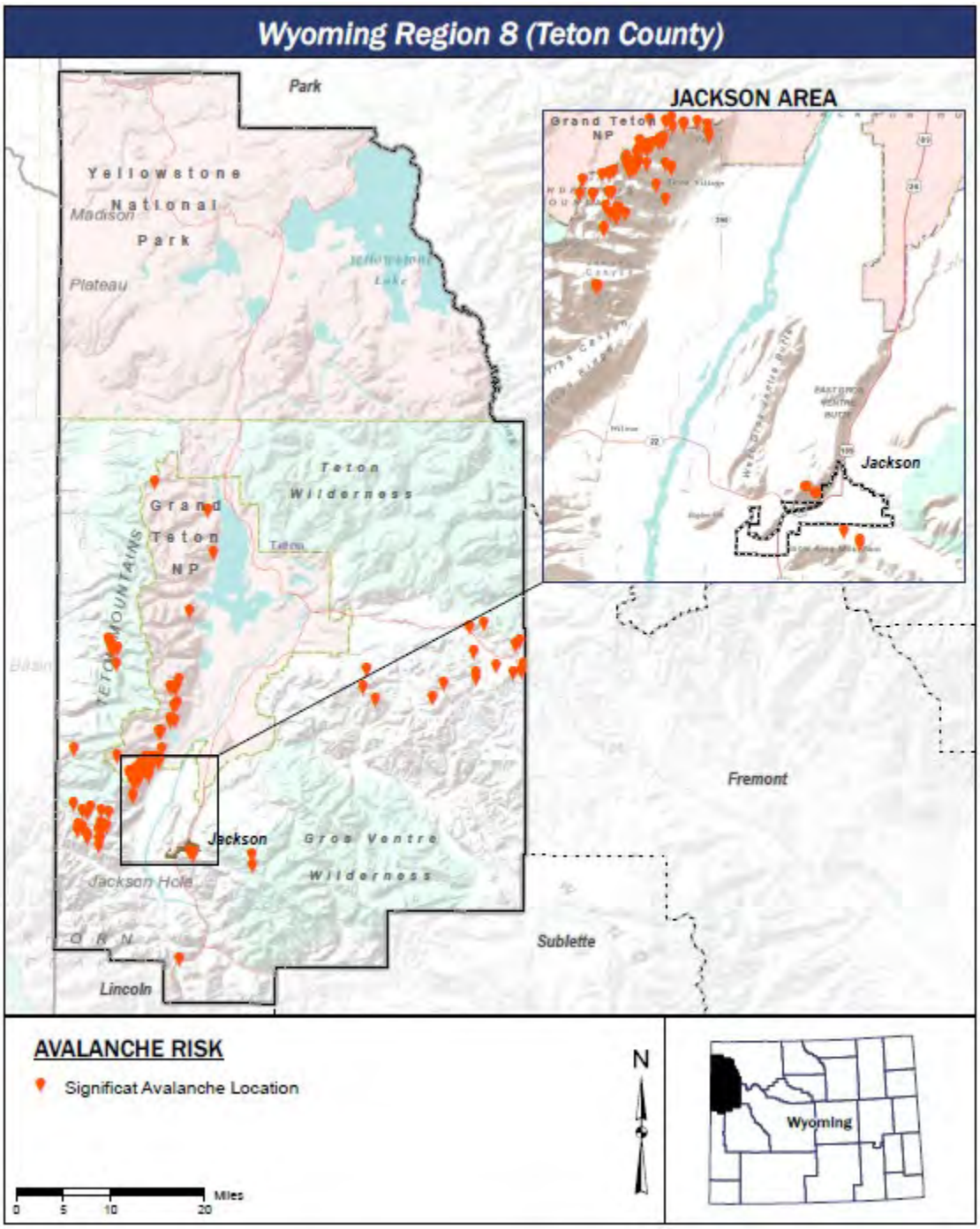


FIGURE 35. SIGNIFICANT HISTORIC AVALANCHE ACTIVITY IN IN REGION 8



2.10.3 Vulnerability

Areas throughout Teton County and the Town of Jackson where avalanche activity interacts with recreation, transportation, and buildings and infrastructure present the highest-risk areas. For the Town of Jackson, main areas of concern are on the western through northeastern flanks of Snow King mountain where development has occurred. In Teton County, higher elevations with increased activity from backcountry users such as skiers, snowboarders, snowmobilers, and snowshoers comprise the higher-risk areas, as well as thoroughfares such WYO Highway 22 over Teton Pass and US Highway 26 over Togwotee Pass. While other areas of the County and Town can certainly be vulnerable to avalanches under the right conditions, these areas comprise the higher-risk areas based on historical data, snowfall amounts, and frequency of use.

The Risk Score for avalanche takes into consideration the mostly localized nature of avalanche events and impacts, while also accounting for the frequency of occurrence as a result of climate, terrain, and other factors that make the Teton area prone to avalanche activity.

TABLE 49. RISK SCORE: AVALANCHE

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Avalanche	4	2	1	4	1	2.4

Scoring Discussion: Impacts for avalanche hazards are difficult to score. There is the potential for injury, fatalities, and property damage each winter season. Increases and advancements in avalanche education, forecasting, and conditions assessment can help to limit impacts. Warning Time for specific slides is for all intents and purposes zero; there can be, however, increased warning time associated with conditions that are known to produce avalanche hazards. This, again, would entail continued assessment and forecasting of weather, snowfall, and other conditions. Event duration is typically minimal for an individual slide, even when search & rescue is necessary, but high-risk avalanche conditions can persist over much longer periods of time.

2.10.4 Future Impacts

Increases in popularity of backcountry travel and use has already led to increased avalanche accidents. This trend is expected to continue as growth occurs in and around mountain towns and as visits to resort destinations during the winter months increase. The draw to ski areas like Jackson Hole Mountain Resort, especially considering recent season pass partnerships with the likes of Alterra Mountain Company (IKON Pass) and other destination resorts through the Mountain Collective Pass, is stronger than ever and the competition between ski areas and pass offerings will likely continue to find unique ways to entice visitors.

Changes in climate could have both short-term and long-term impacts on avalanche hazards. First and foremost, predictability, intensity, and amount of snowfall can fluctuate in a changing climate, producing larger, more-frequent storms at times. Conversely, warming trends around the globe can have an impact on moisture availability and temperatures for the Teton area. The El Nino Southern Oscillation, or ENSO, is the cycle of warm and cold sea surface temperature of the tropical central and

eastern Pacific Ocean. Water temperatures in the Pacific Ocean have a direct impact on moisture availability and transport throughout the American west, including the Jackson Hole area. Typically, El Nino years produce warmer, dryer winters for Teton County and the Town of Jackson, and climate experts predict El Nino weather patterns will intensify with changes to the global climate. That said, Teton County and the Town of Jackson can expect lower than average snowfall during El Nino years. This is not to say that there is a direct link between El Nino years and decreased avalanche activity, as there are other factors that determine the potential for slides throughout the course of a winter season. In fact, an argument could be made for increased avalanche activity corresponding to above-average winter temperatures. In this scenario, wet slab and loose avalanches may prevail, as would be typical of a spring avalanche cycle associated with cooling and warming phases between night and day.

2.10.5 Land Use and Development

Snow King Mountain, Jackson Hole Mountain Resort, and Grand Targhee Resort all operate under Resort Master Plans that dictate areas of proposed development and redevelopment, as well as managing growth and development to protect users and avoid natural hazard areas. The Jackson-Teton County Comprehensive Plan Policy 3.4.b aims to "Protect Development Against Avalanches and Landslides" and goes on to point out that an avalanche can easily displace a building or trap occupants inside. Development within 100-year avalanche paths should be limited. Where development does occur within an avalanche path, mitigation measures should be installed.

2.11 Tornado

2.11.1 Definition and Extent

Tornadoes are violently rotating columns of air, formed by a combination of atmospheric instability and wind shear. Instability occurs when warm, moist air is wedged under drier, cooler air aloft. This warm air rises, causing the intense updrafts and downdrafts seen in strong thunderstorms — the incubators of tornadoes. Wind shear refers to changes in wind direction and speed at different elevations in the atmosphere. The combination of instability and wind shear forms the rotating column of air that we associate with a tornado. Tornadoes that form over water are known as waterspouts. Tornadoes that do not reach the ground surface are simply referred to as funnel clouds.

Wind speeds in a tornado can reach up to 300 mph, and they usually form inside intense, rotating thunderstorms that may also produce large hail. They can have the same pressure differential that fuels huge hurricanes but do so on a much smaller scale.

Conditions that support tornado formation in Teton County and the Town of Jackson most often occur in the spring and early summer (i.e., May, June, and July) when cool, dry mountain air rolls east over the warm, moist air of the plains during the late afternoon and early evening hours. However, tornadoes are possible anywhere in the state, at any time of year, and at any point during the day.

Tornadoes can cause damage to property and loss of life. While most tornado damage is caused by violent winds, most injuries and deaths result from flying debris. Property damage can include damage to buildings, fallen trees and power lines, broken gas lines, broken sewer and water mains, and the outbreak of fires. Agricultural crops and industries may also be damaged or destroyed. Access roads and streets may be blocked by debris, delaying necessary emergency response. Tornadoes which affect the

developed portions in Region 8 communities are more likely to cause high dollar damage amounts, even if they are smaller than tornadoes that strike more remote parts of the region.

Tornadoes were previously classified by their intensity using the Fujita (F) Scale, with F0 being the least intense and F6 being the most intense. The Fujita Scale was used to rate the intensity of a tornado by examining the damage caused by the tornado after it has passed over a man-made structure.

On February 1, 2007, the Fujita scale was decommissioned in favor of the more accurate Enhanced Fujita Scale (aka the EF Scale). The EF-Scale measures tornado strength and associated damages and classifies tornadoes into six intensity categories, as shown in the following table. The scale was revised to reflect better examinations of tornado damage surveys, to align wind speeds more closely with associated storm damage. The new scale considers how most structures are designed and is thought to be a much more accurate representation of the surface wind speeds in the most violent tornadoes.

TABLE 50. ENHANCED FUJITA (EF) SCALE

Enhanced Fujita Category	Wind Speed (mph)	Potential Damage
EF0	65-85	**Light damage**: Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86-110	**Moderate damage**: Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	**Considerable damage**: Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	**Severe damage**: Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200	**Devastating damage**: Well-constructed houses and whole frame houses completely leveled; cars thrown, and small missiles generated.
EF5	>200	**Incredible damage**: Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly more than 100 m (109 yds.); high-rise buildings have significant structural deformation; incredible phenomena will occur.

The National Oceanic and Atmospheric Association's Storm Prediction Center has developed damage indicators to be used with the Enhanced Fujita Scale for different types of buildings. These indicators can be also be used to classify any high wind event. Indicators for different building types are shown in the following tables.

TABLE 51. INSTITUTIONAL BUILDINGS

DAMAGE DESCRIPTION	WIND SPEED RANGE (Expected in Parentheses)
Threshold of visible damage	**59-88 MPH (72 MPH)**
Loss of roof covering (<20%)	**72-109 MPH (86 MPH)**
Damage to penthouse roof & walls, loss of rooftop HVAC equipment	**75-111 MPH (92 MPH)**
Broken glass in windows or doors	**78-115 MPH (95 MPH)**
Uplift of lightweight roof deck & insulation, significant loss of roofing material (>20%)	**95-136 MPH (114 MPH)**
Façade components torn from structure	**97-140 MPH (118 MPH)**
Damage to curtain walls or other wall cladding	**110-152 MPH (131 MPH)**
Uplift of pre-cast concrete roof slabs	**119-163 MPH (142 MPH)**
Uplift of metal deck with concrete fill slab	**118-170 MPH (146 MPH)**
Collapse of some top building envelope	**127-172 MPH (148 MPH)**
Significant damage to building envelope	**178-268 MPH (210 MPH)**

TABLE 52. EDUCATIONAL INSTITUTIONS (ELEMENTARY - HIGH SCHOOLS)

DAMAGE DESCRIPTION	WIND SPEED RANGE (Expected in Parentheses)
Threshold of visible damage	**55-83 MPH (68 MPH)**
Loss of roof covering (<20%)	**66-99 MPH (79 MPH)**
Broken windows	**71-106 MPH (87 MPH)**
Exterior door failures	**83-121 MPH (101 MPH)**
Uplift of metal roof decking; significant loss of roofing material (>20%); loss of rooftop HVAC	**85-119 MPH (101 MPH)**
Damage to or loss of wall cladding	**92-127 MPH (108 MPH)**
Collapse of tall masonry walls at gym, cafeteria, or auditorium	**94-136 MPH (114 MPH)**
Uplift or collapse of light steel roof structure	**108-148 MPH (125 MPH)**
Collapse of exterior walls in top floor	**121-153 MPH (139 MPH)**
Most interior walls of top floor collapsed	**133-186 MPH (158 MPH)**
Total destruction of a large section of building envelope	**163-224 MPH (192 MPH)**

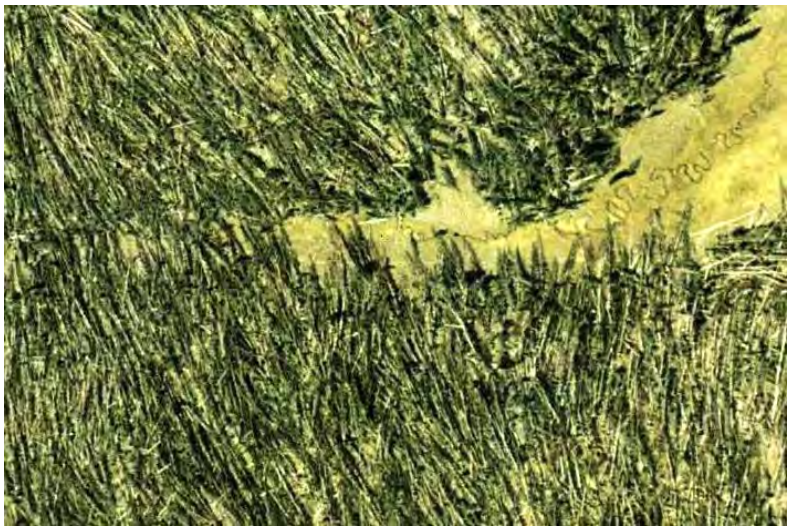
TABLE 53. METAL BUILDING SYSTEMS

Damage Description	Wind Speed Range (Expected in Parentheses)
Threshold of visible damage	**54-83 MPH (67 MPH)**
Inward or outward collapsed of overhead doors	**75-108 MPH (89 MPH)**
Metal roof or wall panels pulled from the building	**78-120 MPH (95 MPH)**
Column anchorage failed	**96-135 MPH (117 MPH)**
Buckling of roof purlins	**95-138 MPH (118 MPH)**
Failure of X-braces in the lateral load resisting system	**118-158 MPH (138 MPH)**
Progressive collapse of rigid frames	**120-168 MPH (143 MPH)**
Total destruction of building	**132-178 MPH (155 MPH)**

TABLE 54. ELECTRIC TRANSMISSION LINES

Damage Description	Wind Speed Range (Expected in Parentheses)
Threshold of visible damage	**70-98 MPH (83 MPH)**
Broken wood cross member	**80-114 MPH (99 MPH)**
Wood poles leaning	**85-130 MPH (108 MPH)**
Broken wood poles	**98-142 MPH (118 MPH)**

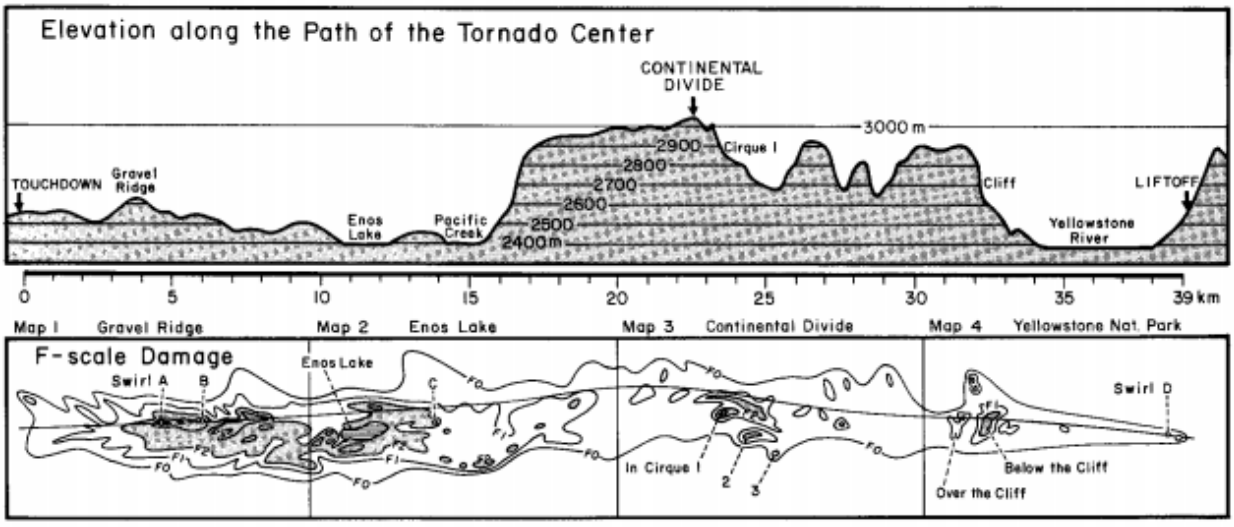
2.11.2 Hazard History and Location



Fallen trees resulting from the Teton-Yellowstone Tornado (Photo Bryan E Smith)

On July 21, 1987, a rare high-altitude tornado touched down east of Jackson Lake and North of Togwotee Pass. This tornado was rated a F4 on the Fujita Scale (by Dr. Fujita himself), which, according to today's Enhanced Fujita Scale, would rate as an EF5. Through 2019, the 1987 tornado is the tornado of record for the entire state. The tornado cut through a 24-mile long, 1.5-mile wide swath of the Teton Wilderness in the Bridger-Teton National Forest, as well as Yellowstone National Park, and even crossed the Continental Divide. Damages associated with the tornado occurred at elevations ranging from 8,500 feet to 10,000 feet, making it the highest altitude violent tornado ever recorded in the U.S. No human fatalities or injuries were recorded, but up to 1,000,000 trees were uprooted by the storm. The F4 rating was based on the severity of tree damage in hardest-hit areas. Huge swaths of trees were flattened, and many more were stripped of leaves and limbs, with the trunks debarked. Topsoil was picked up and spattered against the bare trunks. Figure 36 shows the damage swath and elevation profile of the tornado center.

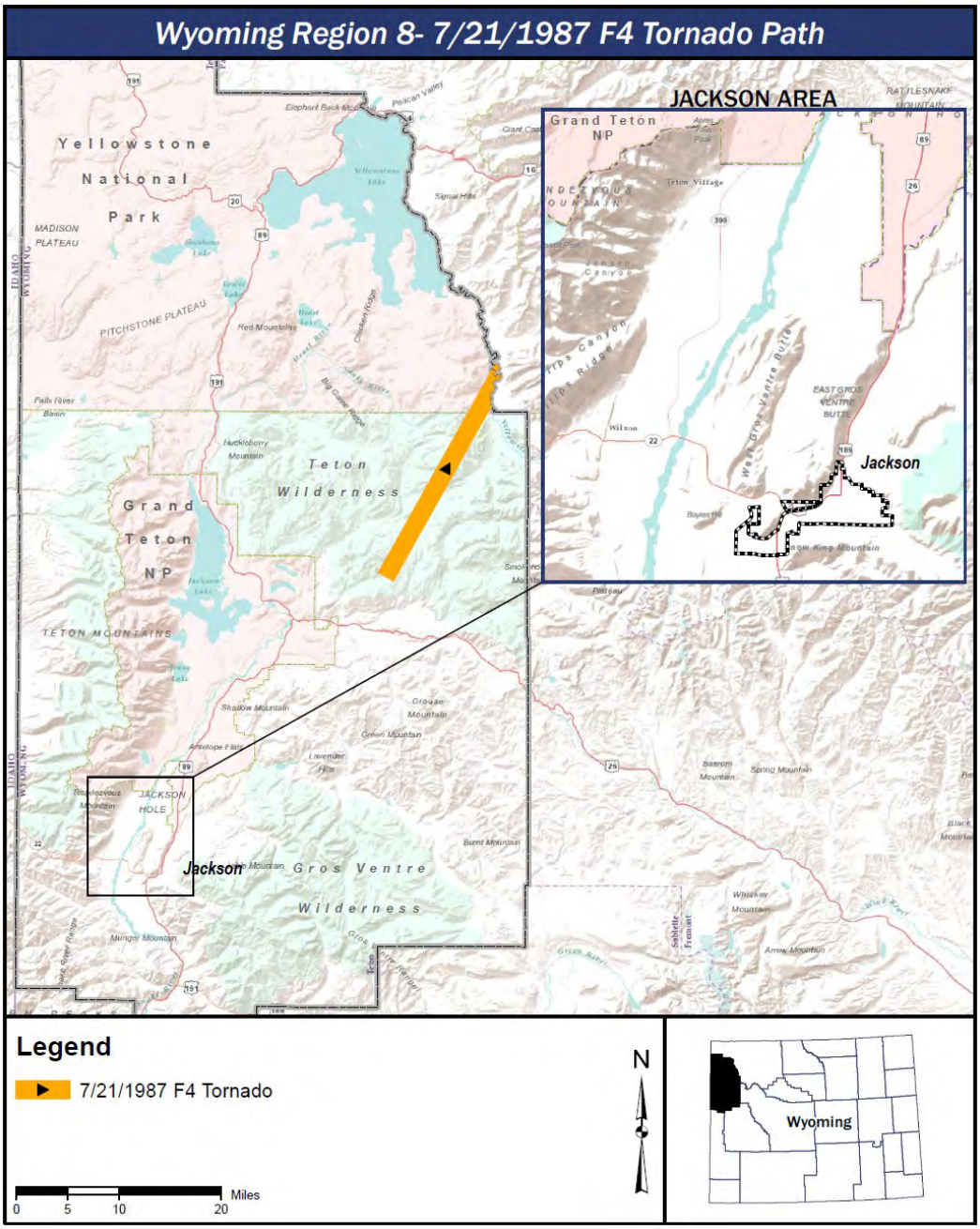
FIGURE 36. ELEVATION PROFILE AND CORRESPONDING DAMAGE SWATH



Source: The Teton-Yellowstone Tornado of 21 July 1987, T. Theodore Fujita

This twister is the only recorded tornado to touch down in Teton County to-date. The path of the 1987 tornado is shown in Figure 37.

FIGURE 37. 7/21/1987 F4 TORNADO PATH (TETON TORNADO)



9.4.1 Vulnerability

Tornado vulnerability in Teton County and the Town of Jackson can be summarized by looking at areas of existing development. Statewide and in Teton County specifically, damage to buildings and

infrastructure from tornadoes would be limited due to the prevalence of open range and scattered populations. In more densely developed areas in and around the Town of Jackson, risk is elevated commensurate with amount of development. Further, some of the most significant threats from tornadoes are the dangers posed by debris travelling at very high speeds. Debris generated and caught by tornadic winds can be ejected from the tornado well outside of the destructive path. This debris poses an elevated risk to people, animals, buildings, and cars.

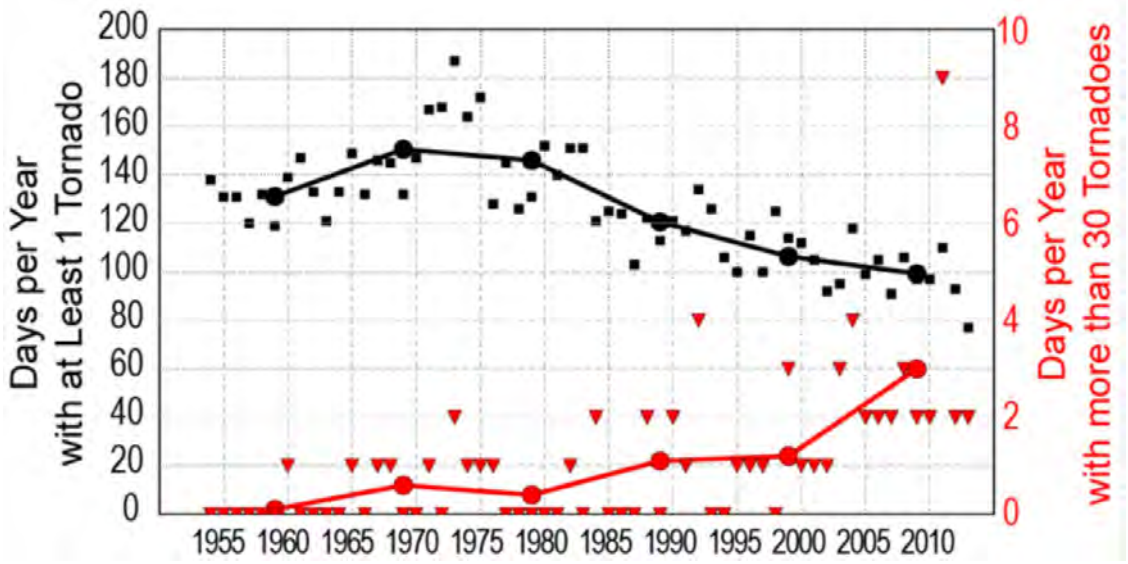
TABLE 55. RISK SCORE: TORNADO

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Tornado	1	1.5	1	4	1	1.7

2.11.3 Future Impacts

Data from the last 65 years suggests that, nationwide, while the total number of days per year with tornadic activity has decreased, the number of days with intense tornado outbreaks (> 30 tornados in a day) is on the rise. That is to say, the intensity of storms, when they do form, is producing more tornados now more than ever.

FIGURE 38- TORNADO ACTIVITY IN THE US, 1955-2013



Source: NOAA

Still, the link between tornadoes and a changing climate is currently unclear. Current data on tornadoes is inconsistent because measuring the presence of tornadoes relies on eyewitness accounts and aftermath damage assessments rather than quantifiable data. Additionally, it is difficult to identify long-term trends in tornado records, which only date back to the 1950s in the U.S., because the population in many areas affected by tornadoes has grown, contributing to increased eyewitness reports and greater

property in harm's way. Improved technology, such as advanced radar, also helps us "see" tornadoes that may not have been detected decades ago.

An additional challenge is the physics associated with tornadoes. Researchers are working to better understand how the building blocks for tornadoes – atmospheric instability and wind shear – will respond to changes in temperature and other measurables. It is likely that warmer, more humid conditions would allow for more frequent instability; it is, however, also possible that warmer conditions would lessen chances for wind shear. Other factors could shift the timing of tornadoes potentially impacting northwestern Wyoming, with less of an impact on the total number of tornadoes.

An added difficulty in trying to determine future tornado frequency and intensity based on changes in the climate, is that tornadoes are too geographically small to be well simulated by climate models. Models can simulate some of the conditions that contribute to forming severe thunderstorms that often spawn tornadoes. Multiple studies find that the conditions that produce the most severe thunderstorms are more likely in a warmer world.

It will remain challenging to estimate any climate change influence on tornadoes until scientists can improve their physical understanding of the processes that cause tornadoes and the observational record of tornado frequency.

2.11.4 Land Use and Development

As previously discussed in this section and throughout the plan, the planning area is comprised of only 3% non-federal land. The prevalence of open space and sporadic development throughout Teton County generally lowers the risk to damage to existing development from tornadoes, while tornado occurrence remains possible. The same policies from the plan that foster Complete Neighborhoods, clustering development, and strengthening the village center/town settings will contribute to maintaining a reduced risk across the planning area, with focused risk increasing proportionately with development and population in these areas. Like other hazards, tornado hazard location is difficult if not impossible to predict.

There are currently no standards in place in Teton County or the Town of Jackson specific to development for the purposes of mitigating tornado losses.

2.12 Wildfire

2.12.1 Definition and Extent

As defined by the National Interagency Fire Center (NIFC), a "wildland fire" is any non-structure fire, other than prescribed fire, that occurs in the wildland. Before discussing wildland fire hazard risk within the planning area, some key terms should be identified:

Wildland/Urban Interface or WUI: widely used within the wildland fire management community to describe any area where structures and other development meet and intermingle with undeveloped wildland and/or vegetative fuels.

Aspect: refers to the direction in which a slope faces.

Fuel: consists of combustible material, including vegetation, such as grass, leaves, ground litter, plants, shrubs, and trees that feed a fire.

As the population and the wildland/urban interface in Wyoming increases, the higher the risk of wildland fire hazard becomes. The past 100 years of wildland fire suppression has led to heavy vegetation growth and thus has greatly increased the potential fuel-load for a wildfire to burn. As the wildland/urban interface has grown into these densely packed forests, the potential for catastrophic wildland fires has increased as well.

Although different reports, assessments, plans, and programs have been developed by different organizations at all levels of government, interagency coordination has been proven to be more effective, and today Wyoming wildland fires are managed and supported to varying extents through a cooperative effort by:

- Geospatial Multi-Agency Coordination (GeoMAC) Wildland Fire Support Maps
- USDA Forest Service (USFS) - Bridger-Teton National Forest and Caribou-Targhee National Forest
- Wyoming State Forestry Division
- Teton Conservation District
- Jackson Hole Fire/EMS
- Teton Area Wildfire Protection Coalition
- Teton County Emergency Management
- West Wide Risk Assessment Fire Index (WWA-FTI)
- 2010 U.S. Census Data

Fuels to wildfires are subject to a variety of ignition sources, both natural and human-caused. An important aspect of fuel quality is the total surface area of the material that is exposed to heat and air. Fuels with large area-to-volume ratios, such as grasses, leaves, bark and twigs, are easily ignited when dry. Historically, fire starts have been contained quickly with minimal loss to property and structures. But several factors can contribute to a fire spreading quickly, including drought, red flag conditions, and high wind events.

Climatic and meteorological conditions that influence wildfires include solar insolation, atmospheric humidity, and precipitation, all of which determine the moisture content of wood and leaf litter. Dry spells, heat, low humidity, and wind increase the susceptibility of vegetation to fire. Additional natural agents can be responsible for igniting wildfires, including lightning, sparks generated by rocks rolling down a slope, friction produced by branches rubbing together in the wind, and spontaneous combustion.

Arson and accidents, including sparks from equipment and vehicles, can also cause wildfires. Human-caused wildfires are typically worse than those caused by natural agents. Arson and accidental fires usually start along roads, trails, streams, or at dwellings that are generally on lower slopes or bottoms of hills and valleys. Nurtured by updrafts, these fires can spread quickly uphill. Arson fires are often set deliberately at times when factors such as wind, temperature, and dryness contribute to the spread of flames.

Wildfire magnitude can be tracked in different ways. The County's Community Wildfire Protection Plan assesses fire behavior using the following factors, which they consider the most important factors for determining fire intensity and the effectiveness of suppression resources and activities:

- **Rate of Spread (ROS)-** The linear rate of advance of a fire front in the direction perpendicular to the fire front. It is measured in chains per hour (ch/h), and in simple terms, is the speed with which fire is moving away from the site of origin. 1 chain/hour is equivalent to 1.1 feet/minute. This measurement is considered a measurement of fire growth, and accounts for wind, moisture, and slope.

- **Flame Length-** The distance measured from the average flame tip to the middle of the flaming zone at the base of the fire. It is measured on a slant when the flames are tilted due to the effects of wind and slope. This measurement is considered a measurement of fire intensity.

- **Crown Fire Activity (CFA)-** A passive crown fire is a fire in the crowns of trees in which trees or groups of trees torch, ignited by the passing front of the fire. The torching trees reinforce the spread rate, but these fires are no different from surface fires. An active crown fire is a fire in which a solid flame develops in the crowns of trees, but the surface and crown phases advance as a linked unit dependent on each other.

FIGURE 39- INTENSITY CLASS INCORPORATING RATE OF SPREAD

Intensity Class	Fire Intensity ($kW\ m^{-1}$)	Rate of Spread ($m\ s^{-1}$)	Description
1	<10	<0.001	Smoldering/creeping
2	10–500	0.001–0.032	Surface fire with open flame, flame heights ~1.0 m
3	500–2000	0.033–0.12	Vigorous surface fire with short-range spotting
4	2000–4000	0.12–0.25	Intermittent crown fire
5	4000–10,000	0.25–0.64	Continuous crown fire, major suppression campaign
6	>10,000	>0.64	Continuous crown fire with extreme fire behavior, limited suppression potential

TABLE 56- FIRE SIZE CLASSIFICATION

Size Class	Size (acres)
Class A	≤ 0.25
Class B	0.26 – 9
Class C	10-99
Class D	100-299
Class E	300-999
Class F	1,000-4,999
Class G	≥ 5,000

2.12.2 Hazard History and Location

Teton County and the Town of Jackson have experienced significant wildfire seasons over the last quarter century. The historic 1988 fire season was followed by other active years with large fires in and

around the planning area. While fire is a natural process and plays an important role in ecosystem function in many vegetation types in this area, the effects of wildfires on private property and critical community infrastructure can be devastating. The Green Knoll Fire in 2001 and the Little Horsethief Fire in 2012 both threatened significant numbers of residences in Teton County, prompted evacuations of affected areas, and required significant amounts of firefighting resources to successfully manage. Most recently in 2019, Teton County and the Town of Jackson experienced the Wildlife Museum Fire and the Saddle Butte Fire, both prompting evacuations due to burning in the wildland-urban interface.

TABLE 57- TOTAL ESTIMATED ACRES BURNED

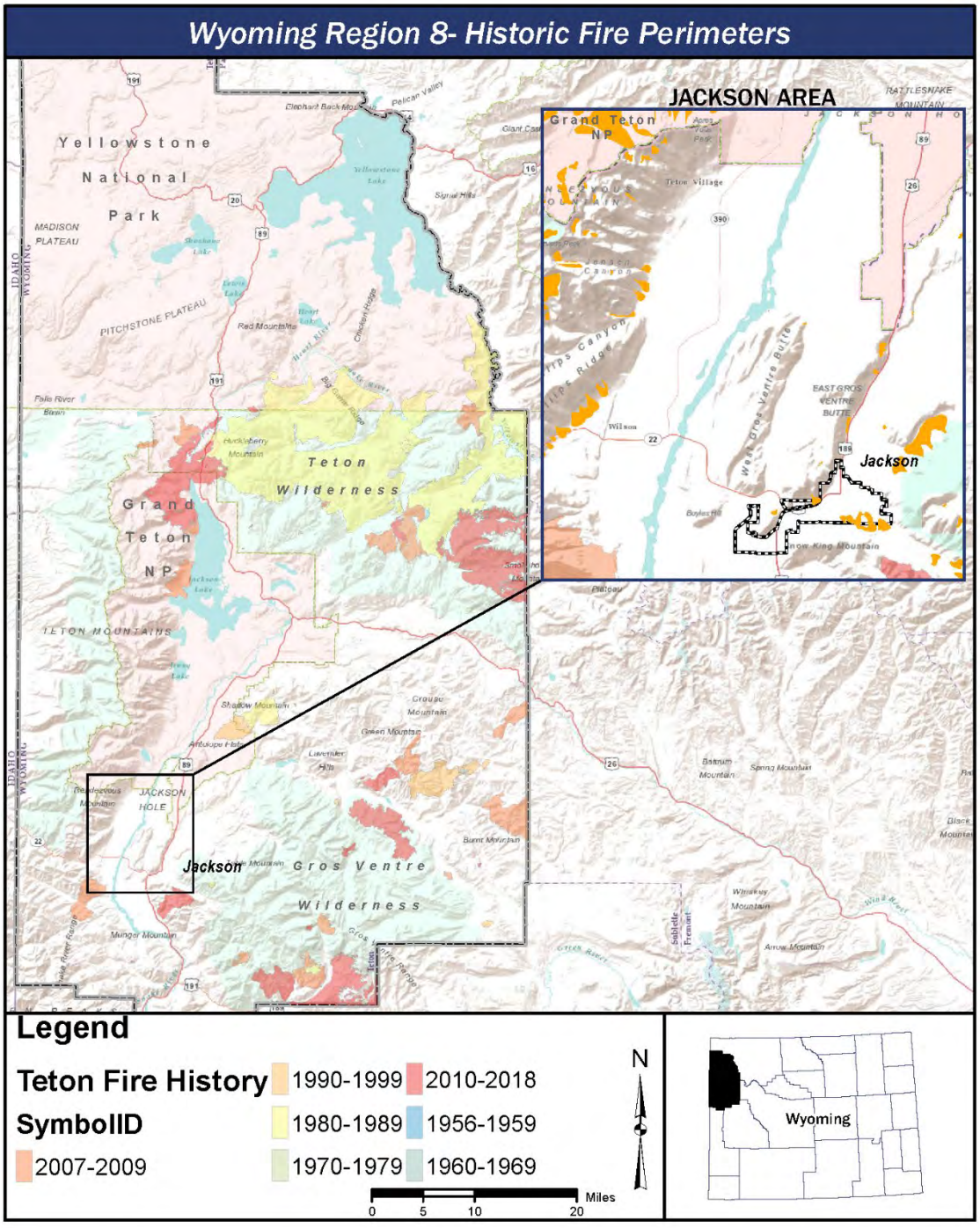
Year	Total Estimated Acres Burned
1931-1959	52,884*
1960-1969	1,121*
1970-1979	2,568*
1980	46
1981	119
1982	2
1983	0
1984	0
1985	1,076
1986	1
1987	3,949
1988	658,153
1989	2
1990	20
1991	6,264
1992	24
1993	0
1994	4,848
1995	474
1996	2,087
1997	4,716
1998	3,052
1999	4,247
2000	28,281
2001	17,400
2002	7,624
2003	10,745
2004	213
2005	333
2006	45884
2007	6995

Year	Total Estimated Acres Burned
2008	10730
2009	17250
2010	8220
2011	17098
2012	33556
2013	2260
2014	457
2015	1.4**
2016	19.1**
2017	55.7**
2018	10.2**

**estimates only*
***BTNF numbers only*

Teton County historic fire perimeters are shown in Figure 40, below.

FIGURE 40. TETON COUNTY HISTORIC FIRE PERIMETERS



2.12.3 Vulnerability

Areas most vulnerable to wildfires are denoted by the WUI in Teton County and the Town of Jackson, as shown in Figure 41.

FIGURE 41- WILDLAND-URBAN INTERFACE AREAS IN TETON COUNTY AND THE TOWN OF JACKSON

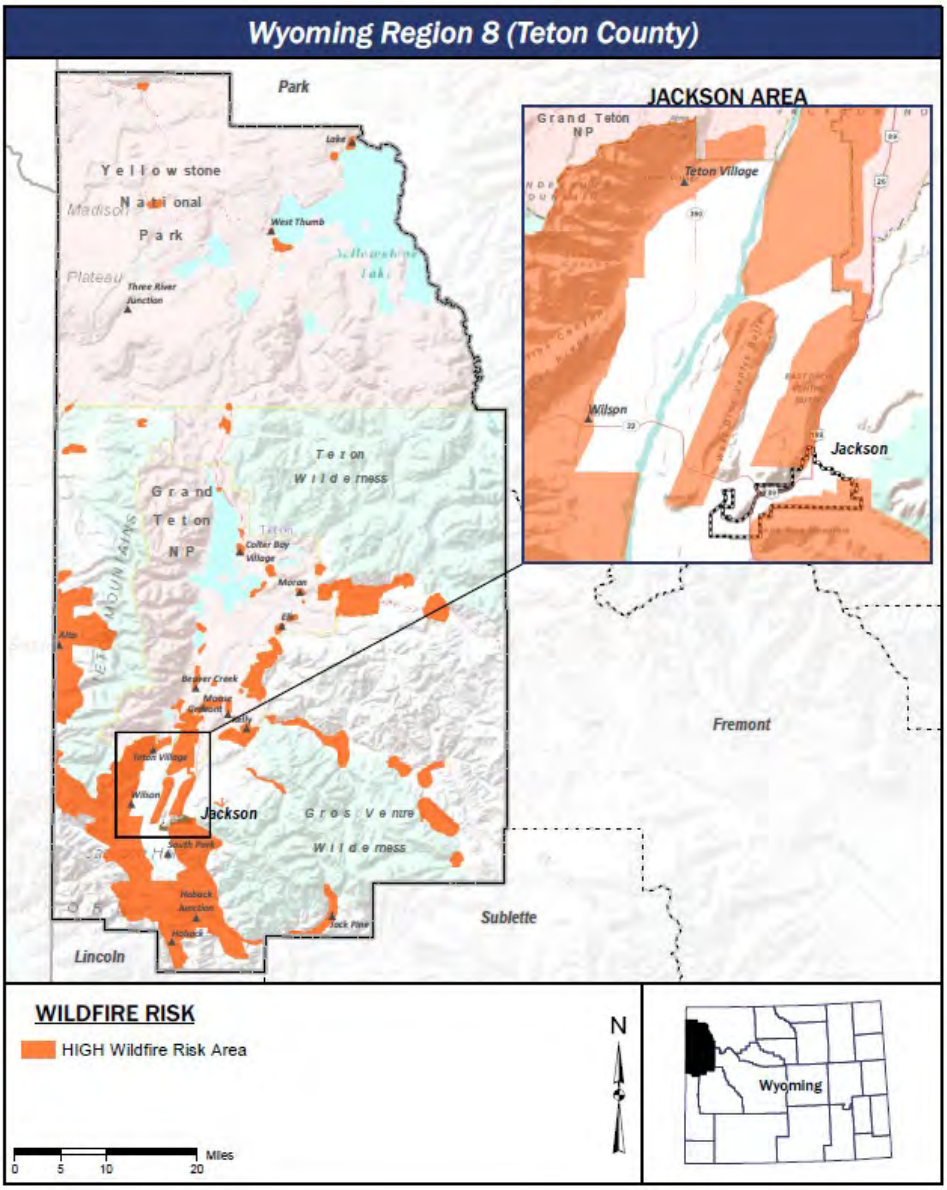


TABLE 58- RISK SCORE: WILDFIRE

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Wildfire	3.5	3	3	1.5	4	3

2.12.4 Future Impacts

Changes in climatic patterns have resulted in lengthening of the typical wildfire season, on average, by 78 days across the U.S. Low-snow years, early snowmelt, and other factors impact moisture availability throughout the summer and fall and can boost fire activity and intensity by creating dry conditions that are ripe for fire ignition. Fuel reduction and other mitigation projects planned through the CWPP and the associated outreach programs on defensible space aim to combat the potential for losses from future wildfire events.

The Teton Area Wildfire Protection Coalition (TAWPC), an inter-agency working group, recognize that proper defensible space is the highest priority for protecting structures and reducing future impacts, but also notes that work beyond that needs to occur to protect ingress and egress routes, other critical infrastructure and resource values and that federal land management agencies have the responsibility to minimize the potential of unwanted fires impacting other jurisdictions. The vegetation and landscape contained within Teton County and the Town of Jackson has been shaped by the influences of wildland fire and all land management agencies represented within TAWPC recognize that this ecosystem is dependent on wildland fires. strategic fuel mitigation where necessary will protect assets while allowing fire to play its role when possible within our backcountry and wilderness areas as directed by land management plans and other applicable legislation. Stakeholders recognize that all tools (mechanical treatments, prescribed fire, and wildland fire) must be put to work to achieve goals. Teton County and the Town of Jackson strive to become a truly “fire-adapted community”.

2.12.5 Land Use and Development

The Teton County CWPP comprises all of Teton County including local, state, and federal land ownership as well as private lands. The plan highlights current and emerging wildfire hazards and describes treatment alternatives that may mitigate those problems. The CWPP defines wildland urban interface areas within Teton County, and provides a tool for landowners and managers at all levels to utilize in planning and prioritizing efforts to mitigate wildfire hazards. The 2014 Teton County CWPP is designed to be a programmatic document that utilizes a new prioritization process that facilitates and maximizes fuels mitigation efforts within the County.

TAWPC’s Education & Outreach Committee has continued to bolster the mitigation, preparedness, and understanding of wildfire hazards and risk throughout the planning area. Examples of ongoing and completed work includes organization of public information events, administering Community Assistance Funds Adjacent to National Forest Lands/ Community Protection Program Grant (CAFA/CPPG) grants, administering a private landowner Wildfire Risk Reduction Program, administering a private road corridor and private land subdivision scale open space treatment program, reviewing Covenants, Conditions, and Restrictions (CCR) with neighborhoods and presenting to homeowners associations, implementing the Ready, Set, GO! program, creating and managing a Teton Wildfire Ambassador Program, and bringing on the Wildfire Research (WiRē) Center to help create fire adapted communities.

The intent of a WUI boundary is to define an area within or adjacent to private and public property where mitigation actions should occur to prevent damage and loss. The WUI boundary for Teton County

and the Town of Jackson was developed by the Teton Area Wildfire Protection Coalition comprised of local land management agencies, land trust and conservation organizations, and contractors directly involved in wildland fire protection projects as well as citizens who represent the interests of the community. Capital improvements, houses, private land, significant utility and transportation corridors, and communication sites are examples of structures and human developments this group is collectively concerned about in the event of a wildfire. The existence and vulnerability of these values relative to the surrounding landscape shape the WUI boundary. The vulnerability of identified lands within the WUI boundary is based on fuels, topography, weather patterns, natural barriers, and lessons learned from historic fires. In general, areas within the WUI boundary have the potential to support a wildland fire posing a direct threat* to the values mentioned above. Defining the WUI boundary in this manner helps identify areas of concern to prioritize fuels reduction projects, community outreach & education efforts, and to help managers develop the appropriate response to an emerging fire incident.

Teton County has adopted a number of strategies to protect life and property from the effects of uncontrolled wildland fire. The promulgation, adoption and enforcement of codes and regulations are one such strategy. Jackson Hole Fire/EMS enforces the International Fire Code, the International Wildland-Urban Interface Code, and the Teton County Fire Protection Resolution for New Subdivisions. Each code is intended to mitigate the risk of fire to property in slightly different ways. These regulations influence the design of infrastructure and structures within interface areas. Codes address both the fire resistance of structures in the interface, as well as the ignitability of the structures. Those structures built or intended to be built within an extreme hazard area must rise to the highest level of interior and exterior protection. Furthermore, these codes allow the County to require that vegetation be managed in proximity to structures as well as across each subdivision.
The purpose of the Teton County Fire Protection Resolution for New Subdivisions is to ensure adequate emergency access/egress and a stable and adequate fire-fighting water supply.

The purpose of the International Fire Code is to establish the minimum requirements necessary to provide a reasonable level of life safety and property protection from the hazards of fire, explosion and dangerous conditions in new and existing buildings, structures and premises and to provide safety to fire fighters and other emergency responders during emergency operations. The purpose of the International Wildland –Urban Interface Code is to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. The current International Fire Code and International Wildland-Urban Interface Code version adopted by the Town of Jackson and Teton County are the 2012 versions. The Jackson Hole Fire/EMS Fire Prevention Bureau is responsible for Code Enforcement for the Town of Jackson and Teton County. The National Park Service adopted the International Wildland-Urban Interface Code in 2006.

To protect homes within the Wildland Urban Interface, whether homes are within a subdivision or not, fire department resources require access, good road surfaces, proper turning radius, grades that are not too steep, bridges that support emergency vehicle weight loads and are wide enough for those vehicles, turn-around areas for vehicles, overhead clearances, and driveways into private properties providing access features as well. Subdivisions are required, per Teton County Fire Protection Resolution for New Subdivisions-2012 Edition, to have fire protection water supply reflective to the number of houses to be included within the subdivision.

The fire code official establishes the maximum grade allowance based on the fire department's apparatus per the International Fire Code 2012 Edition (503.2.7). To maintain consistency throughout the county, the grade allowance for homes not within a subdivision, within or not within the Wildland Urban Interface, shall mirror the Teton County Fire Protection Resolution for New Subdivisions 2012 Edition. Compromised fire department access will delay and during seasonal events, may prevent, emergency access, therefore requiring additional fire protection measures be taken for the structure.

2.13 Winter Storm

2.13.1 Definition and Extent

The National Weather Service defines a storm as "any disturbed state of the atmosphere, especially affecting the Earth's surface, and strongly implying destructive and otherwise unpleasant weather." Winter storms, then, are storms that occur during the winter months and produce snow, ice, freezing rain, sleet, etc. Winter storms are a yearly occurrence in climates where precipitation may freeze and are not always considered a disaster or hazard. For the purposes of this planning element, severe winter storms are those which produce heavy snow, significant ice accumulation, or prolonged blizzard conditions. The National Weather Association (NWA) Online Glossary does not define a 'severe winter storm.' However, it does define a Severe Local Storm as "A convective storm that usually covers a relatively small geographic area, or moves in a narrow path, and is sufficiently intense to threaten life and/or property." Therefore, while the term 'severe winter storm' is not an official term from the NWA, it is drawn from other official definitions and is intended to reflect these standards as much as possible while still addressing the specific needs of this Plan. Disasters occur when the severe storms impact the operations of the affected community by damaging property, stalling the delivery of critical services, or causing injuries or deaths among the population.

Winter storm watches and warnings may be helpful for determining the difference between a seasonal winter storm and a severe winter storm. Warnings are issued if the storm is producing or suspected of producing heavy snow or significant ice accumulations. Watches are usually issued 24 to 36 hours in advance for storms capable of producing those conditions, though criteria may vary between locations. Winter Weather Advisories are issued when a low-pressure system produces a combination of winter weather that presents a hazard but does not meet warning criteria.

Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns. Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until damages are repaired. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Some winter storms are accompanied by strong winds, creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chills. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines. Blowing snow can reduce visibilities to only a few feet in areas where there are no trees or buildings. Serious vehicle accidents can result with injuries and deaths.

Winter storms within Region 8, including strong winds and blizzard conditions, may cause localized power and phone outages, closures of streets, highways, schools, businesses, and non-essential government operations, and increase the likelihood of winter-weather related injury or death. People may be stranded in vehicles or other locations not suited to sheltering or isolated from essential services. Stranded motorists and other travelers, including outdoor recreationalists and backcountry travelers, without proper gear or preparations, can succumb to hypothermia and/or frostbite. A winter storm can escalate, creating life threatening situations when emergency response is limited by severe winter conditions. Other issues associated with severe winter storms include the threat of physical overexertion that may lead to heart attacks or strokes. Snow removal costs can pose significant budget impacts, as can repairing the associated damages caused by downed power lines, trees, structural damages, etc.

Winter storms are a yearly feature of the Wyoming climate and may occur anywhere in the state. Generally, severe winter storm events are considered regional, which implies that the storms impact multiple counties simultaneously, often for extended time periods. It is possible for the geographic extent of the hazard to vary significantly within a single county. A regional storm may directly impact only a small portion of the planning area while still extending over a large portion of the surrounding area. However, even in these instances, the impacts and effects of a regional hazard are still felt elsewhere within the planning area.

Winter storm magnitude, for the purposes of this plan, focuses on snowfall totals. Combined with Winter Weather Alert categories from the National Weather Service (NWS), impacts and response activities can be understood and prioritized throughout the planning area. Table 59 provides a breakdown of snowfall totals, and Table 60 displays the NWS alert categories for winter weather.

TABLE 59- SNOWFALL TOTAL CATEGORIES

Snowfall Amount (inches)	Magnitude
≤6	Notable
6-12	Moderate
12-18	Significant
18-36	Major
> 36	Extreme

TABLE 60- NWS WINTER WEATHER ALERT CATEGORIES

Alert Name	Alert Description
Winter Weather Advisory	This alert may be issued for a variety of severe conditions. Weather advisories may be announced for snow, blowing or drifting snow, freezing drizzle, freezing rain, or a combination of weather events.
Winter Storm Watch	Severe winter weather conditions may affect your area (freezing rain, sleet or heavy snow may occur separately or in combination)
Winter Storm Warning	Severe winter weather conditions are occurring or imminent.
Freezing rain or freezing drizzle	Rain or drizzle is likely to freeze upon impact, resulting in a coating of ice glaze on roads and all other exposed objects.
Sleet	Small particles of ice usually mixed with rain. If enough sleet accumulates on the ground, it makes travel hazardous.

Blizzard Warning	Sustained wind speeds of at least 35 mph with visibility reduced to ¼ mile or less, for at least 3 hours accompanied by considerable falling or blowing snow. This alert is the most perilous winter storm with visibility dangerously restricted
Snow Squall Warning	Quick, intense bursts of snow, accompanied by strong gusty winds. Expected rapid reduction of visibility, these are typically issued as smaller polygons, like tornado warnings, along transportation corridors. They are short-fuse products that typically last 30 to 60 minutes.
Frost/Freeze Warning	Below freezing temperatures are expected and may cause significant damage to plants, crops and fruit trees.
Wind Chill	A strong wind combined with a temperature slightly below freezing can have the same chilling effect as a temperature nearly 50 degrees lower in a calm atmosphere. The combined cooling power of the wind and temperature on exposed flesh is called the wind-chill factor.

2.13.2 Hazard History and Location

The winter of 2018-2019 proved to be one of the snowiest on record for the Jackson area. Prior to February 2019, the snowiest February on record was 1978, when 33 inches were recorded that month. By February 21, 2019, Jackson had received 41.5 inches of snow for the month, easily surpassing the previous record from 1978. By the end of the month, February 2019 would go down as the second snowiest month ever recorded for Jackson, totaling 51.8 inches. The record stands at 56 inches recorded for January of 1969.

Winter storm history in Teton County extends back to 1886. For the purposes of this Plan, winter storm information from NOAA's National Climatic Data Center (NCDC) was analyzed back to 1996. A summary of all storm information can be found in Appendix F. Storms since 1996 have been tagged according to the snowfall magnitude information presented above. In total, 341 measurable events were alerted according to the NWS alert requirements. Note that individual storms are sometimes reported for each forecast zone, resulting in an upwards skew in the total number of events. Still, this information is important as each storm event can impact each zone differently based on terrain, temperatures, storm direction, and available moisture. Storm report details were captured for the following event types tracked by NOAA NCDC:

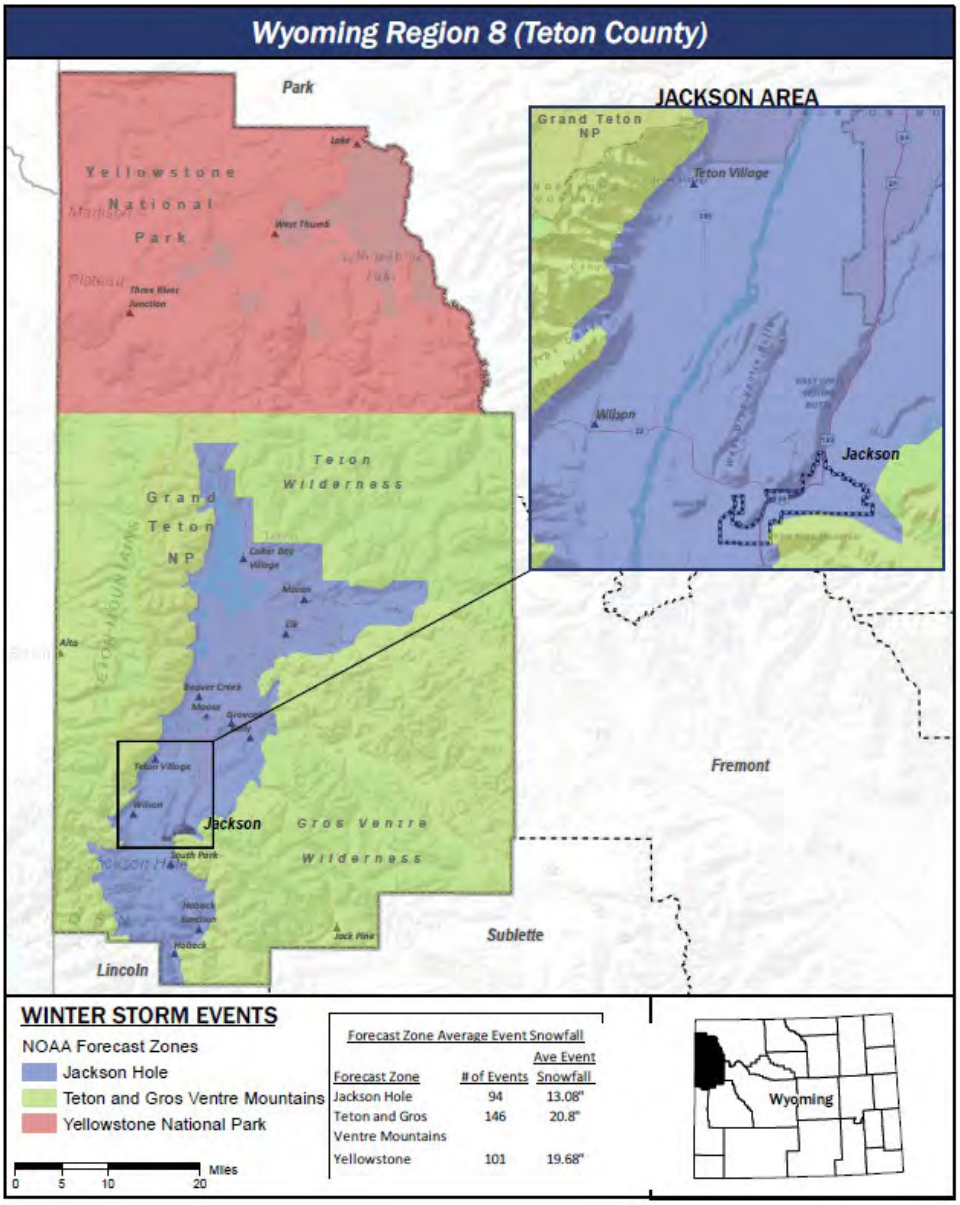
- Blizzard
- Heavy Snowfall
- Winter Storm
- Winter Weather

Table 61 summarizes the total number of events alerted across all forecast zones for the time period 1996 -present. Figure 42 displays the NWS Forecast Zones, with average snowfall amounts reported since 1996 for those zones. As expected, zones containing higher elevations (Teton and Gros Ventre Mountains & Yellowstone National Park), on average, see higher snowfall totals from the same storm system that impacts the Jackson Hole forecast zone, where smaller amounts are comparatively more typical.

TABLE 61- NUMBER OF ALERTED EVENTS OVER ALL FORECAST ZONES SINCE 1996, BY MAGNITUDE

Magnitude	Snowfall Amount	No. events across all zones
Notable	<6"	2
Moderate	6-12"	40
Significant	12-18"	132
Major	18-36"	144
Extreme	>36"	23
Total		341

FIGURE 42. WINTER STORM EVENTS BY NOAA FORECAST ZONE IN REGION 8



2.13.3 Vulnerability

The threat to public safety is typically the greatest concern during severe winter storms. While virtually all aspects of the population are vulnerable to severe winter weather, there are segments of the population that are more vulnerable to the potential indirect impacts of a severe winter storm than others, particularly the loss of electrical power. The elderly or disabled, especially those with home health care services that rely heavily on an uninterrupted source of electricity, are particularly vulnerable. Resident populations in nursing homes or other special needs housing may also be vulnerable if electrical outages are prolonged. If they do not have a back-up power source, rural residents and agricultural operations reliant on electricity for heating and water supplies are also vulnerable to power outages.

Property vulnerabilities to severe weather include damage caused by high winds, ice, or snow pack and subsequently melting snow. Vehicles may be damaged by the same factors, or temporarily un-useable due to the driving conditions created by severe winter weather. Contents of homes, storage units, warehouses, and storefronts may be damaged if the structures are compromised or fail due to the weather, or during potential flooding caused by melting snow.

Snow with a high moisture content can be especially hazardous to buildings, causing partial or entire collapses of walls, roofs, or windows. Impacts to buildings are heavily-dependent upon building location, design, and type of construction material and should be assessed on a building-by-building basis. Crops, livestock, and other agricultural operations are also highly vulnerable to severe winter storms.

The physical structures which comprise essential infrastructure are as vulnerable as those outlined in the properties described above. Severe winter weather may also disrupt the availability of services from essential infrastructure, including utility service (propane gas, electricity, sewer, and water), telephone service, emergency response personnel capabilities, road plowing, and childcare availability.

Commute from Jackson, WY to Grand Targhee Resort (Google Maps)

Ice or heavy accumulations of snow, particularly with blowing and drifting, can significantly impact roadways and commuters that use them. Storms and storm warnings also require vast amounts of overtime for County and local highway and streets departments to remove snow and melt ice. Further, as is described in the avalanche hazard section, many commuters to and from the Jackson Hole area rely on high mountain passes or steep canyons for commuter travel. Teton Pass from Idaho to Wyoming is the most heavily-traveled of these routes, as the local workforce has access to more affordable home prices in areas like Victor and Driggs, ID.

Responding to the effects of a winter storm is made difficult for certain county services due to development in remote or hard-to-access locations. Grand Targhee Resort and the Alta area of Teton County are especially difficult for emergency service access, as getting there requires a 45 mile drive over Teton Pass, north through Idaho, and back into Wyoming via Ski Hill Rd.

Ice storms or high winds in winter storms can cause loss of overhead utility lines due to buildup either on the lines or on adjacent trees that either collapse due to the weight or blow down onto the utility lines. Services such as telephone, electricity, and cable TV are frequently affected by winter storms and may impact critical response services.

TABLE 62- RISK SCORE: WINTER STORM

Hazard	Probability Score	Impact Score	Spatial Extent Score	Warning Time Score	Duration Score	Risk Rating (Avg)
Winter Storm	4	1	4	1	2.5	2.5

While winter storms are characteristic of the planning area, in general, Teton County, the Town of Jackson, and residents can deal with the consequences of this hazard type, and impacts are less severe than they would be in other planning areas where winter storms are less common.

2.13.4 Future Impacts

As mentioned earlier, the winter of 2018-2019 proved to be one of the snowiest on record for the Jackson area. This translated into a record-setting season for ski areas, include JHMR. The resort's 715,100 skier visits during the 2018-2019 season (spanning from opening day on 11/24/2018 to closing day on 4/7/2019) surpassed the previous record set for the 2017-2018 season, which had roughly the same opening and closing dates. 2018-2019 finished with 505 inches of total snowfall, above average at all elevations with a record-setting February snowfall of 193 inches reported in Rendezvous Bowl. The base area snow depths were at record levels from late February through the end of March.

Protect Our Winters, a 501(c)(3) nonprofit focused on climate activism, identified a strong positive relationship between skier visits and snow cover and/or snow water equivalent. During high snow years, their analysis showed increased participation levels in snow sports resulting in more jobs and added economic value. In low-snow years, participation drops, resulting in lost jobs and reduced revenue. The effects of low snow years impact the economy more dramatically than those of high snow years.

The success of the 2018-2019 season at JHMR is attributed to many factors including snow conditions, increased air service, strong guest service initiatives and increased skier days from passholders and the Ikon Pass. "This was a memorable year for JHMR, and I am pleased with the on-mountain experience and level of service our staff was able to provide even during challenging times. Business grew this season due to a multitude of factors, and we have taken great efforts to listen to all of our customers with the goal of continuously improving our operations," Mary-Kate Buckley, JHMR President commented. She went on to note, "We are happy to add new benefits for our Grand Passholders next year, extending the season by 2 days to a total of 137 days of skiing/riding and offering the option to add the Ikon Base Pass at no additional cost to the already tremendous value of the Grand Pass."

Looking ahead to next winter, JHMR will partner with Teton County Board of County Commissioners (BCC) and Teton Village Association (TVA) to invest in both short and long term solutions to improve transit, parking and mountain operations.

The efforts described above certainly place a positive spin on the recent record-setting snow seasons with an eye to continue to improve the planning area's ability to handle increased skier visits, although the ski industry must be, and certainly is, mindful of climate impacts on snow totals, snow quality, seasonal winter temperatures. A 2001 study on ski industry impacts began to categorize potential impacts of higher winter temperatures and changes in winter precipitation, as shown in Figure 43.

FIGURE 43- SKI INDUSTRY IMPACT PARAMETERS, TEMPERATURE AND PRECIPITATION

Climate parameter of change	Physical Impact of change	Relative impact on the ski industry
Higher winter temperature	Greater need for snow, either natural or machinemade, due to increased melting	Negative
	Reduced snowmaking opportunity	Negative
	More water available to snowmaking due to higher stream flow	Positive
	Less need for and reliance on snowmaking	
	Storage ponds due to higher stream flow	Positive
	Increase in skier visitation at resorts	Positive
	Cheaper electricity	Positive
Greater winter precipitation		
Less snow, more rain	Greater need for snowmaking	Negative
	More water available for snowmaking due to higher stream flow	Positive
	Reduction in skier visitation at resorts	Negative
	Need for and reliance on snowmaking storage ponds — changeundefined	?
More snow, less rain	Less need for snowmaking	Positive
	Less water available for snowmaking due to lower stream flow	Negative
	Potential reduction in skier visitation at resorts if snowfall events are more frequent	Negative
	Need for and reliance on snowmaking storage ponds — changeundefined	?

Conversely, there are negative impacts associated with winter storms that the planning area must continue to consider, such as the stress that increased skier visits and increased backcountry use can put on local search and rescue operations, as well as the impacts associated with growth and development that is the need to properly handle additional motorists on the roads and potentially new development areas and the utilities that go along with them.

Chapter 3 | Mitigation Strategy

3.1 Mitigation Goals

The planning team reviewed the goals from the 2016 plan and, taking into consideration public feedback from the Community Assets, Goals, and actions survey, decided to update the goals to better align with broader planning efforts throughout Region 8. Most survey respondents noted the HMP goals should align with community goals and the Town of Jackson/Teton County Comprehensive Plan. Common themes that the public indicated are important include:

- Ecosystem (wildlife, natural resources, and scenery) stewardship;
- A strong and protected transportation network, utilities, and critical facilities;

- Responsible growth (development) management;
- Continuing to use and improve public engagement, education, and warning systems.

The 2016 plan listed separate goals for each participating jurisdiction, whereas for this update, the goals cover Teton County, the Town of Jackson, and the Teton Conservation District, with respect to the existence and occurrence of natural hazards and disasters. Identified goals are as follows:

1. Protect Critical Facilities, utilities and infrastructure.
2. Protect and restore the natural environment to support community resiliency.
3. Improve protection of the general population including residents, commuters, and visitors.
4. Continue to implement actions to mitigate the effect of hazards through education, ordinances and resolutions, and proper project analysis, to enhance life safety and reduce property losses.

3.2 Mitigation Strategy

The intent of the Mitigation Strategy is to provide the participating jurisdictions with implementable mitigation actions that will guide future mitigation policy and project administration. The Mitigation Strategy includes a list of proposed actions deemed necessary to meet those goals and reduce the impact of natural hazards.

A total of 58 new mitigation actions were identified using the following channels:

1) Projects from the 2016 plan were reviewed for status and carried forward as appropriate. See Appendix G for actions that have been completed;
2) Teton County Emergency Management created a web map for LEPC members to suggest new projects; and
3) 2 Separate Mitigation Action Workshops were conducted with LEPC and involved public input on mitigation action preference.

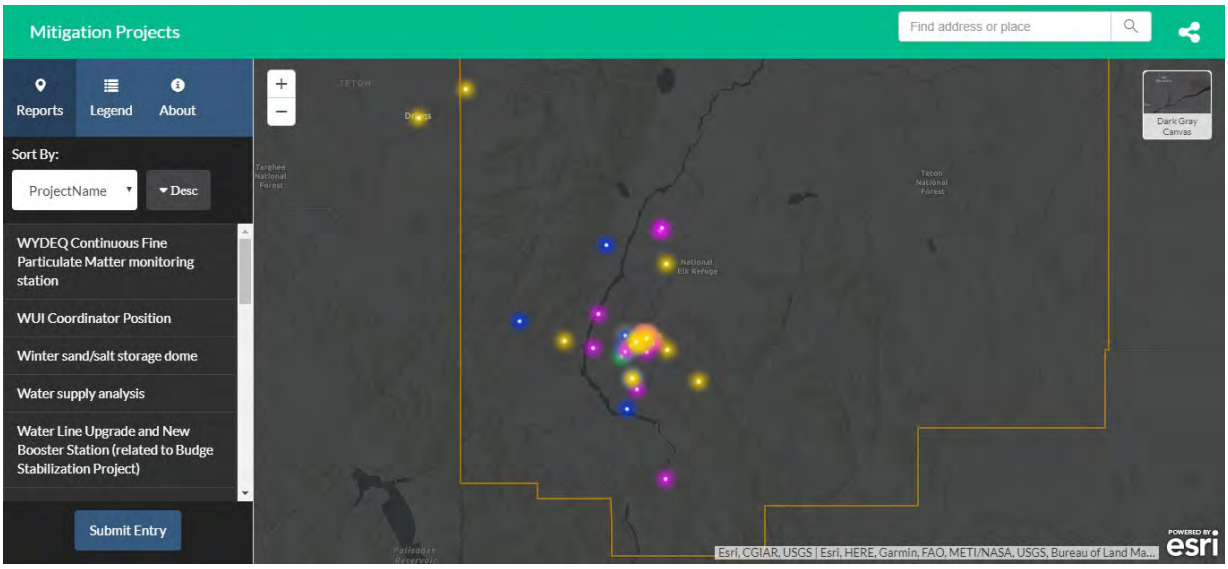


FIGURE 44. MITIGATION PROJECTS WEB MAP TOOL WHERE LEPC MEMBERS WERE ABLE TO INPUT MITIGATION PROJECTS

Once a finalized list of projects was compiled, they were incorporated into the draft plan that was given to the Emergency Management Coordinator, the LEPC and elected officials. Upon review and validation of these actions, they were presented at a Mitigation Plan Open House, held August 12, 2019, the list of actions was made available for public comment.

3.2.1 Project Cost

Mitigation project cost, alongside public support, is one of the most important considerations in successful mitigation project implementation. Costs for reducing risk in the planning area can be borne by citizens of the community, by the community itself, or through a number of grant and funding programs specifically designed for risk reduction. At the federal level, the most common of these programs is FEMA's collection of Hazard Mitigation Assistance, or HMA, programs. A summary of these programs is provided in Table 63.

TABLE 63- FEMA HMA GRANT PROGRAMS

Program Name	Description
Hazard Mitigation Grant Program (HMGP)	Assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration
Pre-Disaster Mitigation (PDM)	Provides funds for hazard mitigation planning and projects on an annual basis
Flood Mitigation Assistance (FMA)	Provides funds for planning and projects to reduce or eliminate risk of flood damage to buildings that are insured under the NFIP on an annual basis

Other local, state, and federal funding opportunities exist and are listed with each mitigation action in section 3.2.3. Each of these programs requires that grant applicants demonstrate the cost-effectiveness of their proposed mitigation project. Cost-effectiveness can be calculated in different ways, but for the

purposes of these grant programs, applicants are directed to FEMA's software for determining cost-effectiveness- The Benefit-Cost, or BCA, Toolkit, currently at Version 6.0. To determine cost-effectiveness using the BCA Toolkit, a cost breakdown of mitigation project costs is required. Costs for mitigation actions included in this plan will fall within three ranges:

- Low: $0 to $5,000
- Medium: $5,001 to $25,000
- High: over $25,000

3.2.2 Project Priorities

Priority rankings of High, Medium, or Low were also assigned. Generally, the jurisdictions will initiate and, depending on the complexity, try to accomplish the High priority projects within two years, the time frame for Medium priority projects will be three to four years, and Low priority projects will be accomplished by the five-year anniversary of this plan if feasible. All projects were initially ranked by the contractor based on the following criteria. The LEPC and Emergency Management Coordinator adjusted and finalized the rankings which were made available to the elected officials for review.

- Perceived cost effectiveness and feasibility of obtaining funding,
- Level of risk to life and property posed by hazard which project addresses,
- Reasonableness of project and extent to which it provides a long-term solution,
- Potential consequences of not implementing,
- Support from the public and elected officials, and
- Compatibility with other plans and policies.

The county commissioners, town council, and other elected officials may adopt additional plans, policies, ordinances, and regulations as needed within state statutes.

3.2.3 Mitigation Actions

In the 2016 plan, the mitigation actions were listed out by goal because each goal represented each jurisdiction. They were then given a "project type" to describe what the action sought to achieve. For this Plan, the mitigation actions are listed by jurisdiction, and instead of being given a "project type" they are instead linked to each goal which now describes what the action seeks to achieve.

TABLE 64. TETON COUNTY HAZARD MITIGATION ACTIONS

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Upgrade Hoback Fire Station #3	Enhance response and fire fighter safety	1,3	High	$25,000+	All	Carry over	USDA Community Facilities Direct Loan & Grant Program	JH Fire/EMS; ESF#04-Firefighting
Upgrade Fire Station #4 at Moran Junction	Enhance response and fire fighter safety	1,3	Low	$25,000+	All	Carry over	USDA	JH Fire/EMS; ESF#04-Firefighting
Offer one CERT course/year	Raised awareness, response capability	4	High	$5,000 - $25,000	All	Ongoing	Emergency Management Performance Grant Program (EMPG)	TCEM, Teton County CERT
Renovate West Bank/ Wilson Fire Station #2	Enhance response and fire fighter safety	1,3	Medium	$25,000+	All	Carry over	USDA	JH Fire/EMS; ESF#04-Firefighting
Renovate Teton Pines Fire Station #6	Enhance response and fire fighter safety	1,3	Medium	$25,000+	All	Carry over	USDA	JH Fire/EMS; ESF#04-Firefighting
Outreach to encourage public sign-up with Nixle, FEMA phone	Citizens warned and better informed during disasters	4	Medium	Less than $5000	All	Ongoing	Local Funds	TCEM

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
app and raise awareness of Emergency Alert System								
Develop and run general preparedness public service announcements	Individuals better able to help themselves	4	Medium	$5000 - $25000	All	Ongoing	Local Funds	TCEM
Improve emergency management website to update preparedness outreach and provide emergency information to the public	Individuals better able to prepare and provide reliable source of emergency information during incidents	4	Medium	$5,000 - $25,000	All	Underway	Local Funds	TCEM
Work with rural subdivisions at risk for flood and wildland fire to develop their own plans.	Reduce potential for loss of lives.	4	Medium	Less than $5,000	All	Ongoing	EMPG/PDM/ Community Planning Assistance for Wildfire (CPAW)	TCEM, JH Fire/EMS, TC Sheriff; TC Floodplain Administrator
Map critical facilities with back-up power. Obtain/ install generators for those without.	Enhanced response, sheltering, and continuity of government	1,3	Medium	$25,000+	All	Carry over	EMPG/PDM	TCEM, Teton County School District, American Red Cross, Teton County Facilities Department, Teton County Library, ESF#12-Energy

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Integrate hazard information into County GIS and make available to the public through County website	Prevent future property damage by ensuring development doesn't occur in hazard areas	4	Medium	$5,000 - $25,000	All	Carry over	Local Funds	TOJ Planner; TC Planner; TC Engineer; TCEM; WOHS Coordinator, WY State Geological Survey; TC GIS Coordinator
Teton Idaho/Wyoming Mutual Aid Agreement	Develop a mutual aid agreement between the Teton County Wyoming and Teton County Idaho Boards of County Commission for the sharing of resources during emergencies and combined training/exercises to increase disaster resiliency.	4	High	Less than $5,000	All	Underway	EMPG/Local Funds	TCEM; BCC; Teton County Idaho; ESF#05-Emergency Management
Critical Facility Generator Hookups	Assess EOC power needs and install external hook-ups for a trailer-mounted generator to be installed on the EOC in the event the primary generator fails.	1	Low	$5,000 - $25,000	All	New	EMPG	TCEM; TCSO; JHFEMS; TCHD; TC Library; Teton County Facilities

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Critical Facility Command Trailer Hook-Ups	In the event the county EOC becomes unusable, or needs additional work space for a long-term disaster, install hookups on the outside of the building to provide power, internet, and phone to trailer command posts that may come to assist.	1	Low	$5,000 - $25,000	All	New	EMPG	TCEM; TCSO; JHFEMS; TCHD; TC Library; Teton County Facilities
Outdoor Warning Siren - Alta	Outdoor warning sirens can be used to alert the public to wildfire evacuations, severe weather, hazardous materials incidents, terrorist incidents, and more. Coverage is lacking in central Jackson, east Jackson, and Alta.	4	Low	$25,000+	All	New	EMPG	TCEM; Community of Alta

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Alta Stateline Rd Bridge	Puts a bridge in where one has been missing for decades. Will now provide alternate emergency evacuation route for residents of North Alta without having to go out to Highway 33. Expected completion Fall 2019.	1	High	$25,000+	All	Underway	CIP/Local & State Funds	Teton County Engineering; Teton County Road & Levee; ESF#01-Transportation
Update quake island mapping of county, make available on GIS	Enhance response, Ability to better plan ahead	4	Medium	$5,000 - $25,000	Earthquake	Carry over	Local Funds/Non-profit assistance	TCEM, Geologists of JH
Rank bridges based on quake island analysis. Perform structural retrofitting of vulnerable bridges	Improve resilience of the county's transportation system	1	Medium	$25,000+	Earthquake	Carry over	Local Funds	FEMA Mitigation Specialist; WYDOT Engineer, FHWA Engineer; TC Road and Levee; TOJ Public Works, Geologists of JH, WY State Geological Survey, ESF#01-Transportation
Use NHMP as a platform to raise awareness and encourage individual responsibility and action.	Reduced potential for prop damage, business interrupt.	4	High	Less than $5,000	Earthquake, Flood	Ongoing	Local Funds	TCEM

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Identify redundant trans routes for emergency access and evacuation	Especially for limited-access subdivisions and critical trans nodes. Reduces potential for loss of life	3	Medium	$5,000-$25,000	Earthquake, Flood, Wildfire	Underway	Local Funds	TC Road and Levee; ESF#01-Transportation; Homeowners; TAWPC
Complete work to participate in the NFIP Community Rating System.	Reduce effects of flood events; lower insurance rates for property owners in the floodplain	4	Low	Less than $5,000	Flood	Carry over	Local Funds	TC Engineer; TCEM; WOHS Floodplain Coordinator; TC Floodplain Administrator
Reinstitute automated dam monitoring and alert notification, Jackson Lake Dam	Provide greater response time. Reduce potential for loss of life and property damage	4	Low	$25,000+	Flood	Carry over	Federal/Local Funds	TC Commissioners; National Park Service; US Bureau of Reclamation
Levee Maintenance Stockpile Facility	Will provide a location for stockpiling of materials for levee maintenance and repair for Teton County and the Army Corps of Engineers.	1	Medium	$25,000+	Flood	New	Local Funds	Teton County Road & Levee; U.S. Army Corps of Engineers; Teton County Public Works; Teton County Engineer; ESF#03-Public Works
Gros Ventre Bank Stabilization Project	Will protect the pathway along N. Hwy 89 on the south side of the Gros Ventre River, as well as the pathway	1,2	High	$25,000+	Flood	New	NRCS Watershed Protection & Flood Prevention Grant	Town/County Pathways Division; Teton County Engineer; Teton County Public Works; Teton County Floodplain Administrator; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
	bridge and highway bridge across the Gros Ventre.							
Offer 1-2 weather spotter courses/year	Raised awareness, better data	4	Medium	Less than $5000	Flood, Hail, Lightning, Winter Storm	Ongoing	EMPG	TCEM; NWS Riverton Warning Coordination Meteorologist
EOC Weed Control	Control weed grasses and other fine fuels surrounding the County EOC to help mitigate against wildfire, especially around generator and HVAC systems.	2	High	Less than $5,000	Wildfire	Completed	PDM	TCEM; Teton County Parks & Recreation
WiRē Community Wildfire Risk Assessment	Work with WiRē to conduct wildfire risk assessment and analysis for various communities. Assessment includes rapid windshield survey of community, followed by research-based survey of community	3, 4	Medium	$25,000+	Wildfire	New	CPAW	TAWPC; Individual neighborhoods; TCEM

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
	members. Use results to develop improved strategies for communicating risk and preparedness to the public.							
County web camera network	Develop network of web cameras in strategic locations around Teton County to allow the EOC, Dispatch Centers, and first responders to monitor roads, wildfires, critical infrastructure, and other incidents remotely.	1, 3	Medium	$5,000 - $25,000	All hazards	New	EMPG	TCEM; TCSO; JHFEMS
County Network Redundancy	Increase resilience of data and internet network of critical County facilities through backup data services	1	Medium	$25,000+	All hazards	New	Wyoming State Homeland Security Grant Program (SHSP)	TCEM; TCSO; JHFEMS; TCHD; TC Library; Teton County Facilities

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Hoback Outdoor Warning Siren Upgrade	Upgraded outdoor warning siren install to replace broken old siren at Hoback. New siren has higher decibel level and modern design to allow for better coverage. Can be used for severe weather, wildfire, hazardous materials spills, and more.	4	High	$25,000+	All	Completed	EMPG	TC Emergency Management; ESF#05-Emergency Management
Spring Gulch Rd Avalanche Mitigation	Examine possible solutions to avalanche path on Spring Gulch Rd, just north of Highway 22. Implement steps to mitigate against avalanches that could cause loss of life, property damage, or closure of road.	3	Low	$5,000 - $25,000	Avalanche	New	PDM	TC Road & Levee; TC Engineering; ESF#01-Transportation; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Project Status	Potential Funding Source(s)	Responsible agency for implementation, coord.
Avalanche Response Equipment Deployment to First Responders	TCSO Deputies and Wyoming Highway Patrol Troopers have been issued avalanche beacons, shovels, and probes and will also be receiving training on their use. Would like to consider getting same for JHFEMS BCs, ambulances, and first-outs.	3	High	$5,000 - $25,000	Avalanche	New	EMPG	Jackson Hole Fire/EMS; TCSO SAR; ESF#09-Search & Rescue
Water supply analysis	Analyze Teton County to determine areas that are not within a safe distance from a water source for firefighting. Look at population density, vegetation, wildfire history, and water sources. Use data to determine if supplemental water systems are needed.	1,2,3	High	Less than $5,000	Drought, Wildfire	New	BLM-WUI Community Fire Assistance Funds	Jackson Hole Fire/EMS; TAWPC; Teton Conservation District; ESF#04-Firefighting; ESF#11-Agriculture & Natural Resources

TABLE 65. TOWN OF JACKSON HAZARD MITIGATION ACTIONS

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Consider natural hazards when creating/updating community development plans. This is to include mitigation actions, data, and overall goals.	Risk reduction is incorporated at the community level.	4	High	None	All	Ongoing	Local Funds	TC Planner; TOJ Planner; TOJ Town Council; Town of Jackson Floodplain Administrator
Rank bridges based on quake island analysis. Perform structural retrofitting of vulnerable bridges	Identify vulnerabilities and prioritize for structural retrofitting	1	Low	$25,000+	Earthquake	Carry Over	CIP/State & Federal Funds/PDM	TOJ Public Works; WYDOT; ESF#01-Transportation
Continue the Town of Jackson's hazard tree reduction program	Limit the secondary effects of severe weather (wind, snow)	2,3	Medium	$5,000 - $25,000	Tornado, Winter Storm	Ongoing	Local Funds	TC Parks and Recreation; TOJ Public Works; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Upgrade to Public Works Communication Tower	Update equipment for all Public Works communication via truck radios and office radios. Ensure interoperability with other first response agencies	1	High	$25,000 +	All	New	DHS SAFECOM Emergency Communication Grant	TOJ Public Works; Teton County Wireless Specialist; ESF#02-Communications
Town of Jackson Stormwater Management Plan	Reduce pollution contributions from stormwater runoff to improve surface water quality and prevent natural protection systems degradation; also reduce localized flooding and winter creek freeze/flooding	1, 2, 4	High	$25,000 +	Flood	Underway	Funded	TOJ Public Works; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Snow melt spoils management	Provides space for spreading/drying and testing dirt remaining after the winter snow pile melts, to determine whether it can be beneficially reused as fill material or must be disposed; reduces pollution to protect surface water and groundwater quality	1,2	Medium	$25,000 +	Winter Storm	New	Local Funds/Local Agreement	TOJ Public Works; ESF#03-Public Works
Roadway intersections and streetscapes	Accommodates peak-demand traffic periods, improves traffic flow efficiency, and provides multiple transport modes throughout town to reduce potential for hazards and congestion during evacuations for	3	Medium	$25,000 +	All	New	CIP/Local & State Funds	TOJ Public Works; WYDOT; ESF#03-Public Works; ESF#01-Transportation

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	any type of disaster							
Street lights	Enhances public safety through better visibility (prevents accidents with other users and wildlife) and provides safe routes during evacuation	4	Medium	$25,000 +	All	New	CIP/Local Funds	TOJ Public Works; Lower Valley Energy; ESF#01-Transportation; ESF#03-Public Works;
START fuel station	Provides continuous fuel service to buses and other emergency/core services fleet vehicles, ensuring core municipal service provision in times of disaster	1	Medium	$25,000 +	All	New		TOJ Public Works; START Bus; ESF#12-Energy

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Snow King Estates water line	New installations and upgrades to water supply infrastructure to ensure service to all residents in the area and sufficient pressure for firefighting	1,3	High	$25,000 +	All	Underway	Federal Transit Administration Grants	TOJ Public Works; ESF#03-Public Works
LDR updates	Review and update land development regulations to provide public safety and reduce impacts of flood, drought, fire, avalanche, landslide, and other hazards	4	Medium	$5,000 - $25,000	All	Underway	FMA/PDM	TOJ Planning
Tree removal	Arborists/foresters determine health of old trees in town and if one is deemed unsafe (high risk of falling), it is removed and replaced with a young tree	2	Medium	Less than $5,000	Avalanche, Earthquake, Flood, Hail, Landslide, Lightning, Tornado, Wildfire, Winter Storm	Ongoing	Local Funds	Parks & Recreation; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Fuel Facility and Rental Car Facility - Generator	Installed Backup Generator for 100% Coverage of these facilities	1	High	$5,000 - $25,000	All	Completed	Local/private funds	Jackson Hole Airport; ESF#12-Energy
Fleet maintenance facility	Ensures emergency and core public services fleets are in good state of repair so that they are able to respond in hazard or emergency situations; provides state-of-the-art management of necessary hazardous materials	1,3	High	$25,000 +	All	New	Wyoming SHSP	TOJ Public Works; START Bus; ESF#03-Public Works
Stormwater Treatment Unit Installation HWY 89	To reduce inflow of grit, sand, rock, gravel into Flat Creek	2	Medium	$25,000 +	Flood	New	EPA Grants	TOJ Public Works; Teton Conservation District; ESF#03-Public Works
Future Stormwater Catchment Units	To install stormwater catchment units to further protect infiltration of sand, silt, gravel, and rock into Flat Creek.	2	Medium	$25,000 +	Flood	New	EPA Grants	TOJ Public Works; Teton Conservation District; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Cache Creek Tube	Replaces old stormwater conveyance system through Town, additionally making it easier to maintain and move sections out from under existing buildings to public access	1	High	$25,000 +	Flood	New	PDM	TOJ Public Works; Teton Conservation District; ESF#03-Public Works
Stormwater Treatment Units on Powderhorn Lane	This unit provides protection to Flat Creek by removing dirt, sand, gravel, rocks from entering creek	2	Medium	$25,000 +	Flood	New	EPA Grants	TOJ Public Works; Teton Conservation District; ESF#03-Public Works
Purchase of new Street Sweeper	New Sweeper will replace our old sweeper that is at the end of its life. This new sweeper will remove sand, silt, dust, rocks, and gravel from the roadway and prevent it from entering waterways,	1	Medium	$25,000 +	Flood	New	CIP/Local Funds	TOJ Public Works; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	causing sedimentation and increased flooding							
Winter sand/salt storage dome	Provides designated, covered location to store sand/salt for winter roadways maintenance, allowing for larger quantities on-hand; containment of material reduces pollution contributions to surface waters	1,2	High	$25,000 +	Winter Storm, Flood	New	Local Funds	TOJ Public Works; ESF#03-Public Works
Purchase of All-Electric START Buses	To provide alternative fuel transportation (electric) to provide redundancy against diesel shortages	2,3	Low	$25,000 +	Avalanche, Earthquake, Flood, Hail, Landslide, Lightning, Tornado, Wildfire, Winter Storm	New	Federal Transit Administration (FTA) Low and No-Emission Vehicle Program	TOJ Public Works; START Bus; ESF#01-Transportation; ESF#03-Public Works
Purchase of New Loader	To replace aging front end loader to assist in snow	1	Medium	$25,000 +	Winter Storm, Flood	New	CIP/Local Funds	TOJ Public Works; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	storm mitigation and flood fight							
Outdoor Warning Siren - Central Jackson	Outdoor warning sirens can be used to alert the public to wildfire evacuations, severe weather, hazardous materials incidents, terrorist incidents, and more. Coverage is lacking in central Jackson, east Jackson, and Alta.	3,4	Medium	$25,000 +	All	New	EMPG	TC Emergency Management; ESF#05-Emergency Management
Outdoor Warning Siren - East Jackson	Outdoor warning sirens can be used to alert the public to wildfire evacuations, severe weather, hazardous materials incidents, terrorist incidents, and more. Coverage is lacking in	3,4	Medium	$25,000 +	All	New	EMPG	TC Emergency Management; ESF#05-Emergency Management

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	central Jackson, east Jackson, and Alta.							
North King Street Extension	To provide alternative traffic routes to hospital in case of hazards preventing traffic around the town square	3	Medium	$25,00+	All	New	USDOT Surface Transportation Program (STP)	TOJ Public Works; ESF#01-Transportation; ESF#03-Public Works
Secure Land and Build a New Potable Water Tank	To add capacity to our potable water system that will allow for redundancy and backup to other water zones in town. Other zones could be harmed or damaged from power outages or earthquakes. This will allow greater water capacity to feed other zones.	1	Medium	$25,000 +	Earthquake, Drought, Wildfire	New	Wyoming Dept. of Environmental Quality-Drinking Water State Revolving Fund	TOJ Public Works; ESF#03-Public Works
Replacement of Motor Graders and Additional Front-End Loaders	To replace aging equipment used in landslide, winter storm,	1	Medium	$25,000 +	Flood, Landslide, Winter Storm	New	CIP/Local Funds	TOJ Public Works; ESF#03-Public Works

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	and flood mitigation							
Snow storage/melting facility	Enhances road safety by providing a larger location to store and/or melt snow so that more can be removed from streets, increasing traffic safety and providing clear routes for evacuation.	1,3	Medium	$25,000 +	Winter Storm	New	CIP/Local Funds	TOJ Public Works; ESF#01-Transportation; ESF#03-Public Works

TABLE 66. TETON COUNTY & TOWN OF JACKSON HAZARD MITIGATION ACTIONS

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Natural Gas Emergency Flow Valves	As of 4/17/19, all natural gas mains are required to have an Emergency Flow Valve (EFV). This is installed by Lower Valley	1	High	$25,000 +	All	New	Private Funds	Lower Valley Energy; ESF#12-Energy

	Energy on their main, and if there is a break between the main and the meter it will stop flow. This is NOT an earthquake valve.							
Hazard tree mitigation	Staff inspects Parks and Town Core annually to identify hazard trees for removal or maintenance. Currently establishing zones throughout the County of rotating inspections for public trees. Public Safety/Power Outage/Tornado/High wind initiative.	4	High	$5,000 - $25,000	Avalanche, Earthquake, Flood, Hail, Landslide, Lightning, Tornado, Wildfire, Winter Storm	New	Local Funds	TC Parks & Recreation; ESF#11-Agriculture & Natural Resources
Jackson Hole Airport - Stormwater Filtration System	Stormwater Filtration System has the capability of handling a 100 year event and will then	1	High	$25,000 +	Flood	Completed	Federal Aviation Administration (FAA) Airfield Improvement Program (AIP)	JH Airport; ESF#03-Public Works

	release at a standard rate.							
Lightning Safety Signage	Hang Lightning Safety Awareness signs from the National Weather Service in parks and along the pathways to educate the public on how to recognize dangerous lightning situations and get to safety.	4	Low	Less than $5,000	Lightning	Completed	Local Funds	TC Emergency Management; TC Parks & Recreation, TC Pathways Division; ESF#11-Agriculture & Natural Resources
WUI Coordinator Position	Explore the creation of a Wildland Urban Interface coordinator position to manage WUI mitigation projects, head up education of the public for WUI issues, and assist with assessments.	3,4	Medium	Less than $5,000	Wildfire	New	BLM-WUI Community Fire Assistance Funds	TAWPC; ESF#04-Firefighting

Teton Wildfire Ambassador Program	Train and work with neighborhood ambassadors to become champions for wildfire mitigation in their neighborhood. Have them reach out to neighbors, be examples of good mitigation practices, and be a liaison with emergency services.	4	High	Less than $5,000	Wildfire	New		TAWPC; ESF#04-Firefighting
WYDEQ Continuous Fine Particulate Matter monitoring station	WYDEQ is planning on installing a continuous fine particulate matter monitoring station at the sewage transfer station east of JH High School. This would allow for real-time monitoring of air quality,	1	Low	$5,000 - $25,000	Wildfire	New	State Funds	WYDEQ; TC Health Department; ESF#08-Public Health & Medical

	including wildfire smoke.							

TABLE 67. TETON CONSERVATION DISTRICT HAZARD MITIGATION ACTIONS

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Work with Flat Creek Water Improvement District (WID) to prevent flooding from frazil ice. Finalize development of WID. Develop a fund for mitigation work, obtain access, implement.	Mitigate repetitive property loss and damage from ice-jam flooding.	1,2,3	High	$5,000 - $25,000	Flood	Underway	EMPG/PDM/ FMA	Teton Conservation District; ESF#11-Agriculture & Natural Resources
Cooperate with WY Water Improvement Study for Upper Snake River drainage	Prevent flood potential. Protect lives and property.	2	Medium	Less than $5,000	Flood	New	Local Funds	Teton Conservation District; ESF#11-Agriculture & Natural Resources
Conduct flood risk analysis for Flat Creek	Prevent flood potential. Protect lives and property.	4	Low	$5,000 - $25,000	Flood	New	Local/State Funds	Teton Conservation District; Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Educate residents about benefits of purchasing flood insurance	Enable economic recovery from flooding.	4	Low	Less than $5,000	Flood	New	Local Funds	TC Emergency Management
Thaw Wells for Flat Creek Winter Flooding	Install future thaw wells that will help prevent winter flooding from frazzle ice formation.	1	Medium	$5,000 - $25,000	Flood	New	PDM	Teton Conservation District; Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources
Flat Creek Water Improvement District (FCWID) - Formulation of EMERGENCY WINTERTIME & SPRING RUNOFF ACTION PLAN	EMERGENCY WINTERTIME & SPRING RUNOFF ACTION PLAN has been provided to FCWID District Members for the last four years to assist property owners on Flat Creek with preparations and ideas for mitigating flooding that may occur on their properties.	4	High	Less than $5,000	Flood	Completed	N/A	Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Flat Creek Water Improvement District (FCWID) - Wintertime Data Collection and Oversight on Flat Creek	Engagement of Alder Environmental LLC-perform wintertime data collection on Flat Creek has assisted the FCWID in sending that data for analysis to Drs. Kempema & Ettema for studies & reports; offered professional oversight for wintertime flooding mitigation.	2	High	$5,000 - $25,000	Flood	Completed	N/A	Flat Creek Water Improvement District; Teton Conservation District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Flat Creek Water Improvement District (FCWID) ACCESS AGREEMENTS developed and obtained from District Members	Two ACCESS AGREEMENTS (1-DATA COLLECTION; 2-EMERGENCY MITIGATION) developed with legal counsel to obtain legal permission from District Members- helpful during wintertime flooding emergencies for track hoe entrance into Flat Creek to protect properties.	4	High	Less than $5,000	Flood	Completed	N/A	Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources
Flat Creek Water Improvement District (FCWID) Removal of Shoal in Flat Creek upstream of Smith's Market	In concert with FCWID, the Town of Jackson removed the identified constricting shoal in Flat Creek upstream of Smith's Market.	4	Medium	$5,000 - $25,000	Flood	Completed	N/A	Flat Creek Water Improvement District; TOJ Public Works; ESF#03-Public Works; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Flat Creek Water Improvement District (FCWID) Bank Stabilization on Flat Creek @ S. Hwy 89 upstream of Smith's Market	WYDOT at the urging of FCWID, shored up eroding Hwy 89 embankment on Flat Creek upstream of Smith's Market; oversight and help by Town of Jackson & Alder Environmental (acting as paid agent of FCWID); installed riprap to stabilize eroding creek bank.	1	Medium	$5,000 - $25,000	Flood	Completed	N/A	Flat Creek Water Improvement District; TOJ Public Works; WYDOT; ESF#03-Public Works; ESF#11-Agriculture & Natural Resources
Flat Creek Water Improvement District (FCWID) SUPPORTING DISTRICT MEMBERS VIA RECOMMENDED LONG-TERM MITIGATION EFFORTS (building berms, landscaping, assistance with permitting process if required	Actively researching potential measures to be taken by District members to reduce impact of flooding events with intention of supporting long-term private property	3	Medium	$5,000 - $25,000	Flood	Ongoing	Local Funds	Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
	mitigation efforts.							
Flat Creek Water Improvement District (FCWID) Wort Ditch Diversion-Engineering & Design of New Irrigation Head Gate Diversion	Engaged Nelson Engineering to develop schematic plan to modify existing rock weir at Wort Ditch diversion point in Garaman Park area of creek that obstructs creek flow & contributes to ice dams and flooding. Conversations held with Kelly Lockhart.	1,2	Medium	$5,000 - $25,000	Flood	Underway	PDM/Local Funds	Flat Creek Water Improvement District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Flat Creek Water Improvement District (FCWID) Installation of Additional THAW WELLS on Flat Creek	Creating an active ice management system that minimizes ice volume in Flat Creek; exploring possible installation of THAW WELLS in certain locations.	1,3	Medium	$5,000 - $25,000	Flood	New	PDM	Flat Creek Water Improvement District; TOJ Public Works; ESF#03-Public Works; ESF#11-Agriculture & Natural Resources
Flat Creek Water Improvement District (FCWID) - Existing ROCK WEIRS-Removal/Reconfiguration to Create More Efficient Creek Flow	FCWID "wish list" - Acquire expertise to determine which, if any, ROCK WEIRS need to be removed/reconfigured to create more efficient creek flow to alleviate possible flooding.	1	Low	$5,000 - $25,000	Flood	New	NRCS Watershed Protection & Flood Prevention Grant	Flat Creek Water Improvement District; Teton Conservation District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Flat Creek Water Improvement District (FCWID) - Investigate the Need for and Appropriateness of Expansion of the Current FCWID District	FCWID "wish list"- Considerations for expanding the current FCWID District boundaries to include all Flat Creek properties adjacent to the creek from Elk Refuge TOJ border south to where creek enters the Snake River.	4	Medium	Less than $5,000	Flood	New	Local Funds	Flat Creek Water Improvement District; Teton Conservation District; ESF#11-Agriculture & Natural Resources
Flat Creek Water Improvement District (FCWID) - Studies & Reports by Dr. Edward Kempema & Dr. Robert Ettema re: Mitigation of Flooding on Flat Creek	Engagement of Drs. Kempema & Ettema to develop analysis of Flat Creek flooding challenges facilitated important mitigation suggestions for various choke areas on the creek that cause winter flooding.	2	Medium	$5,000 - $25,000	Flood	New	EMPG/PDM/Local Funds	Flat Creek Water Improvement District; Teton Conservation District; ESF#11-Agriculture & Natural Resources

Description	Benefits	Associated Goal(s)	Priority	Cost	Hazard	Status	Potential Funding Source(s)	Responsible agency for implementation coordination
Fire fuel reduction; provide education, assessments, and resources to public for fuel reduction projects.	Lowered effects of fire in the wildland urban interface.	3,4	High	$25,000+	Fire	Ongoing	Wyoming State Forestry Division/USDA /NRCS	Teton Conservation District; ESF#04-Firefighting; ESF#11-Agriculture & Natural Resources
Cheatgrass mapping and mitigation	Map invasive plants, including cheatgrass, that contribute to wildfire risk. Mitigate invasive wildfire hazard plants using industry best-practices.	1, 2, 3	High	$5,000 - $25,000	Fire	Ongoing	USDA National Invasive Species Information Center/PDM	Teton County Weed & Pest District; Teton Conservation District; TAWPC; ESF#11-Agriculture & Natural Resources

3.3 Capabilities

Assessing a community's capabilities is an important step in the hazard mitigation planning process. This assessment inventories all available planning, administrative, financial, and outreach tools including an analysis for capacity, gaps, conflicts, and any strengths/weaknesses that may need to be addressed in order to implement the mitigation strategy. It also helps to ensure that the proposed mitigation actions are feasible given the capabilities to implement them.

There are four primary types of capabilities that were assessed by the Emergency Management Coordinator and the LEPC:

- Planning and Regulatory: Ordinances, policies, local laws, as well as State statutes, including plans and programs that relate to guiding and managing growth and development.
- Administrative and Technical: This type refers to the community's available staff, skills, and expertise that can be used to implement mitigation planning and actions.
- Financial: These capabilities are the financial resources a community has access to or has available to fund mitigation. Examples include taxes, stormwater utility or development impact fees, and grant funding.
- Education and Outreach: Education and outreach programs, methods, and efforts that are already in place that could be used to implement mitigation activities and communicate information related to hazards.

After a comprehensive review of capabilities from all four types, the table below summarizes the capability assessment by ranking each type of capability on a scale from limited to high. The rank determined for each type was based upon the responses in the assessment. Full assessment results can be found in Appendix H.

Capability Type	Degree of Capability			Comments
	Limited	Moderate	High	
Planning and Regulatory			X	The most effective and efficient way to put mitigation into action is to do so before people build.
Administrative and Technical	X			With no grant writers on staff and limited, overburdened emergency management staff, this is probably Region 8's biggest shortfall.
Financial		X		Aside from individual projects, there is generally no dedicated annual mitigation funds in County or Town budgets.
Education and Outreach		X		

Chapter 4 | Plan Implementation and Maintenance

4.1 Formal Plan Adoption and Responsible Parties

The purpose of formally adopting this HMP is to secure support from all participants in this Region 8 HMP. Adoption resolutions from all plan participants can be found following the plan Table of Contents.

The Teton County Commissioners in cooperation with the Town of Jackson Council and the Teton Conservation District Board of Supervisors are responsible for ensuring that the NHMP is kept current. With adoption of the plan, the responsible officials designate the Teton County Emergency Management Coordinator, with the assistance of the Local Emergency Planning Committee, as the lead in accomplishing the on-going responsibilities. The role of the LEPC in implementation and maintenance includes:

- Acting as a forum for hazard mitigation issues;
- Disseminating hazard mitigation ideas and activities to all participants;
- Pursuing the implementation of high-priority, low/no-cost recommended actions;
- Keeping the concept of mitigation in the forefront of community decision-making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters;
- Maintaining a vigilant monitoring of multi-objective cost-share opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitoring and assisting in implementation and update of this plan;
- Reporting on plan progress and recommended changes to the County Commissioners; and
- Informing and soliciting input from the public.

4.2 Implementation of Mitigation Actions

Once updated and adopted, this Plan is intended to be implemented so that Teton County and the Town of Jackson's vulnerability to natural hazards will be reduced over time. While this plan contains many worthwhile mitigation actions, the Emergency Management Coordinator and LEPC will need to decide which action(s) to undertake first. Two factors will help with making that decision:

1. The priority assigned to actions identified in the planning process, and
2. The availability of funding.

Low or no-cost projects can sometimes most easily demonstrate progress toward successful plan implementation.

Implementation will be accomplished by adhering to the schedules identified for each action and through constant, pervasive, and energetic efforts to network and highlight the multi-objective benefits of each project to the community and its stakeholders. These efforts include the routine actions of monitoring agendas, attending meetings, and promoting a safe and sustainable community.

Simultaneous to these efforts, the Emergency Management Coordinator and LEPC will constantly monitor funding opportunities that could be leveraged to implement some of the more costly actions.

This will include creating and maintaining a bank of ideas on how to meet local match or participation requirements. When funding does become available, the County and Town will then be in a position to capitalize on the opportunity. Funding opportunities to be monitored include special pre- and post-disaster funds, special district budgeted funds, state and federal earmarked funds, and other grant programs, including those that can serve or support multi-objective projects.

4.3 Incorporation into Existing Plans and Procedures

Another important implementation mechanism that is highly effective and low-cost is incorporating the hazard mitigation plan recommendations and their underlying principles into other jurisdictional plans and mechanisms. Mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and development. Implementation through existing plans and/or programs is recommended, wherever possible. Based on this plan's capability assessment, the participating jurisdictions have and continue to implement policies and programs to reduce losses to life and property from natural hazards. This plan builds upon the momentum developed through previous, related planning efforts and mitigation programs, and recommends implementing projects, where possible, through these other program mechanisms. These existing mechanisms include:

- 2016 Wyoming State Mitigation Plan
- 2012 Jackson/Teton County Comprehensive Plan
- 2018 Jackson/Teton County Capital Improvement Plan
- 2015 Jackson/Teton County Emergency Operations Plan
- 2014 Community Wildfire Protection Plan (CWPP)
- 2018 Jackson/Teton County Hazardous Materials Emergency Response Plan
- 2018 Jackson/Teton County All Hazards Recovery Plan
- 2019 Flat Creek Water Improvement District Wintertime and Spring Runoff Action Plan
- Town of Jackson and Teton County Land Development Regulations
- Local Emergency Planning Committee (LEPC)

LEPC members involved in the updates to these mechanisms will be responsible for integrating the findings and recommendations of this plan with these other plans, as appropriate. The plan will be considered a core document that links to other related planning mechanisms, which will build from the information and recommendations contained herein. In addition to the plan, web-based platforms have been created for use and dissemination of hazard data and risk assessment results and for tracking of mitigation actions that LEPC, other jurisdictional staff, and the public can use to implement the Mitigation Strategy. In order to ensure the concepts and actions identified in this plan integrate into the plans listed above as well as other local planning efforts, LEPC members will take the following steps and bring forward at all LEPC meetings any strategic actions necessary to implement these steps:

1) Monitor all planning efforts underway at the jurisdictional, regional, and state level, including those originating from or involving the Teton County or Town of Jackson Planning & Building departments and other local agencies;

2) Determine the necessary links between those efforts and the content of this plan, including but not limited to Mitigation Strategy goals, risk assessment results, hazards, assets, and potential funding sources;
3) Participate in ongoing and future planning efforts, contribute content from the mitigation plan, and ensure proper reference is made to the mitigation plan; and
4) Promote awareness of the mitigation plan to increase opportunities for collaboration and integration of plan content.

As noted in the Local Plans Reviewed section of Chapter I, the Emergency Management Coordinator is responsible for updating a number of emergency management related plans. He has been directly involved in this update and will coordinate development of those plans consistent with this NHMP.

4.4 Plan Maintenance Procedures

Plan maintenance is an ongoing effort to monitor and evaluate plan implementation and to update the plan as required or as progress, roadblocks, or changing circumstances are recognized.

This plan will be updated, approved and adopted within a five-year cycle as per Requirement §201.6(c)(4)(i) of the Disaster Mitigation Act of 2000. The County will inquire with the Wyoming Office of Homeland Security (WOHS) and FEMA for funds to assist with the update. Funding sources may include the Emergency Management Performance Grants, Pre- Disaster Mitigation, Hazard Mitigation Grant Program (if a presidential disaster has been declared), and Flood Mitigation Assistance grant funds.

In order to track progress and update the mitigation strategies identified in the action plan, the LEPC will revisit this plan annually or after a significant hazard event or disaster declaration has occurred. The Teton County Emergency Management Coordinator is responsible for initiating this review and working with the LEPC Chair to convene members of the LEPC on a once yearly basis, or more frequently as needed. The LEPC will ask the following questions pertaining to the effectiveness and implementation status of the plan:

- Have any potential hazards developed that were not addressed in the plan?
- Have any natural disasters occurred that were not addressed in the plan?
- Has any unanticipated development occurred that is vulnerable to hazards?
- Are there any additional mitigation ideas that need to be incorporated?
- Have projects been initiated and/or completed?
- What are the barriers to completing projects identified in the plan?

4.4 Continuing Public Participation

Continued public involvement is imperative to the overall success of the plan's implementation. The update process provides an opportunity to publicize success stories from the plan's implementation and seek additional public comment. A public hearing(s) to receive public comment on plan maintenance and updating will be held during the update period. When the LEPC reconvenes for the update, they will coordinate with all stakeholders participating in the planning process, including those that joined the

committee since the planning process began, to update and revise the plan. The plan maintenance and update process will include continued public and stakeholder involvement and input through participation in designated committee meetings, LEPC meetings, social media postings, government website postings, other notification systems, and press releases to local media.

In addition to the procedures for including the public in the five-year updates described above, to ensure the public will have the opportunity to remain involved in the implementation and annual updates of the plan, the following will take place:

- The Teton County Emergency Management Coordinator will provide a brief annual summary report to the three governing bodies on what has been accomplished during the previous year and to receive guidance from the elected officials on their priorities for the coming year.
- Each year following a fall LEPC meeting called for the purpose of reviewing the status of the plan, Emergency Management will make information available to the public on the accomplishments of the previous year and allow comment for any revisions.

Teton County is home to an active engaged citizenry. Many of these individuals have professional credentials in fields related to hazard mitigation planning. The Geologists of Jackson Hole are an example of a group with tremendous local expertise. During subsequent updates, the county may choose to more deeply investigate certain hazards as new information becomes available.

Chapter 5 | Appendices

5.1 Appendix A- Planning Team Meeting Minutes

Wyoming Region 8 Hazard Mitigation Plan
State /Teton County Kickoff Meeting
Conference Call
Tuesday, December 11, 2018

Meeting Minutes:

1. Introductions/ Roles and Responsibilities
    a. Rich Ochs: Coordinator for Teton County. Emergency Management. Lead in last two Hazard Mit plans, with help each time from Beck Consulting out of Montana. Glad that the state is doing it- takes some weight off their shoulders. Just have two people.
        i. Hope to get a better product out of this- parts from past plans that were generic, that they weren't super happy with. Emergency operations plan is running concurrent with this.
        ii. Concerned with meeting fatigue since it's the same group of people for all of these plans. Need to make sure we're not losing people because of that.
        iii. Feel from us for a dedication of time from these different entities.
        iv. He'd really like to get into ArcGIS and would really like to get info and make it more readily available and digestible to the public.
    b. Jenny Kruger: has been with EM for 3 years, this will be her first plan.
    c. Ryan Carroll: Project manager
        i. Ryan will send Rich examples of past hazard mitigation plans and projects
    d. Emily Alvarez: mitigation planner
    e. Melinda Gibson: State of WY

2. Project Overview/General Project Schedule
    a. **Project Overview and Timeline:**
        i. Draft plan by July
        ii. Emergency Ops plan is much more flexible since they're writing it themselves.
    b. **Update Procedures (from current plan):**
        i. Don't really have an elected official who is a champion of hazard mitigation- the current commissioners likely won't be involved until plan approval, but Rich will consider this. In Jackson, the Town Administrator is a proxy for the elected officials. He used to be the Public Works Director. Town Emergency Mgmt. has been more engaged lately.
        ii. Really want to engage public works from both the town and the county in this process.
        iii. Public notice: this would be separate. It would be a legal add and then it would go on social media, etc.
        iv. More media participation- they have been picking up on things and reading minutes. So, it is possible they would pick it up and that would help with getting the info out.
3. Planning Process for Region 8 Plan
    a. **Annual LEPC Meetings:**
        i. LEPC meets every other month. Next meeting scheduled for January. LEPC was originally formed to track HazMat through the County and morphed into a mitigation planning committee.

ii. Getting more attention/attendance from media at meetings.
iii. Recent meetings did not include a discussion on hazard mitigation/projects in the plan.
iv. Can make it part of the agenda in January for the LEPC (local emergency planning committee)

b. **What did you think about the last planning process?**
   i. Public engagement pieces: Beck Consulting did a better piece the second time around. They had it at the library and they did a quiz or something and they gave kits out as prizes. They held one in this format
      1. Incentives
      2. Interactive
      3. Place to make suggestions
   ii. Most of the planning occurred in those LEPC meetings. They are always every other month. 3rd Thursday. 8:30 am. About an 1:30-2 hrs.
   iii. Hazard Vulnerability Assessment is the most important part. Data is super useful. He feels it is a little jumbled in the current plan. It's not uniform from hazard to hazard. More standard format and easier to read from the public's perspective.
   iv. The projects listed in the current plan aren't that great. They rarely get any feedback on the projects because they are so generic. Coming up with real mitigation projects that people can provide specific feedback would be better.

   v. Michael Baker to start a Microsoft Teams

c. **Stakeholders:**
   i. Same 3 as current plan- Teton County, Town of Jackson, Teton Conservation District.
   ii. TCD- Was some reluctance to participate in update for current plan.
      1. Director really has to convince the board that they need to participate
      2. They have a Wildfire Mitigation Specialist (didn't catch this guy's name) and a Water resources specialist (Carlin)
      3. Did just get their tax passed this last election
   iii. School district: there is only one in the county. Their focus is on Active shooter mitigation (mitigation funds don't usually fund this). Could be a good participant/signatory.
      1. Is the school district, or are any of their structures vulnerable to any hazards? Yes, all of them. Their buildings are either old or have been improved without seismic retrofits.
   iv. Unincorporated communities:
      1. Alta has a trash district almost like a de facto town council. Everyone in Alta always feels slighted.
      2. Wilson has no rules.
      3. Teton Village Association is becoming more involved.
      4. JHMR- pair with Teton Village
   v. Neighboring Jurisdictions: No one from the neighboring jurisdictions usually shows up. We should still invite them (through direct contact) to demonstrate a large net cast in the planning process.

vi. Idaho. Teton County Idaho is usually interested in participating. Interested in how Teton County Idaho would help and provide resources out to help if anything happens in Alta, as they are currently funded by Teton County, WY for Emergency Services in the Alta area.
vii. Law enforcement is a little touchy- sheriffs had a falling out a while ago. No beat or auxiliary station or anything in Alta. Teton, WY officers take cruisers home to Idaho respond to Alta area.
viii. Targhee- they have EMT and security (and ski patrol). Not much else.
ix. WYDOT – They have avalanche techs.
    1. Can WYDOT get projects through this process? Melinda answered yes.
x. VOAD Voluntary Organization Active in Disasters
xi. Geological Survey- they may be interested…especially in any available LIDAR from TCD.
xii. CERC- Community Emergency Response Team

d. **Data:**
    i. GIS contractor who manages data but doesn't work really w/ EM. Go through them first to get data.
    ii. Teton Conservation District has a GIS person.
    iii. Had sheet flooding of some houses last winter and the conservation district has been doing LiDAR of the entire county, but they would have no problem making it available to us.
    iv. New national water model
        1. Is this something that could apply in like Jackson, or will we only see this in areas like Houston or have been recently severely impacted by flooding.

e. **Public Engagement:**
    i. IT has contract and every department had a password/admin and EM had zero web developers/GIS people.
        1. Therefore, if there is the opportunity to have a standalone website they would be happy to put a link up.
    ii. Would invite stakeholders (many are already part of the LEPC), hey, we really need you to come to at least this one.
    iii. For public, that would be a totally separate, after work, etc.
    iv. Would have to find time at the March meeting to discuss required reporting so may have to split one meeting.
    v. Could easily have some of the LEPC meeting stakeholders stick around for an evening meeting to have both on the same day. (Jan 17th) -> this would work better: Public engagement the evening of the 16th then the LEPC meeting at the 17th?
    vi. Melinda unlikely to be at any meeting in person.

Action Item Summary

1. Baker will write meeting minutes from State/Teton County Kickoff
2. Baker will create Microsoft Teams Channel or use Office 365 for document sharing, messaging, etc.
3. Baker will send Teton County example mitigation plans that it has completed
4. Baker will compile a master list of stakeholders for the plan update and send to Rich/Jenny to fill in contacts

5. Baker will develop draft language for a legal notice/public advertisement for plan update and send to Teton County
6. ~~Baker will develop draft language for invitations to be used for Jan meetings~~ COMPLETED BY RICH
7. Baker will work with Jenny to obtain any locally-available data
8. Baker will develop draft agenda for January 17th LEPC meeting
9. Baker will develop a draft concept/design for January 16th open house
10. Baker will work on launching website shell with basic content for review

Wyoming Region 8 Hazard Mitigation Plan
Mitigation Project Review Meeting
Conference Call
January 17, 2019
Attendees: Michael Baker: Ryan Carroll, Emily Alvarez. Teton County EM: Rich Ochs, Jenny Kruger

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Pre-meeting notes

- FEMA now dictates that we'll need a mitigation project for each hazard (also each hazard in each jurisdiction)
- We'll need some level of a BCA for each action. The previous plan only used project cost. We'll need to determine the best way to convey Benefit-Cost.
- We'll need identified funding source for each action
    a. HMGP, PDA, State, etc.
    b. Can change actual funding source when the time comes
- Projects should be as specific as possible (culvert locations, generator type/fuel type, etc)
- FEMA is tracking actions related to awareness differently than actions related to actual risk reduction. We'll determine a way to separate these in the plan.

Review of Mitigation Actions in 2016 Teton County HMP

1.1-Quake island mapping- not been updated. Geologist of JH. Created quake island map. Avy, landslide, bridges, etc. worst-case scenario. How many islands of isolation would there be? PDF created…but they are not sure who made it. May not be GIS available. Keep This action.
1.2-Fire Station upgrades. Seismic retrofits. Nothing else specific. Station 3 would be a relocation. Bring this up at LEPC.
1.3-Used to be seismic sensors at Jackson Lake Dam that USGS stopped funding. Politically sensitive at the time. Public is concerned about the dam. TAKE THIS OUT.
1.4-Fire Station 4 upgrade- on federal land. No plans in capital budget to do this.
1.5-This one may be accomplished through the Risk Assessment. Or it stays on as a project.
1.6-REMOVE THIS ONE.
1.7-Rich is fine with removing it. Educating the public. Let's keep it as ongoing.
1.8- CRS. Keep this. Get the two working together.
1.9-Cyber security. Rich talks with his IT guy…not much awareness but it seems important to Rich. Also gets to building security. Maybe list as man-made threats? What about funding other Homeland Security grants?
1.10- CERT courses being offered. Training course for public to become CERT/ 3 week program. Currently 80 volunteers to use during disasters and emergencies.
1.11- Fire Station
1.12- Fire Station. Wait until LEPC to get feedback.
1.13- REMOVE THIS ONE.
1.14- Training/public ed. Weather spotter courses. Funding source is local funding.
1.15- Public alert and warning systems. Reliance on text/email notifications- they are reconsidered due to failures of these systems. Raise awareness of emergency alert systems. County needs one more siren at county fairgrounds. THIS IS SPECIFIC ACTION. Another siren to be relocated. 7 total sirens throughout the county. Testing- commissioners- in the past have said they do not want them tested. This group of folks is

no longer in office. Currently in cycle of bi-annual testing. Rich feels this isn't enough…they find something wrong each time. What about developing a testing program as a project? Public is not really aware of them either. (EF4 1987 in Teton County). Use of sirens for a fast moving wildfire in an urban setting. Upgrading the entire siren system could be grant funded also…they received a quote for this. Want 2 way comms and siren console at E ops center. Provides options for silent testing.

Teton Area wildfire protection coalition. They will look into plan for specifics on homeowner protection/

1.16- REMOVE. Local training.

1.17- Get people to register for text/email notification system? This could be a new action. They produced a fake movie trailer. Local TV is out of Idaho Falls. They do have local radio…so could do regular announcements. An advert. Program.

1.18- EM website- add content? Preparedness, emergency info, etc. They want to create something similar to Inciweb, but at the local level. They have used federal partners to create local pages on inciweb. Local Inciweb website.

1.19- Are local bridges going to survive a seismic event? ASK WYDOT ABOUT TETON COUNTY INFRASTRUCTURE. They do not rank their bridges. WYDOT- check WYDOT spatial data.

1.20- Jackson Lake Dam monitoring- there is one guy responsible for watching the dam. This is the monitoring and notification system currently. WHAT ARE SOME EXAMPLE ACTIONS FOR DAM FAILURE?

1.21- Subdidivsion plans- outreach and awareness. Any subdivision plans completed? No note yet. Need to talk with Fire/EMS. National Parks have their own fire departments. Airport has fire, teton village has fire department. Teton Fire has a wildire response plan for response. Subdivision plans so homeowners can take on actions like tree cutting. Funding through homeowners assoc. TCD is shepherding some of this. Multiagency effort involved- Jenny can send a copy of presentations.

1.22- REMOVE? Rich doesn't see this as the place for tracking these types of training. What about EMI?? Free trainings.

1.23- Secondary routes- more of a wildland fire plans.

1.24- Backup generators for critical facilities- ties to critical infrastructure mapping. Map/identify critical infrastructure. Include specific facility, generator type, fuels, where to get it. Fire stations need more backup power. They only have minimal to open doors.

1.25- Joint exercises with Idaho-= take it out. Not really a mitigation project.

1.26- Hazmat- Tier 2 reporting for EPA requires facilities to report, but EPA doesn't have jurisdiction over trans. That's DOT. Propane facility explosion- thought it was a low risk facility….propane delivery truck exploded. Tracking facilities, but not transportation. Truck hitting multiple facilities, so larger than facility itself. Need more info on trans routes. Can this be worded to be a project?

1.27- Cyber and infrastructure mapping- single points of comms in and out of valley. Some facilities go down, they lose everything.

1.28- County is not doing snow avalanche research. Get rid of this.

1.29- Avy paths are mapped- Obtain data from WYDOT or create GIS layers. Currently have a highway shut down as a result. 2 new avy techs in jackson. Photocopied avy path book. GIS research on this.

1.30- Now that county has ArcGIS, they want the data and be able to use it. Story Map for hazards and research. EMILY!!!

1.31- Commodity flow study- Rich wants to keep this in here. They are on a list with the state to get this accomplished.

1.32- REMOVE.

Town of Jackson

2.1- REMOVE. Doing renovation. Mark as complete.

2.2- Community Development Plans- Comp plan and LDRs- Kurt handles all of this. Floodplain Manager. Kurt works with planning. Landslide- development on slopes- they aren't really doing this. Haven't asked for feedback from fire marshall, but once they do, they will get good info.

Article from Jenny on Camp Fire, paradise, how they thought they were prepared. County is doing everything they are doing…but really Paradise didn't do enough.

2.3- Budge Drive slide areas is complete. Sidewinders business complex was at risk, but is theoretically has been resolved. Fixed for the time being.

2.4- Potential landslide areas in town- Rich says to remove this. GS has landslide mapping. Talk to GS and how landslide maps can be more accurate. LIDAR data could help GS give them more accurate info. Information Sharing needs to happen.

2.5- IT/Cyber

2.6- bridges

2.7- Hazard tree reduction program (also tree city USA)- parks and rec has arborist- cottonwoods are a risk to them- no pine bark beetle yet. Fremont county has it. This could change. What about forest age?

3.1- Flat Creek Water Improvement District- WID. There's a person at TCD that works with them. Implementing new practices to prevent build-up of frazil ice. They will likely have wishlist projects. They are a taxing district. Residential-only. North end of Jackson near refuge to high school road near smith's grocery store. Good relationship with the Chair. Before district, Town of Jackson would drive track-hoe into creek and bust up ice…people stopped giving easements. Town said they would stop doing it. WID was formed to have control over the mgmt. of the creek. Town is part of WID. WID hires environmental monitoring firm, temp, flow rate, etc. With TCD as signatory, they support WID and have an avenue to the HMP update.

3.2- Fire Fuel Reduction- Rob- Fire Guy for TCD. Mitigation specialist. One of the only ones in the state. Which projects are out there that aren't being funded?

3.3- ed/outreach. Bundle with other things.

3.4- Flat Creek- frazil Ice in the winter is the issue. Rarely get spring flooding on flat creek. Cash Creek- Notice of Interest with Melinda for Mitigation Improvements. Cash goes underground before it foes into Flat Creek…culverts are wayyyy undersized. Melinda can get notice of interest from the Town. Basements, houses have flooded in east Jackson. Not likely any NFIP Policy holders. NFIP education- some issues with insurance providers. They are talking people out of flood insurance. Most of people making claims in Teton County are outside of the floodplain. EDUCTION PIECE. Promotion of NFIP could be an action itself.

3.5- WT Water Improvement Study- need more info.

3.6- Flood risk analysis for Flat Creek- WID is doing this. Temp, flow, seasonality patterns, etc. Town of Jackson has Thaw Wells. In 1970s, they studied USACE frazil ice on flat creek. 4-5 wells that pump groundwater into the

creek. Prevents some of the ice buildup. Each well throws approx. 100 feet downstream. God and bad- if you live close, good. Downstream, still have ice and now more water. They are being run differently now. Double and triple effectiveness. USACE says there are not enough. WHAT ELSE CAN BE DONE WITH THESE? WID in charge of operating and maintaining these wells. They set policy on on/off. What about full blown H&H?

3.7- education.

Wyoming Region 8 Hazard Mitigation Plan
Kickoff Meeting with Teton County LEPC
Thursday, January 17, 2019
Meeting Minutes

Introductions/Roles & Responsibilities

See Sign-in sheet for LEPC meeting attendance. Rich Ochs, (Teton County Emergency Manager) started the kickoff meeting with a brief intro to the plan update for LEPC. Ryan Carroll (Michael Baker Intl.) then asked LEPC to pull others in as necessary from other departments, community groups, and local organizations. We will maintain a contact and engagement list over the course of the update. Ryan then began an overview of the roles and responsibilities of those on the planning team, including Rich and Jenny's role as the local lead for the update, the State's role, Baker's role, and LEPC's role.

Project Overview/Schedule

Rich spoke a bit about the current plan and the State's regionalized approach to plan updates, which now align with their emergency response regions. Ryan outlined major goals of the project that were previously identified with Rich and Jenny during earlier meetings:

1- Strengthening the current Teton County plan's Risk Assessment
2- Refining/focusing the Mitigation Strategy for each jurisdiction
3- Developing a list of relevant and specific projects
4- Broadening the planning process
5- Creating data that's easily sharable with the public

Rich added that making hazard data and project information easily available to the public to increase risk awareness was another important focus for him in this plan update.

Ryan walked through the anticipated project schedule with the group. Milestones occur each month from now until the end of the project, with the key milestones being:

- April 2019- Risk Assessment Review Meeting
- May 2019- Mitigation Strategy/Action Meeting
- July 2019- Draft Plan Review and Implementation Meeting

Rich gave an overview of the grant process and the Federal grants available through FEMA: FMA, PDM, and HMGP. We also talked a bit about other potential funding strategies like CIP, stormwater fees, general fund, and day-to-day work that can include mitigation action work. Ryan noted that there's an increased focus on spending at the federal level on mitigation (1:6).

Ryan asked: Who else should be included in these discussions moving forward? Who are we missing? From LEPC:

- Flat Creek Water Improvement Dist,
- NRCS (Gary- Afton office).
- Rural Water District

- Kurt Stout (County Floodplain Administration contractor)- unable to attend this LEPC meeting.
- Brian Lense (Town of Jackson Floodplain Administrator)- unable to attend this LEPC meeting.
- Wyoming Game & Fish
- Yellowstone National Park (Rich Moore)
- Others- see evolving contact list

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- **Michael Baker: Develop matrix for hazards/data/assessment technique**
- **Project Team: Schedule February progress meeting**

January 17, 2019 Teton LEPC Meeting

Name	Email	Agency
Mary Lou Klene	klenemd@aol.com	Red Cross
Gerrish Hartenstein	gehrig.hartenstein3@[illegible]	Red Cross
Mike Moyer	mmoyer@tetoncountywy.gov	JHFEMS
Kathy Clay	kclay@tetonwyo.gov	JHFEMS
Kevin Meagher	KMeagher@JacksonWY.gov	Town of Jackson
Luther Propst	lpropst@tetoncountywy.gov	Teton County Commission
Tom Segerstrom	Tom@tetonconservation.org	Teton Conservation District
Bruce Daigle	bruce.daigle@wyo.gov	WYDOT
Randy Knepper	Randy.Knepper@JHAirport.org	Airport
Alton George	alton.george@jhairport.org	Airport
Tom Ninnemann	jacksonholeradionews@gmail.com	LEPC Media / JH Radio
Idanna Love	jlove@jhnewsandguide.com	Jackson Hole News + Guide / JH Weekly / Daily
Cynthia Blankenship	cynthiablankenship@outlook.com	Geologists of Jackson Hole
Paul Cote	pcote@tetoncountywy.gov	Teton County Facilities
ALYSSA WATKINS	JWATKINS@TETONCOUNTYWY.GOV	TETON COUNTY (ADMIN)
Brian Coe	bcoe@tetoncountywy.gov	JH Fire/EMS + RERT #6
BRADY HANSEN	bhansen@tetoncountywy.gov	Jackson Hole Fire/EMS
Bob Culver	bobcul@locul.com	Citizen Observer
Jim Ligori	Jligori@gmail.com	Community Rep / Cert

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Name	Email	Agency
Kelli Fennessey	Kfennessey@tetoncountywy.gov	FIRE/EMS
Robb Sgroi	robb@tetonconservation.org	Teton Conservation District
Rev David Bott	redeemer@wyoming.com	T/C V.O.A.D
Rachael Wheeler	rachael.wheeler@wyo.gov	Health Department
Billy Kirk	wkirk@tetoncountywy.gov	TCo Public Info. Specialist
Jenny Kruger	jKruger@tetoncounty wy.gov	TC EMA
Johnny ZIEM	JZIEM@jacksonwy.gov	ToJ PW
CARL PELLETIER	Cpelletier@jacksonwy.gov	ToJ - PIO
Michelle Weber	mweber@jacksonwy.gov	ToJ - Police
Carlin Girard	carlin@tetonconservation.org	Teton Conservation District
Matt Carr	mcarr@tetonsheriff.org	TCSO
Ryan Carroll	rcarroll@mbakerintl.com	Michael Baker Intl.- State HMP contractor

Wyoming Region 8 Hazard Mitigation Plan
HIRA Overview Meeting with Teton County LEPC (Virtual)
Thursday, March 21, 2019
Meeting Minutes

Attendees
Kelli Fennessey, Rich Ochs, Jenny Kruger, Aaron Strader, Roger Schultz, Tom Ninnemann, Brent Blue, Luther Propst, Brian Coe, Mike Moyer, Lloyd Funk, Steve Markason, Jim Ligori, Joseph Sebastian, Dustin Havel, Randy Knepper, Floren Poliseo, Brady Hansen, Ryan Carroll, Emily Alvarez.

Introductions
See Sign-in sheet for LEPC meeting attendance. Rich Ochs, (Teton County Emergency Manager) started the regularly-scheduled LEPC meeting with role-call and we then moved on to their first agenda item, which was the Mitigation Plan Update- HIRA Overview.

Project Overview/Schedule
Rich spoke a bit about the current plan and the State's regionalized approach to plan updates, which now align with their emergency response regions. Ryan outlined major goals of the project that were previously identified with Rich and Jenny during earlier meetings:

1- Strengthening the current Teton County plan's Risk Assessment
2- Refining/focusing the Mitigation Strategy for each jurisdiction
3- Developing a list of relevant and specific projects
4- Broadening the planning process
5- Creating data that's easily sharable with the public

Rich added that making hazard data and project information easily available to the public to increase risk awareness was another important focus for him in this plan update.

Ryan walked through the anticipated project schedule with the group. Milestones occur each month from now until the end of the project, with the key milestones being:

- April 2019- Risk Assessment Review Meeting
- May 2019- Mitigation Strategy/Action Meeting
- July 2019- Draft Plan Review and Implementation Meeting

Rich gave an overview of the grant process and the Federal grants available through FEMA: FMA, PDM, and HMGP. We also talked a bit about other potential funding strategies like CIP, stormwater fees, general fund, and day-to-day work that can include mitigation action work. Ryan noted that there's an increased focus on spending at the federal level on mitigation (1:6).

Ryan asked: Who else should be included in these discussions moving forward? Who are we missing? From LEPC:

- Flat Creek Water Improvement Dist,

- NRCS (Gary- Afton office).
- Rural Water District
- Kurt Stout (County Floodplain Administration contractor)- unable to attend this LEPC meeting.
- Brian Lense (Town of Jackson Floodplain Administrator)- unable to attend this LEPC meeting.
- Wyoming Game & Fish
- Yellowstone National Park (Rich Moore)
- Others- see evolving contact list

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Wyoming Region 8 Hazard Mitigation Plan
Mitigation Action Workshop #1
May 16th, 2019
Meeting Minutes

Attendees

Rich Ochs, Riclyn Betsinger, Dustin Havel, Michelle Weber, Aimee Crook, Tom Ninnemann, Bruce Daigle, Phillip Fox, Arne Jorgensen, Charlotte Reynolds, Michael Nash, Heather Voster, Rachael Wheeler, Grady Hansen, Kelli Hardwick, Jenny Kruger, Ryan Carroll, Emily Alvarez.

Phases of EM

- Communicate the other plans that exist. Increase public participation in development of the response plans.
- Make the connection between mitigation, preparedness, response, and recovery.

Survey Results and Goals

- There are key themes that overlap with the Comp Plan.
- Expand current goals to include other themes and send to Jenny/Rich/LEPC for review and feedback.
    - Rich likes the idea of the first goal – change language to "Improve protection of the general population including residents, commuters, and guests." Commuters are such a big part of the community/economy and need to be acknowledged. Protect everyone regardless of status.

Risk Assessment Results and Corresponding Actions

1. **Flooding**
    - Results
        - Hazardous material plan already done.
        - Might be wasted time/resources to map Yellowstone.
        - Did get updated LiDAR from Conservation District
        - Flat Creek Water Improvement District – have not had conversations but need to. Rich will talk to Carlen.
        - Rich can get better data for bridges
    - Actions
        - Buyout, etc. is not a very popular option. The homes in the high-risk areas are typically very expensive and wouldn't have enough money to purchase.
        - Don't want to spend more money, wants to know what the mitigation strategies are.
        - Consider what property owners can actually spend their money on.
        - Proactive, stormwater considerations (update to stormwater management plan), education and awareness are all good options. Does not think reactive strategies apply in the community.
        - Nonfederal levee sections: lot of things going on politically. Corps either has or will be sending letter saying they won't be maintaining levees there are not easements for. County is working to get easements.
        - Carlen will need to be included in conversations

- Johnny and Floren? Lauren? from town of Jackson

2. **Hail**
   - Actions
     - Safe rooms/ covers, etc. is a cool idea (Rich) This would be great to implement
     - Warnings would also be worth while
     - Hail resistant shingles would not be likely
3. **Lightning**
   - Results:
     - Forest service may be able to pull and give us the data w/ proprietary host. Rich will put this request in.
   - Actions
     - No comments other than "I like it"
4. **Winter Storm**
   - Results:
     - From health and human services- folks that are dependent on electricity. This may not be on a helpful scale. EMPOWER
   - Actions:
     - Add generators to building and consider them a shelter/space to charge, etc.

Roundtable

- KSGT 1340 am and FM translation will now be in Spanish
- Parks service is starting to monitor flooding.
- Get better about distilling the info in other plans so the general public can wrap their heads around it.

Wyoming Region 8 Hazard Mitigation Plan
Mitigation Action Workshop #2
June 14th, 2019
Meeting Minutes

Attendees

Rich Ochs, Kelli Hardwick, Todd Smith, Kristen Waters, Dustin Havel, Brady Hansen, Jess King, Matt Carr, Paul Cote, Robert Sgroi, Mike Moyer, Mike Doyle, Greg Adams, Matt Brackin, Ryan Carroll, and Emily Alvarez. Attending LEPC members represented Highway Patrol, JPD, JH Airport, JH Fire Chief, Teton County Sherriff, Teton County Facilities Mgr, TCD, Teton County Fire/EMS, Teton NF Environmental Mgr, Teton County, ID (Greg Adams- Commissioner)

Plan Update

- July 18th 2019: Release draft HMP update to LEPC
- Late July 2019: Public release draft of HMP Update at open house event
- Late August 2019: Public comments on HMP update due
- Everything to FEMA by the time the grant funds expire

Mitigation Strategy Goals

- 3 more likely #1
- 4 #2
- Natural environment related to hazards – this may be written too broad
- Number three is the general goal that the others fall under. Maybe number three is the mission statement and the others are goals?

Capabilities Assessment

- Feedback from Rich: it was great to reach out and contact people he hadn't worked with in a while and made reconnections.

Risk Assessment Results and Corresponding Mitigation Actions

- Rich made an online form to track and collect/map ideas for mitigation projects.
- **Drought:** Rich thinks action suggestions look good- some things he hasn't heard of but thinks may be easy projects to implement. Public Works has a budget request in to get a consultant to get a Stormwater Management Plan- maybe two steps behind getting it done. Contingent upon the budget approval process. Won't know until the 17th if it's been included. Interested in being a part of the process to make actions
- **Dam Failure:** If we use the 500 year floodplain, it's very similar to the catastrophic analysis. Bureau of Rec is unable to release data to the public.
    - Why is this on here, but things like active shooter are not?
        - Dam failure is often actually caused by natural occurrences, not necessarily human caused.
    - Dam Cam!

  - Bureau of Rec only has who they are going to call and when. Doesn't have early warning systems, etc.
- **Landslide:** Before this, they were using historical landslide map. Seth is looking at updating that and we'll hopefully have for the plan. There are other factors (like rainfall) that could be added in, and Seth is looking to do that next.
- **Earthquake:** Rich/Ryan: Touch base about updating language re: UBC Zones.
- **Wildfire:** Homeowner and agency level actions.
  - Do folks have thoughts on how to build upon outreach efforts?
    - Teton Wildfire Ambassador Program: initiated about a year ago. All HOA throughout the county interested in recruiting people interested in fire protection and interested in representing their neighborhood. Now has about 10 people.
    - Interest in updating the CWPP
    - They contract, don't have their own helicopter. Usually here around the winter for search and rescue. Fire season is still going in October, so how do we keep the helicopter a little longer to keep air resources?
    - Smoke notification websites?
- **Avalanche:** Snow sheds and tunnels are the two suggestions we get from the public a lot. All the Sheriff Deputies in Teton County will have a shovel and probe now (and are getting trained). HWY Patrol is about to do the same. Gate closure is an issue- partnerships, etc. Balancing public access to land and issues on HWY. Avalanche Urban Interface
- **Check in with Teton County, ID:** Opportunity for actions that cross state lines. Protecting the pass and things like that are key. Look at some of this stuff from the viewpoint of an Alta resident. Alternate routes for evacuation. Don't have a mutual aid agreement. There's a one off agreement between fire, no agreement between law enforcement.

Remaining Coordination:

- Refinement of final risk assessment
- Finalizing capabilities assessment
- Finalize actions and roll up into plan

5.2 Appendix B- Public Survey Results

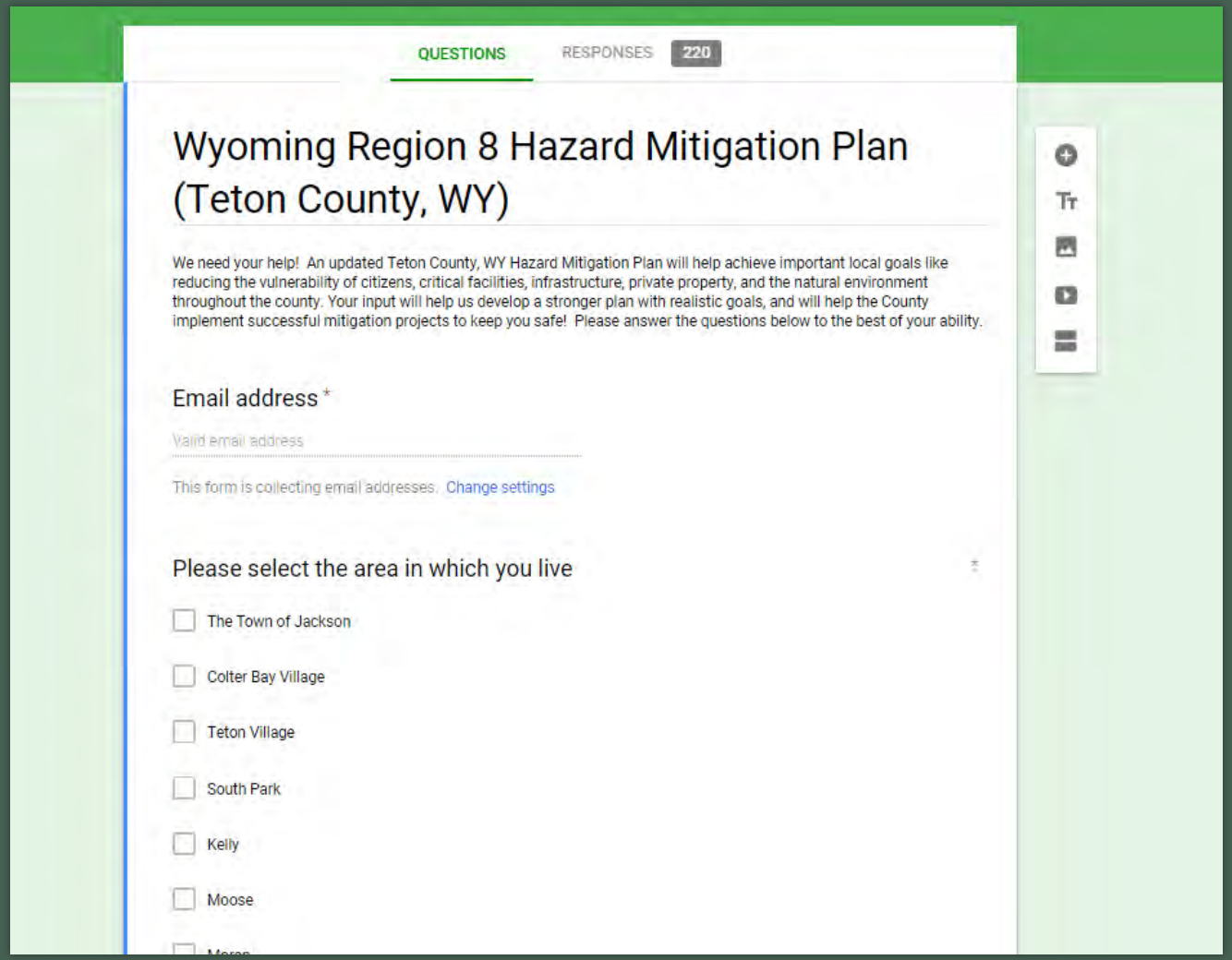
Survey # 1 Results Summary: Hazards within Region 8

Wyoming Region 8 Hazard Mitigation Plan Update

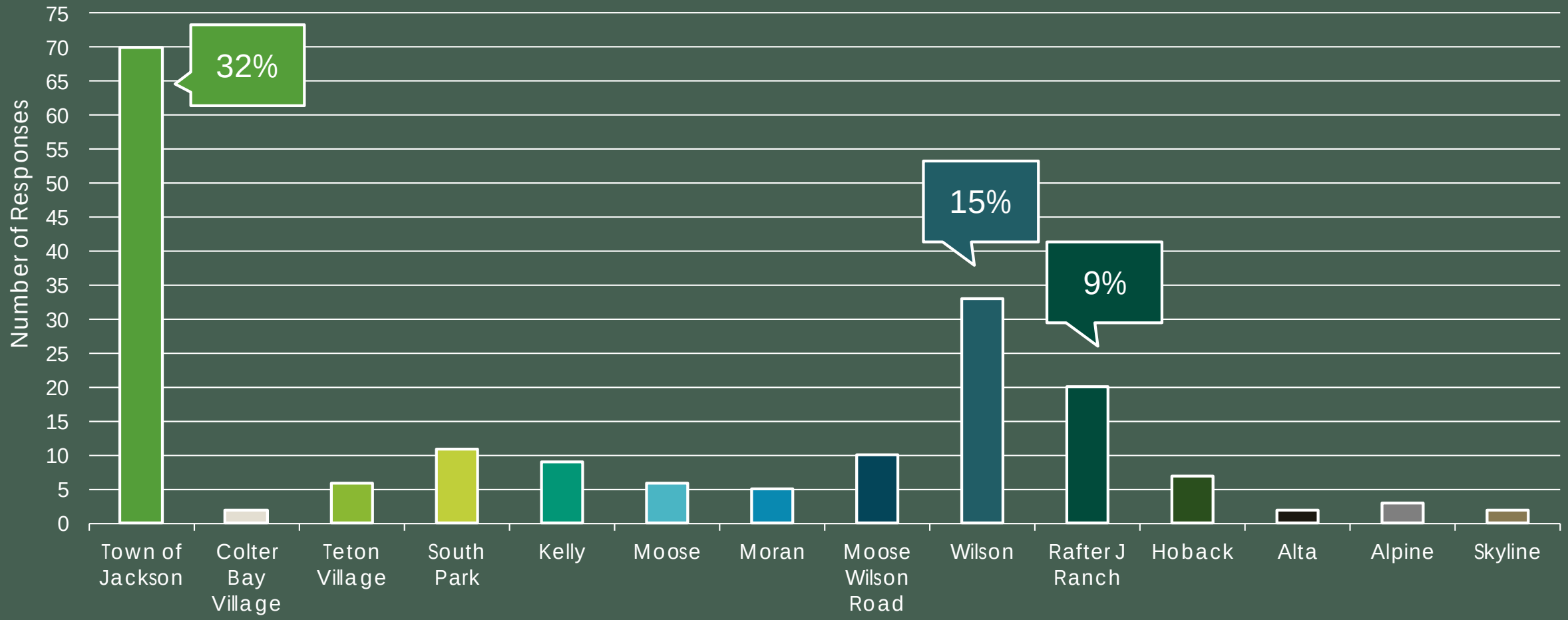
220 respondents!

Survey focused on understanding:

- Where respondents live and work
- If they were familiar with the 2016 plan update
- If they are concerned with their community being impacted by a natural disaster
- If they have every experienced a natural disaster, and if so what it was
- What hazards they think are the highest threat to their communities
- What populations they feel are the most vulnerable to a natural disaster
- What comes to mind when they hear "**hazard mitigation**"

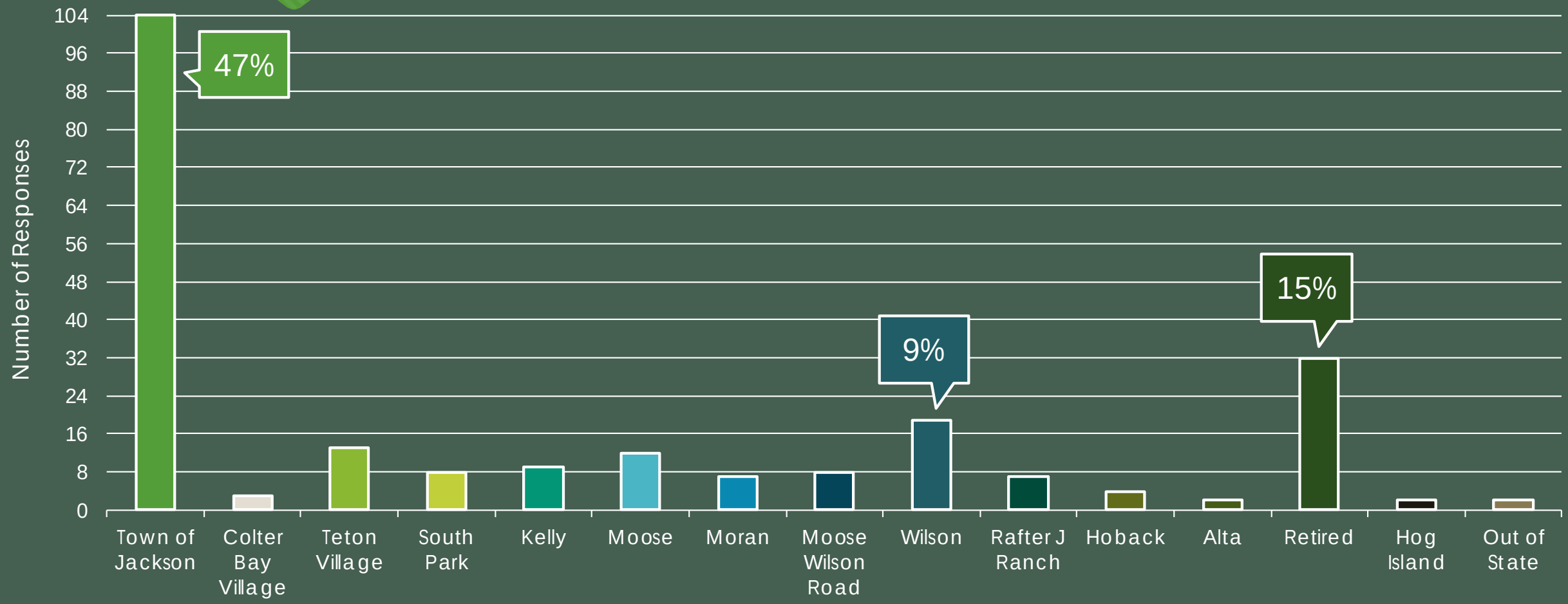


Question 1: Please Select the Area in which You Live



* Only communities selected more than once are shown above.

Question 2: Please Select the Area in which You Work



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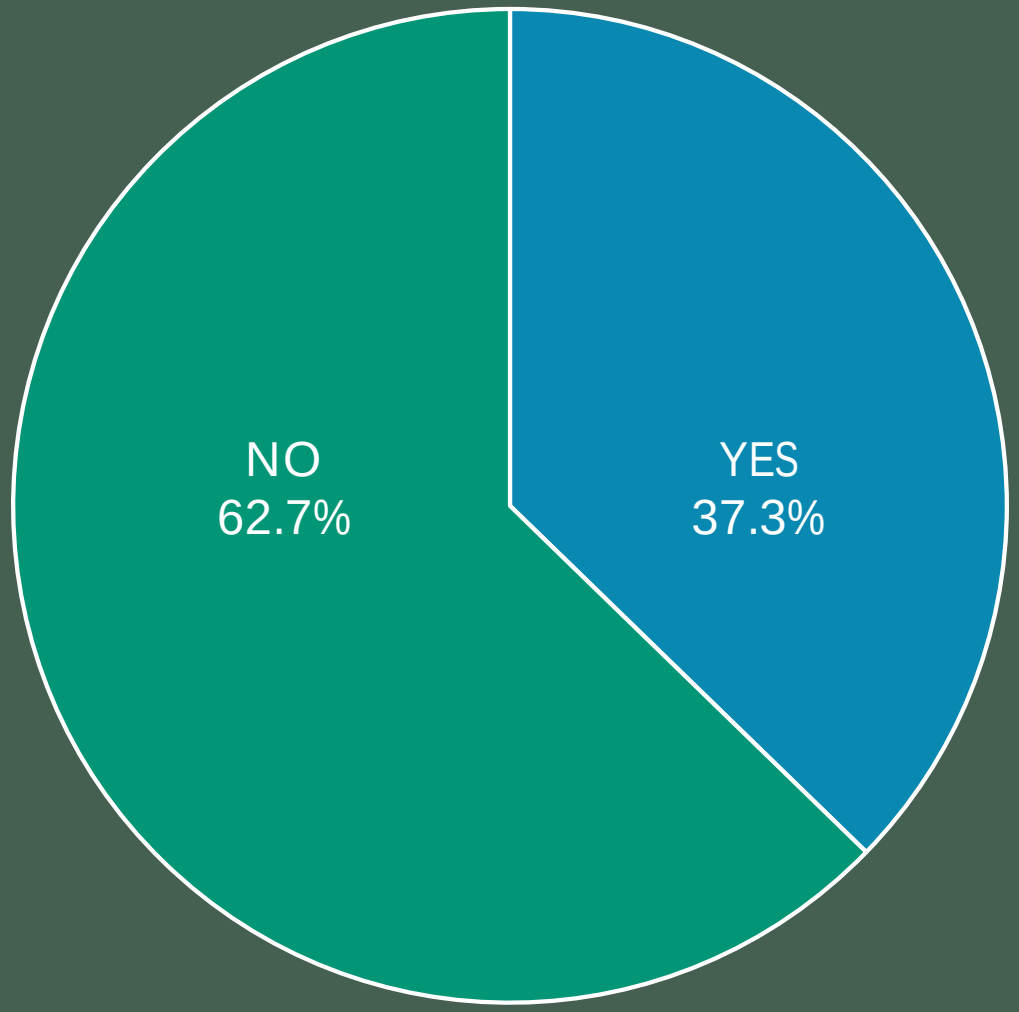
Question 3: Are you aware of the Teton County Multi-Hazard Mitigation Plan, last updated in 2016?

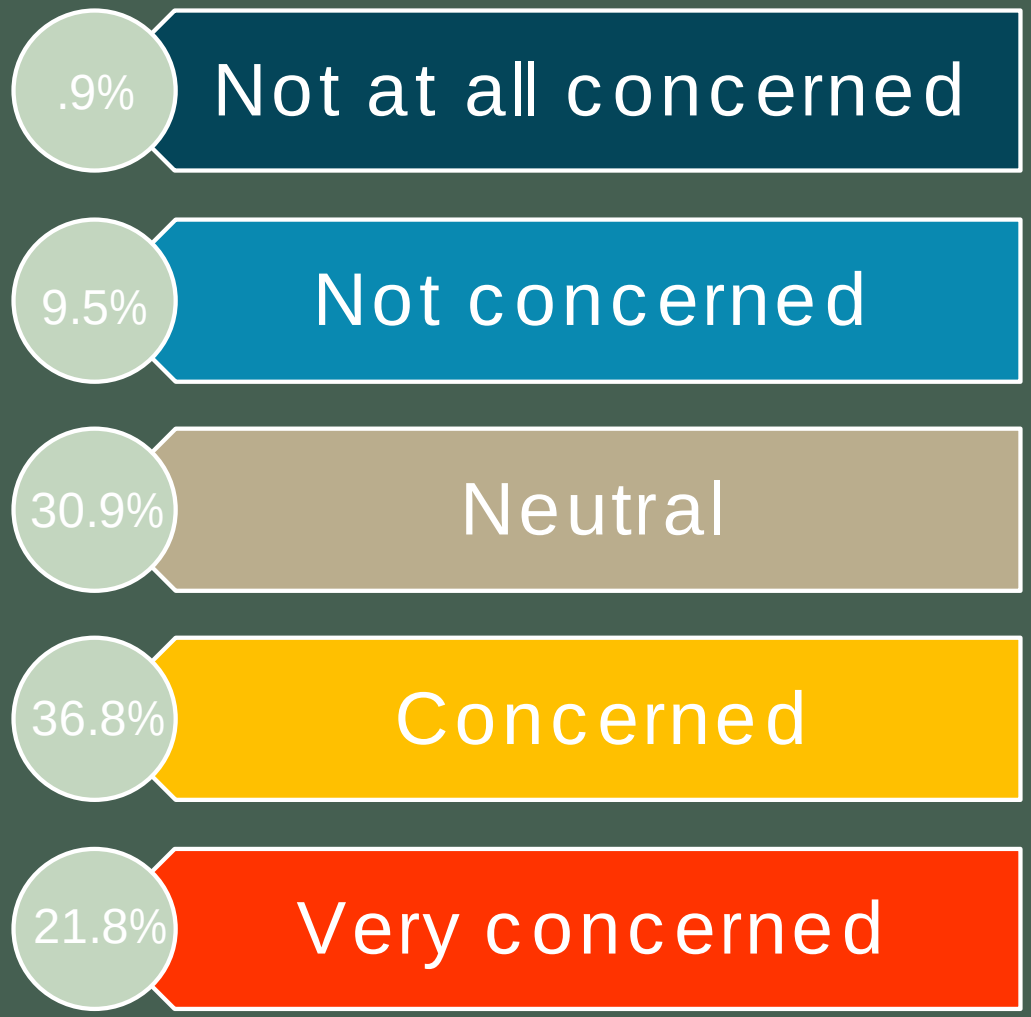
About **2/3** of respondents **were not aware** of the Teton County Multi-Hazard Mitigation Plan.



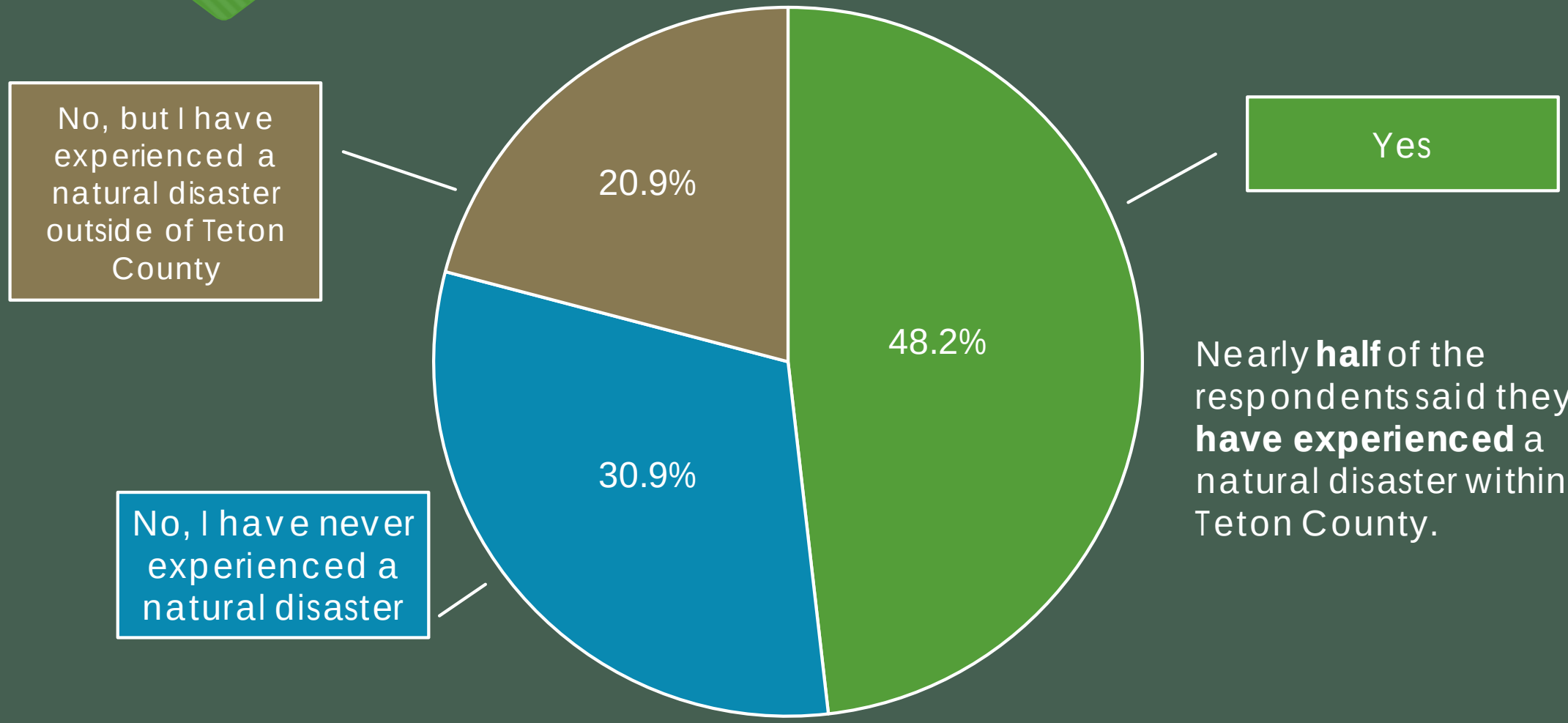
Question 4: How concerned are you with your community being impacted by a natural disaster?

Most community members reported they are either neutral or concerned about being impacted by a natural disaster.

Very few reported that they are not concerned or not at all concerned.

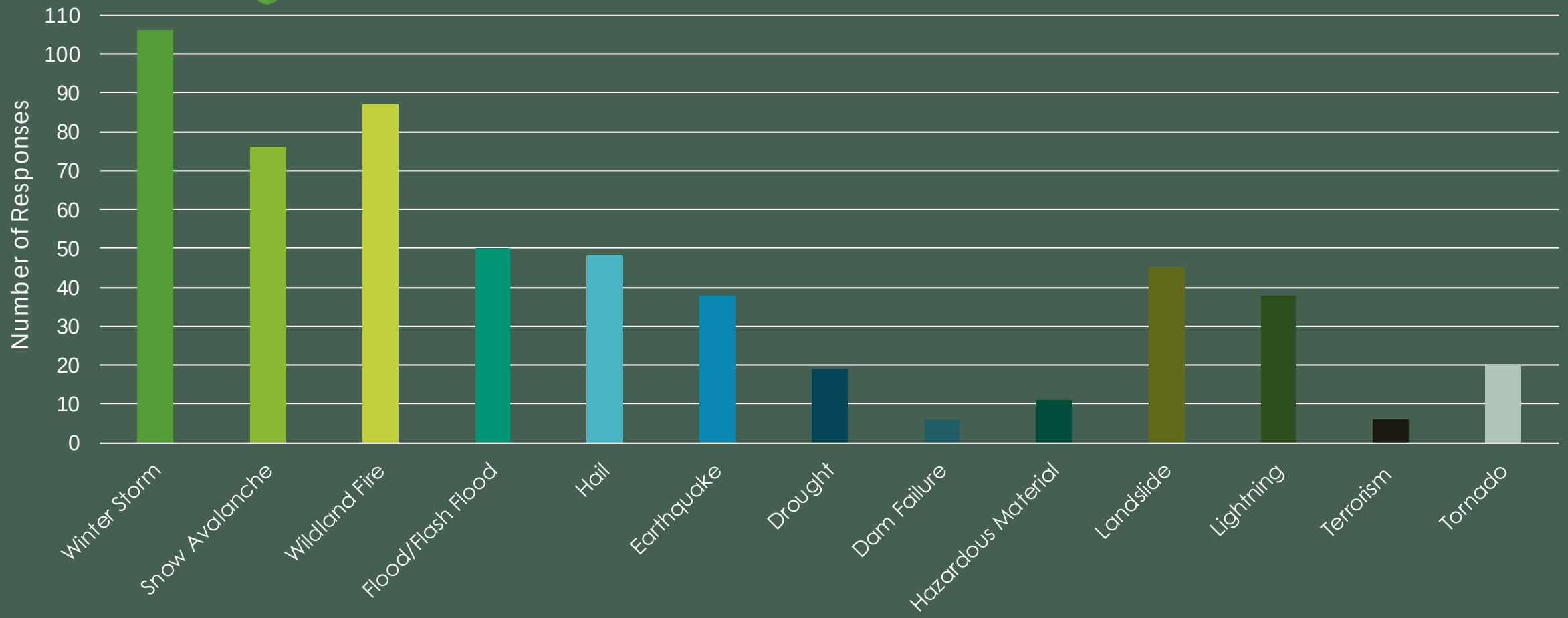


Question 5: Have you ever experienced or been impacted by a natural disaster within Teton County?



Nearly **half** of the respondents said they **have experienced** a natural disaster within Teton County.

Question 6: If you answered yes to the previous question, please indicate which type(s) of disaster(s) and the number of occurrences.



*Not all events may have happened within Teton County.

Question 7: Please rank the top three hazards that you think are the highest threat to your community. (One being the highest threat, three being the third highest. Please select only three hazards.)

The tables below show the percent of responses for each hazard by threat rank. **45%** of respondents identified **wildland fire as the highest** threat to their community. **Wildland fire, earthquake, and winter storm** were most often the **top three** most threatening hazards.

Hazard Type	Percent Highest Threat
Wildland Fire	45%
Earthquake	21%
Winter Storm	20%
Snow Avalanche	9%
Flood/Flash Flood	7%
Dam Failure	7%
Landslide	6%
Drought	3%
Tornado	3%
Hazardous Material	3%
Terrorism	2%
Hail	2%
Lightning	2%

Hazard Type	Percent Second Highest Threat
Winter Storm	20%
Wildland Fire	18%
Earthquake	18%
Snow Avalanche	12%
Flood/Flash Flood	10%
Dam Failure	9%
Landslide	6%
Hail	4%
Lightning	4%
Drought	4%
Hazardous Material	3%
Terrorism	2%
Tornado	0%

Hazard Type	Percent Third Highest Threat
Earthquake	25%
Winter Storm	19%
Wildland Fire	19%
Dam Failure	17%
Snow Avalanche	16%
Flood/Flash Flood	13%
Landslide	10%
Lightning	5%
Terrorism	5%
Drought	5%
Tornado	3%
Hazardous Material	2%
Hail	2%

Question 8: If you would like, please share your natural disaster story with us.

Sample responses include…

"I wouldn't call these natural disasters. If Jackson Lake dam failed and Yellowstone blew as a result of an big earthquake, that would be a natural disaster. Avalanches are just part of where we live. They close the roads, it's the price we pay for living somewhere as fabulous as this."

"The area north of town does not have a fire protection facility since the airport no longer responds to county calls"

"In 2017, we were unable to leave the valley for a family event because all routes were blocked. This was the same week that the metal power lines leading to the village snapped."

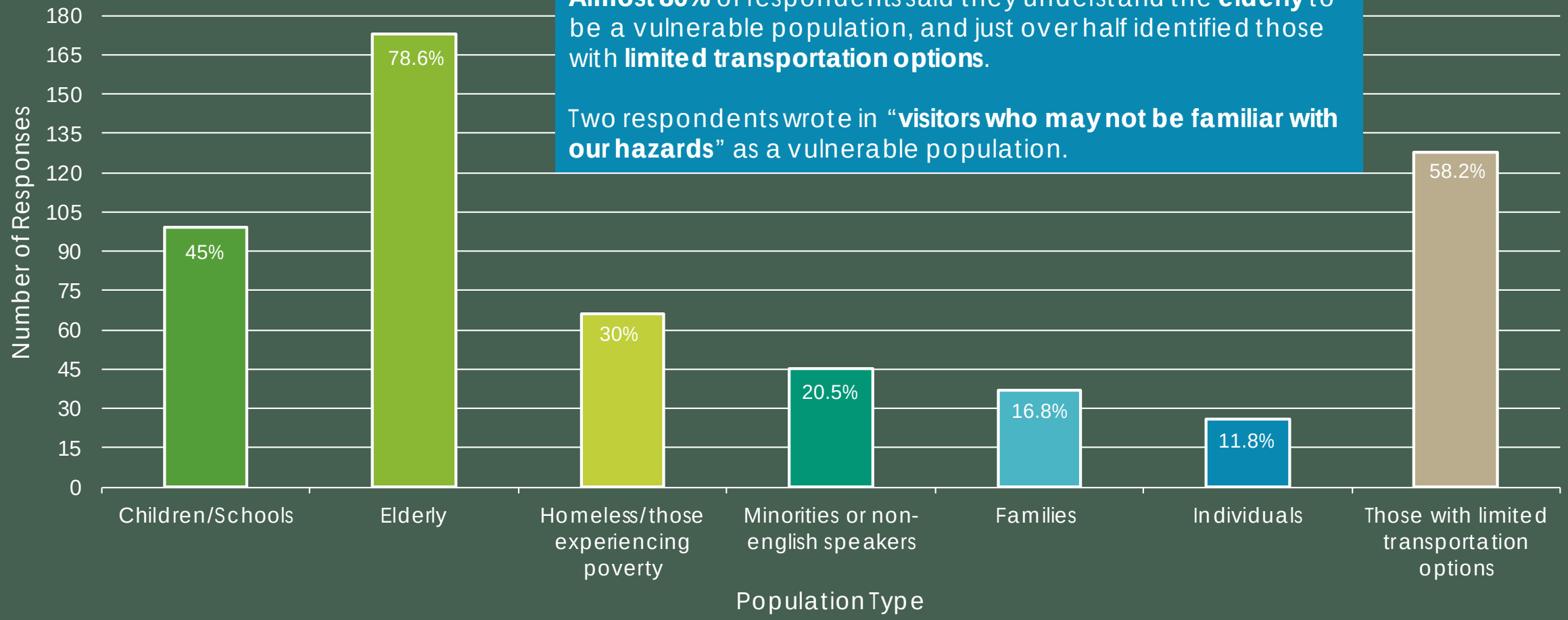
"Last spring there was an earthquake that was the probable cause of a large landslide up the Grey"s River Rd. This landslide had the potential for a natural formed dam that could have created a flooding situation in Alpine if there had been a large enough backup of water with a break in the natural formed dam. There have been several road closures of the canyon r/t landslides or snow slides in the past couple years. This is my route to Jackson to work."

"… I feel very concerned about the potential of COMMUNICATION SYSTEMS FAILING in the event of any of the above occurrences. Lastly, the geography of the valley also makes me feel concerned about ACCESS TO/EGRESS OUT OF THE VALLEY (i.e. if some/most of the roads close or become too congested, etc.)."

Question 9: Which populations do you understand to be the most vulnerable to a hazard? (Select up to three)

Almost 80% of respondents said they understand the **elderly** to be a vulnerable population, and just over half identified those with **limited transportation options**.

Two respondents wrote in "**visitors who may not be familiar with our hazards**" as a vulnerable population.



* Only populations selected more than twice are shown above.

Question 10: To help us gauge what you know about hazard mitigation, please leave 3-4 keywords that come to mind when you think about this topic.

Survey # 2 Results Summary: Community Assets, Goals, & Actions

Wyoming Region 8 Hazard Mitigation Plan Update

217 respondents!

Survey focused on understanding:

- Which community assets may be most vulnerable to hazards.
- How the community prioritizes community assets over one another.
- How useful the community felt the goals from the 2016 HMP were.
- Identify area where the HMP can integrate the Teton County/Jackson Comprehensive Plan.
- How the community currently receives information about hazards, and what would be most effective in the future.
- Citizen priorities for types of mitigation actions.

Section One: Community Assets and Vulnerabilities

To effectively assess community risk, we need to understand which community assets may be vulnerable to natural hazards within Teton County. Community assets are features, characteristics or resources that keep a community functioning and/or make it unique. Vulnerable community assets are those that may be impacted by natural hazards.

Question 1: Please ranks the following asset categories in order of vulnerability

Asset Category	Percent Most Vulnerable
Human	53%
Infrastructure	38%
Environmental	34%
Governance	15%
Economic	10%
Culture/Historic	6%

Human, infrastructure, and environmental were the asset categories most frequently ranked as **most vulnerable.**

Asset Category	Percent Second Most Vulnerable
Infrastructure	33%
Environmental	27%
Governance	22%
Culture/Historic	17%
Human	17%
Economic	17%

Infrastructure, environmental, and governance were the asset categories most frequently ranked as **second most vulnerable.**

Asset Category	Percent Third Most Vulnerable
Economic	24%
Culture/Historic	22%
Governance	22%
Infrastructure	18%
Environmental	16%
Human	11%

Economic, culture/historic, and governance were the asset categories most frequently ranked as **third most vulnerable.**

Question 2: Please rank the following specific types of community assets by how important they are to you.

Community Asset	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Schools (K-12)	56%	24%	12%	4%	4%
Elder care facilities	47%	32%	14%	4%	2%
Hospitals	88%	9%	1%	1%	0%
Major infrastructure (bridges, roads, etc.)	82%	18%	0%	0%	0%
Tourism economy	10%	32%	29%	16%	13%
Fire and Police stations	75%	20%	4%	0%	0%
Libraries, museums, and other historical assets	13%	47%	24%	12%	4%
Major employers	14%	40%	34%	7%	5%
Small businesses	24%	46%	22%	5%	4%
College/University	6%	19%	32%	22%	22%
Municipal buildings	13%	40%	29%	15%	3%
Parks and recreation areas	24%	31%	25%	12%	7%

Question 3: Please list any other assets you feel are more important to your community.

Sample responses include…

"A vibrant, well funded newspaper. Public recreational facilities, such as ball fields, ice rinks, groomed X-C ski tracks, bike paths (esp. for e-bikes), etc."

"National forests."

"Search and rescue."

"levees and dams/ airport."

"Racial/socioeconomic diversity."

"The people who work and live in Teton county."

"Wildlife and pets."

Section Two: Mitigation Goals

In a hazard mitigation plan, goals identify what long-term outcomes the community wants to achieve. They are general guidelines that demonstrate what the community wants to accomplish with the plan. According to FEMA they are "usually broad policy-type statements that are long-term, and they represent visions for reducing or avoiding losses from the identified hazards."

Question 1: Please rank the above goals by how useful you feel they are for guiding community mitigation actions.

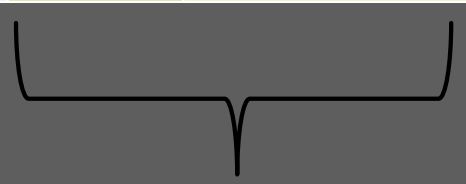
The 2016 Teton County Multi-Hazard Mitigation Plan contains three goals:

1. Mitigate natural and hazardous material hazards to reduce the potential for property loss or damage, injury and loss of life for **Teton County**.

2. Mitigate natural and hazardous material hazards to reduce the potential for property loss or damage, injury and loss of life in the **Town of Jackson**.

3. Mitigate natural hazards to protect soil and water resources.

Goal	Useful	Somewhat Useful	Neutral	Somewhat Not Useful	Not Useful
1	70%	18%	6%	6%	0%
2	58%	24%	9%	6%	2%
3	58%	22%	8%	9%	2%



Most respondents felt the goals are either useful or somewhat useful.

Question 2: To help us better align the hazard mitigation plan with the current Jackson/Teton County Comprehensive Plan, please identify your stance on the following:

Comprehensive Plan Topic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Include ecosystem stewardship	**40%**	37%	37%	6%	3%
Include responsible growth (development) management	**42%**	37%	37%	6%	5%
Include overall quality of life	**41%**	39%	39%	2%	1%
Facilitate a diverse and balanced economy	19%	**36%**	**36%**	7%	4%
Facilitate regional climate sustainability	31%	29%	29%	9%	10%
Promote stewardship of wildlife, natural resources and scenery	**56%**	27%	27%	5%	2%
Promote energy conservation	**40%**	30%	30%	8%	6%
Promote multi-modal transportation	29%	**34%**	**34%**	10%	8%

Responses tended to lean toward strongly agreeing, agreeing, or being neutral about aligning the comprehensive plan topics with the hazard mitigation plan.

Question 3: Do you have other thoughts about goals? If so, please share below.

Sample responses include…

"A hazard plan might have some overlap with the Comprehensive Plan, but only in places that have strong interdependence. For example, we need a strong ecosystem, managed natural resources, and thoughtful energy use in order to be successful into the future. If those fail, it's all over for Teton County."

"The goals should reflect safety and mitigation, not goals of comp plan unless they directly relate to mitigation."

"Hazard mitigation should continue to address/include core public services provision by Town, County, etc."

"Stay with the Comp Plan."

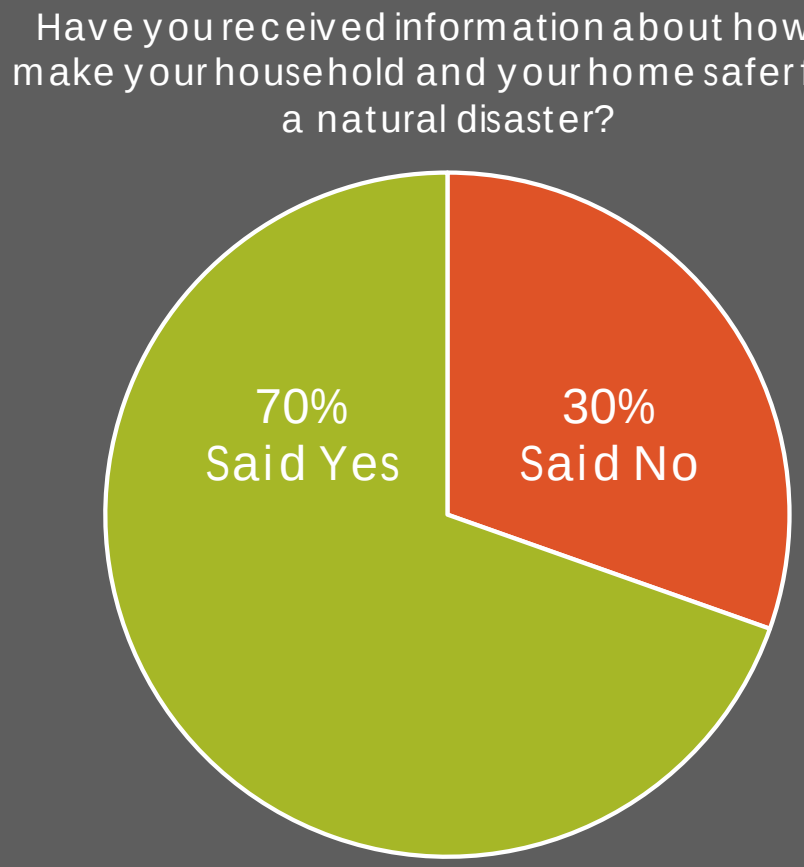
"Development needs to be slowed down, because the more people in the valley the more difficult any natural disaster will be to endure."

"Maybe the goals are about natural vs hazardous material - no matter the location - and mitigation takes into account soil, water and perhaps some of the comp plan items. Maybe even address comp plan items when it is updated again. Seems to me we are missing ability to respond and ultimately recover due to our own resources, our ability to communicate and mobilize and the overall strength and responsiveness of our network."

Section 3: Mitigation Actions and Community Preparedness

Mitigation actions are the specific action or strategy undertaken to reduce or eliminate long-term risk to life and property due to hazards. The following questions will help us understand community preference and priority as it relates to preparing for and mitigating hazards.

Questions 1 & 2: Have you ever received information about how to make your household and your home safer from a natural disaster? If yes, how have you received the information?



Source	Percent*
Local government meetings/workshops	30%
Email newsletter or listserv	23%
Mailers	21%
Local News	20%
Social Media	19%
Booth at community events	18%
Non-profit organization meetings/workshops	16%
Radio	15%
Neighbor/family/friend	14%

*Some respondents selected more than one option.

Of the top 5 answers, **local government** was selected most often as a source of information

Question 3: Whom would you most trust to provide you with information about how to make your household and home safer from natural disasters?

Source	Percent
Teton County/ Town of Jackson Government	46%
University	13%
Not sure	9%
Non-profit	7%
Utility	7%
Insurance	6%
Other	5%
Neighbor/friend/family	5%
News	2%
Elected official	1%
Social media	0%

The majority of people reported they would trust the **government** the most for information.

Question 4: What is the most effective way for you to receive information about how to make your household and home safer from natural disasters? (Please select up to three.)

Source	Percent
Email newsletter or listserv	24%
Local News	18%
Local government meetings/workshops	15%
Mailers	12%
Social Media	8%
Non-profit organization meetings/workshops	7%
Booth at community events	6%
Radio	6%
Neighbor/family/friend	4%

Other responses include:

- Books
- Booth at community events
- House call
- Text
- Digital news (Buckrail or JH News and Guide)

Question 5: Please check the circle that best represents your opinion of the following actions to reduce risk and loss associated with hazards and natural disasters.

Action Type	Strongly support	Support	Neutral	Do Not Support	Strongly Do No Support	Unsure
Regulatory Approaches	12%	**45%**	26%	8%	6%	4%
Non- Regulatory Approaches	18%	**36%**	35%	2%	4%	4%
A mix of both regulatory and non regulatory	29%	**39%**	21%	4%	5%	3%
Policies that prohibit development in areas subject to natural hazards	**41%**	39%	12%	4%	2%	1%
Tax $ to compensate local land owners	7%	18%	24%	**26%**	20%	5%
Tax $ to reduce risk and losses	14%	**53%**	21%	5%	6%	2%
Protect historical and cultural structures	12%	**45%**	31%	7%	4%	1%
Steps to safeguard the local economy following a disaster event	20%	**44%**	28%	4%	2%	1%
Improve prepardenss of local schools	**51%**	36%	11%	2%	0%	0%
Local inventory of at-risk buildings and infrastructure	30%	**45%**	20%	3%	1%	1%

Question 6: To understand citizen priorities regarding planning for natural hazards, please tell us how important each one of the following is to you…

Action	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	34%	43%	16%	5%	2%
Protecting critial facilities	93%	6%	1%	0%	0%
Preventing development in hazard areas	50%	29%	11%	7%	2%
Enhancing the function of natural features	35%	40%	17%	5%	3%
Protecting historical and cultural buildings/landmarks	16%	42%	29%	10%	4%
Protecting and reducing damage to utitilties	68%	29%	2%	0%	0%
Strengthening emergency services	69%	25%	6%	0%	0%
Promoting cooperation amongst different entities	59%	31%	7%	3%	0%

Question 6: If you have thoughts or ideas for mitigation actions, please share them with us in the space below.

Sample responses include...

"The best preparations for disaster involve relationships within communities. We should build that into the plan - how do we make stronger ties with each other, knowing our vulnerabilities and strengths so that we know how/who to rely on during a disaster?"

"Quit developing in areas that are subject to natural hazards."

"Increased local tax dollars to strengthen emergency services readiness and depth."

"Creating resilience by making redundant critical systems ie medical, transportation, energy.."

"I forgot to ad in survey #1 that I am VERY concerned about ingress/egress to/from Teton County in a natural disaster. Also, I am VERY concerned that because housing is so expensive in Teton County, many of our emergency personnel (police, firefighters, nurses, etc.) do not live in Teton County. I think that any mitigation plan that does not consider both these issues will not be effective."

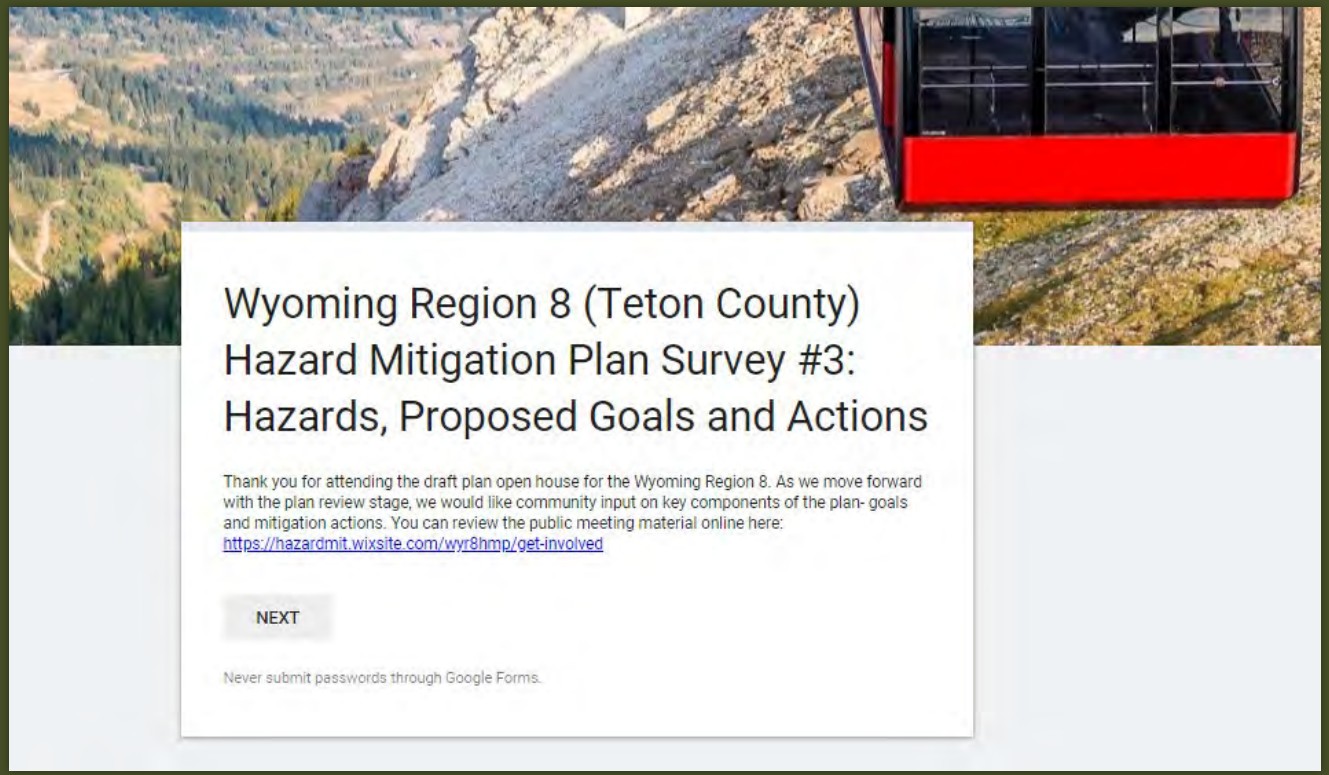
Survey # 3 Results Summary:
Hazards, Proposed Goals, & Actions

Wyoming Region 8 Hazard Mitigation Plan Update

134 respondents!

Survey focused on understanding:

- How the community views the proposed Plan goals.
- Community opinion of importance of profiled hazards.
- How the community views the proposed mitigation actions.



Section One: Plan Goals

The proposed plan goals are as follows (order of the goals has no bearing on their importance):

1. Protect Critical Facilities, utilities and infrastructure.
2. Protect and restore the natural environment to support community resiliency.
3. Improve protection of the general population including residents, commuters, and visitors.
4. Continue to implement actions to mitigate the effect of hazards through education, ordinances and resolutions, and proper project analysis, to enhance life safety and reduce property losses.

Question 1: How effective do you think the proposed plan goals are at meeting the needs of your community?

The proposed plan goals are as follows (order of the goals has no bearing on their importance):

1. Protect Critical Facilities, utilities and infrastructure.
2. Protect and restore the natural environment to support community resiliency.
3. Improve protection of the general population including residents, commuters, and visitors.
4. Continue to implement actions to mitigate the effect of hazards through education, ordinances and resolutions, and proper project analysis, to enhance life safety and reduce property losses.

Very Effective	Somewhat Effective	Effective	Somewhat Ineffective	Very Ineffective	No Opinion
39%	26%	22%	8%	1%	4%

Most respondents felt the goals are effective

Question 2: If you have any other comments regarding the proposed plan goals, please leave them in the space below.

Sample responses include...

"If effectively followed through this plan sounds very good."

"Add wildlife to the list not just 'natural environment' define more clearly."

"Where do historic buildings/cultural sites fall in the goals?"

"Improve the situational awareness of the general public."

"Sounds like 'pie in the sky' bureaucracy."

"Involve the community more."

Section Two: Profiled Natural Hazards

Question 1: Please select the top 3 natural hazards included in the plan update in order of most important to you.

Natural Hazard	Percent Most Important
Wildland Fire	58%
Earthquake	19%
Winter Storm	10%
Avalanche	5%
Dam Failure	4%
Flood/Flash Flood	4%
Landslide	1%
Lightning	1%
Drought	0%
Hail	0%
Tornado	0%

Over half of the respondents consider wildland fire to be the most important hazard to mitigate.

Natural Hazard	Percent Second Most Important
Earthquake	27%
Wildland Fire	20%
Winter Storm	13%
Flood/Flash Flood	13%
Dam Failure	9%
Landslide	5%
Avalanche	5%
Lightning	4%
Drought	2%
Tornado	2%
Hail	1%

Earthquake was ranked in second place most often.

Natural Hazard	Percent Third Most Important
Winter Storm	21%
Earthquake	15%
Wildland Fire	14%
Avalanche	11%
Dam Failure	10%
Flood/Flash Flood	10%
Lightning	8%
Landslide	7%
Drought	2%
Hail	2%
Tornado	1%

Winter Storm was ranked in third place most often.

Question 2: Is there a particular natural hazard you would like to see added during the next plan update? If so, what natural hazard is it?

"I think lightning and wildland fire could be combined, as could winter storm and avalanche. Some health-related hazards are natural hazards, such as pandemic flu and bats (always potentially rabid) in buildings -- these should be added to the plan."

"HOW ABOUT A MAN-MADE EMERGENCY SUCH AS A MASS SHOOTING, TERRORIST ATTACK. PERHAPS YOU FOLKS DO NOT THINK IT COULD HAPPEN?"

Sample responses include...

"Human overpopulation is more hazardous to nature than nature itself."

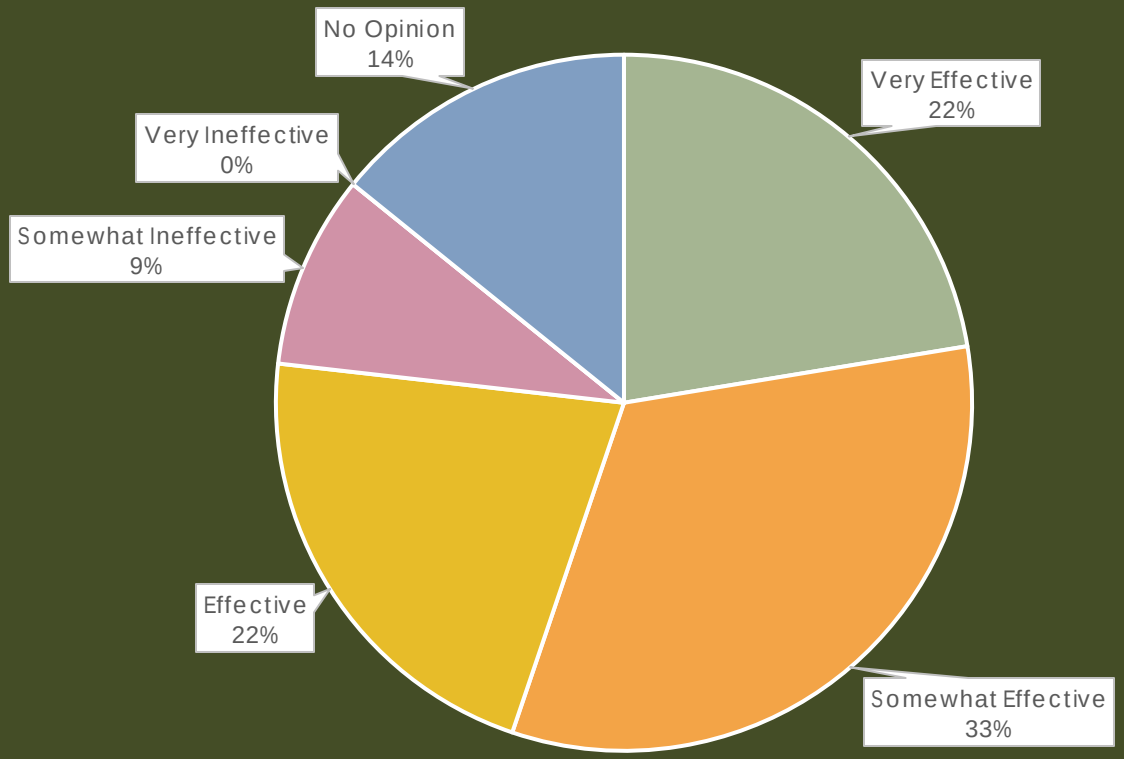
Increased population/residential density in locations that then increase call for hazard mitigation that then reduces natural landscape resiliency (which has been the most effective and cheapest form of hazard mitigation since time in memorium)."

"I am concerned about evacuation routes for those in the Teton Village/West Bank area should a fire or some other catastrophic event cut off their evacuation to the south. The Moose-Wilson Road is not an appropriate evacuation route and I think there should be another bridge across the Snake River to the north to help get people to safety. Teton Village visitors, residents and businesses have grown over the years and will continue to grow, causing a potentially hazardous situation to that community if they cannot evacuate quickly."

Section 3: Mitigation Actions

After reviewing the proposed new mitigation actions displayed on the public input boards, please answer the following questions. If you were unable to attend the public meeting, you can view the proposed actions online here: http://bit.ly/WYR8MitActions

Question 1: As a whole, how effective do you think the proposed new mitigation actions will be in helping the community meet the proposed mitigation goals? (Please answer this question generally, as we recognize there may be some goals you think will be more effective than others.)



77% of respondents think the proposed mitigation actions will help meet the proposed mitigation goals.

Question 3: Which, if any, proposed new mitigation actions do you think will be particularly effective?

Sample responses include...

"Water system protection."

"Timely information for residents"

"Connecting road system."

"Equipment upgrades to handle the need!"

"Wildland fire ambassadors, storm water structures, traffic alternatives."

"Obviously you have thought through many what ifs? And come up with many logical solutions and back up plans! I am impressed!"

Question 3: Which, if any, proposed new mitigation actions do you think will be particularly ineffective?

In an emergency you NEVER know! I see nothing listed that would be considered ineffective, but the word emergency means be prepared for anything unexpected. Nice work..

Sample responses include...

Little is stated about roadway infrastructure improvements in the event of a disaster. The valley as a whole, and many neighborhoods & developments specifically, have only a single access entry/exit road for escape. Should a wildfire occur, as example, and a single roadway is blocked by fire, how will residents be evacuated?

"There are already many homes built in the 500 year floodways (Cache, Flat, Snake) and on unstable hillsides - in terms of mitigation, the ship has already sailed."

"Buying new START busses, street sweepers, loaders, etc. seem like important public works actions but I hardly think they will help us be more prepared for a natural disaster. Are you sure they aren't just in here to boost their chances of being funded? Sounds like a stretch."

Question 4: If you have any other comments about the proposed new mitigation actions, please leave them in the space below.

Sample responses include…

"Road redundancy to mitigate traffic and facilitate emergency evacuations; make Teton Village implement mitigation measures for traffic, water and emergency services"

"No wildlife crossings mentioned. Lots of Flatcreek h2o but no mention of testing for CWD or other animal disease on or from refuge"

Focus on high "Probability hazards and making people smarter and more responsible (this is hard, but, ultimately, cheaper and more effective) Thanks for asking and listening."

"Thank you all for doing this and always having our backs!"

"Often pets are left behind in a disaster because they cannot be taken to shelters. Alternatively, some pet owners do not evacuate because they have no place to take their pets. Neither situation is acceptable. We need a plan that takes into account our pets, cats, dogs, and other animals."

5.3 Appendix C- Public Comment Period Summary

Comments Received January 27-February 14, 2020

Public Comments Received January 27-February 14, 2020					
#	Name	Date	Address	Feedback	Response
1	Not Provided	Null	Not Provided	nothing is mentioned about pandemics such as the coronavirus or other outbreaks - anything planned for that	While we agree that pandemics such as the recent coronavirus outbreak are important hazards that pose a risk to all stakeholders in Teton County and the Town of Jackson, the planning process for this mitigation plan update did not identify biological hazards, illness, or pandemic outbreaks as hazards to include in this plan update. Future updates can, and most-likely will, include a profile for this hazard.
2	No Provided	2/3/2020	Not Provided	No es respuesta pero quiero , dejar en clari que lo que podamos hacer por la seguridad de nuestra comunidad haganos saber y con gusto estaremos con ustedes ayudando e infirmando a la comunidad gracias , gracias gracias. TRANSLATION: It is not an answer but I want to make it clear that what we can do for the safety of our community let us know and we will be happy to help you and inform the community thank you, thank you thank you	Thank you for your support. Unfortunately, there was no contact information provided, so it's difficult for us to follow up with this person.
3	Dustin Havel	Null	Not Provided	The Airport Exercise is April 11th not April 10th.	Noted and updated in January 17th 2019 Kickoff Meeting Minutes
4	Jenny	Null	Not Provided	Wildfire Section- The Teton Area Wildfire Protection Coalition (TAWPC) along with the Ed/Outreach Committee's work has continued to bolster the mitigation, preparedness, outreach and education of wildfire in our community. Some of the work that has been done includes; public information events, CAFA/CPPG grants, Wildfire Risk Reduction Program, road corridor & open space treatment program, reviewing CCRs with neighborhoods, presentations to homeowners associations, implementing the Ready, Set, GO! program, creating a Teton Wildfire Ambassador Program and bring the Wildfire Research (WiRē) Center to help create fire adapted communities with wildfire social science, education and mitigation programs.	An updated comment was received in this same topic from the same commenter. As a result, the updated comment was incorporated and this comment was ignored.
5	Jenny	2/14/2020	Not Provided	Updated: The Teton Area Wildfire Protection Coalition (TAWPC), and TAWPC's Education & Outreach Committee, has continued to bolster the mitigation, preparedness, outreach and education of wildfire in our community. Some of the ongoing and completed work includes; organizing public information events, applying to and administering Community Assistance Funds Adjacent to National Forest Lands/ Community Protection Program Grant (CAFA/CPPG) grants, administering a private landowner Wildfire Risk Reduction Program, administering a private road corridor and private land subdivision scale open space treatment program, reviewing Covenants, Conditions, and Restrictions (CCR) with neighborhoods, delivering presentations to homeowners associations, implementing the Ready, Set, GO! program, creating and managing a Teton Wildfire Ambassador Program, and bringing on the Wildfire Research (WiRē) Center to help create fire adapted communities with wildfire social science, education and mitigation programs.	This updated description of TAWPC's efforts has been added under section 2.12.5.
6	Albert Bendure	2/14/2020	aobendure@hotmail.com	The analysis of risks is thorough and impressive. From my experience in risk management and prioritization, I expected to see a list of "unacceptable consequences" that resulted from the risk analysis, however, such a list was not provided. The use of "goals" as the method to identify controls, either preventive (i.e., prevent the hazard from producing a consequence) or mitigative (i.e., reduce the consequence(s) from the hazard), results in the inability to correlate actions and funding to reducing a specific risk. Without identifying and addressing unacceptable consequences, there is no ability to prioritize actions and their cost or to determine how the costs align with budget/funding. Hence the question, "What should be funded?" remains unanswered. Also missing is an analysis of the efficacy of risk reduction strategies (actions) and the need for multiple layers of controls (e.g., for wildfire, fire watch and reporting; incipient fire response; emergency operations center; major fire response; etc.). The 2019 Plan provides a strong compendium of hazards and risks but fails to identify how the described action(s) would be effective in reducing a specific risk and if the actions are cost effective. Once the risks, actions, and costs are identified and prioritized, then the relationship to goals (as determined by the Community) can be established.	This is an excellent comment and gets at the heart of what we strive to do from a risk mitigation standpoint. Certain constraints did not allow for as robust an analysis of cost-benefit and risk prioritization as we had hoped. We do feel, however, that the building blocks are now in-place to improve upon our assessment of actions with subsequent plan updates, which are required every 5 years.
7	Rich Ochs (via Public meeting)	2/19/2020	Not Provided	Can we change the project on page 132 "Identify secondary routes out of single-access subdivisions" to "Identify redundant transportation routes for emergency access and evacuation, especially for limited-access subdivisions and critical transportation nodes in the County."	updated

5.4 Appendix D- Demographics Information

A Profile of Agriculture

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
https://headwaterseconomics.org/eps
August 1, 2019

Agriculture

Teton County, WY

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See https://headwaterseconomics.org/eps for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Agriculture

Teton County, WY

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*The term "farm" in this report describes all forms of agricultural production, including livestock operations.

Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See https://headwaterseconomics.org/eps.

Agriculture

Teton County, WY

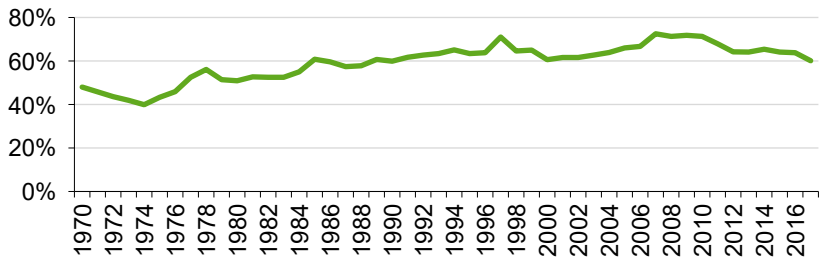
Farm Employment

	Teton County, WY	U.S.
Total Employment, 2017	32,805	196,132,200
Farm Employment	208	2,631,000
Farm Proprietors Employment	125	1,812,000
Non-Farm Employment	32,597	193,501,200
Percent of Total		
Farm Employment	0.6%	1.3%
Farm Proprietors Employment	0.4%	0.9%
Non-Farm Employment	99.4%	98.7%

All employment data on this page are reported by place of work.

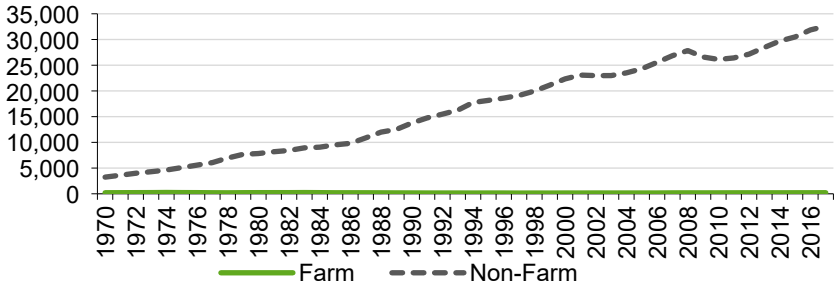
- In 1970, farm proprietors represented 48 percent of all farm employment. By 2017, farm proprietors represented 60.1 percent of all farm employment.

Farm Proprietors as a Percent of Farm Jobs, Teton County, WY



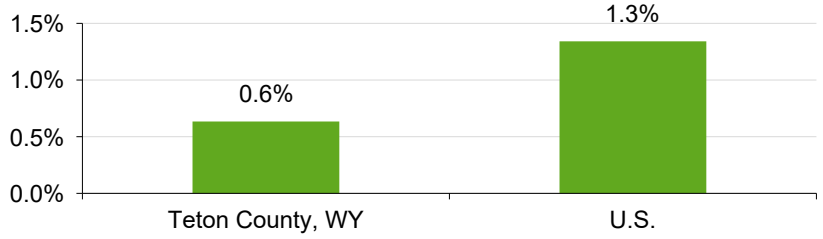
- From 1970 to 2017, farm employment grew from 204 to 208 jobs, a 2 percent increase.
- From 1970 to 2017, non-farm employment grew from 3,240 to 32,597 jobs, a 906.1 percent increase.

Farm and Non-Farm Jobs, Teton County, WY



- In 2017, U.S. had the largest percent of total farm employment (1.34%), and Teton County, WY had the smallest (0.63%).

Farm Jobs as a Percent of Total Employment, 2017



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Farm Employment

What do we measure on this page?

This page describes the number of farm jobs (full- and part-time), including proprietors, and farm jobs as a share of total employment for the selected location(s). It also shows long-term trends for farm proprietors as a share of all farm jobs, and for farm versus non-farm jobs.[1, 2]

Farm: Refers to all forms of agricultural production, including livestock operations.

Total Employment: Full- and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed).

Farm Employment: The number of workers (full- and part-time) engaged in the production of agricultural commodities. It includes sole proprietors, partners, and hired laborers.

Farm Proprietors: Those who are self-employed (full- and part-time) as non-corporate farm operators. They can be sole proprietors or partners. For the purpose of defining "farm" proprietors, a farm is an establishment that produces or normally would be expected to produce at least $1,000 worth of farm products in a typical year.

Non-Farm Employment: Full- and part-time non-farm wage and salary employment and non-farm self-employment.

Data on this page are from the U.S. Bureau of Economic Analysis. These data portray long-term trends in employment and personal income of people employed in farming. This source also provides data on long-term trends in production expenses, different sources of crop and livestock income, and net profits, which are presented later in this report. The Census of Agriculture also provides employment information, but does so only every five years. The Census of Agriculture is used elsewhere in this report because of its detailed information on the size and number of farms by type.

Why is it important?

Farming and ranching can be a significant portion of the landscape and the local economy.

Nationwide trends indicate that, with gains in production efficiency, fewer people are working in farming. The land in farms is valuable for a number of reasons including the production of food and the preservation of rural communities, open space, scenic vistas, and wildlife habitat.

The growth or decline in the number of farm proprietors could indicate new agricultural entrepreneurs and/or the consolidation of agricultural enterprises.

Agriculture

Teton County, WY

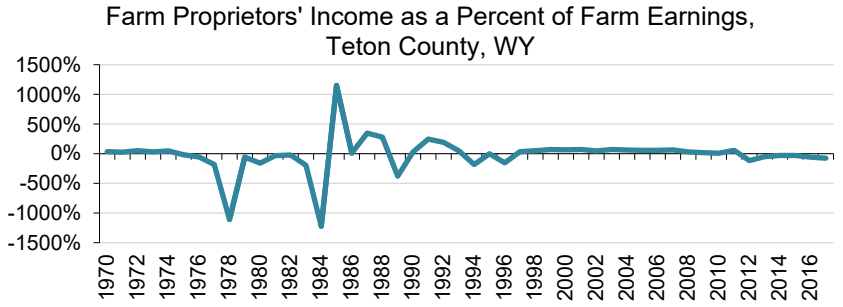
Farm Income*

	Teton County, WY	U.S.
Earnings by Place of Work ($1000), 2017	1,605,746	12,182,948,419
Farm Earnings	3,366	72,776,707
Farm Proprietors' Income	-2,569	42,038,274
Non-Farm Earnings	1,602,380	12,110,171,711
Percent of Total		
Farm Earnings	0.2%	0.6%
Farm Proprietors' Income	-0.2%	0.3%
Non-Farm Earnings	99.8%	99.4%

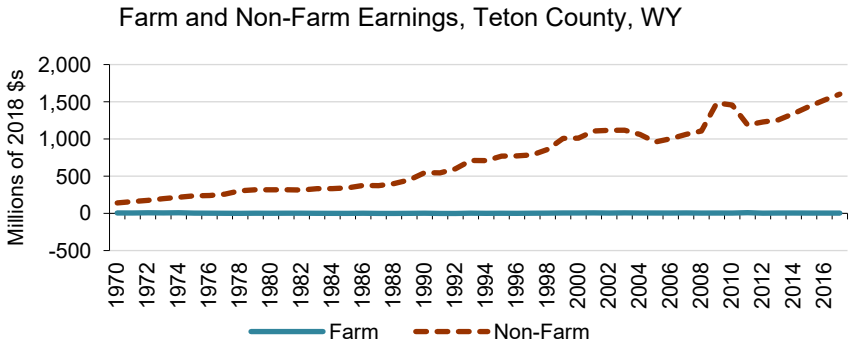
Farm business income shown here is different than farm personal income shown on the previous page.

* Thousands of 2018 $s

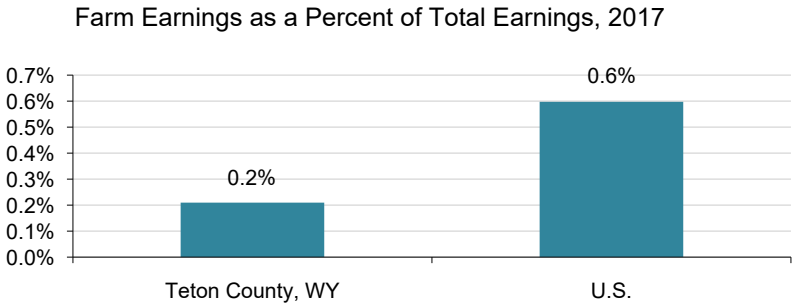
- In 1970, farm proprietors' income represented 33.7 percent of all farm earnings. By 2017, farm proprietors' income represented -76.3 percent of all farm earnings.



- From 1970 to 2017, farm earnings shrank from $5.4 million to $3.4 million, a 38.2 percent decrease.
- From 1970 to 2017, non-farm earnings grew from $140.2 million to $1,602.4 million, a 1043.2 percent increase.



- In 2017, U.S. had the largest percent of total earnings from farm earnings (0.6%), and Teton County, WY had the smallest (0.21%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Farm Income

What do we measure on this page?

This page describes earnings (in real terms and by place of work) derived from farm employment, and farm earnings as a share of all labor earnings. It also shows long-term trends in farm proprietors' income as a share of all farm earnings, and farm versus non-farm earnings.[1, 3]

Farm: All forms of agricultural production, including livestock operations.

Earnings by Place of Work: The sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income (farm and non-farm). It does not include non-labor sources of income. Non-labor sources include Dividends, Interest and Rent, as well as Transfer Payments (e.g., Social Security, Medicare). For some farm owners, Rent may represent a significant source of income—for example, renting land to a neighboring farm, or rental income in the form of leasing subsurface rights, such as for oil and gas development. For more information on non-labor income, run an EPS Non-Labor report at https://headwaterseconomics.org/eps.

Farm Earnings: Net income from sole proprietors, partners, and hired laborers arising directly from the production of agricultural commodities, either livestock or crops. It includes net farm proprietors' income, wages and salaries, pay-in-kind, and supplements to wages and salaries of hired farm laborers. It specifically excludes income from non-family-farm corporations.

Farm Proprietors' Income: Income received by sole proprietorships and partnerships in the operation of farms. It excludes income that is received by corporate farms.

Non-Farm Earnings: The sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income for all industries, excluding farms.

The personal income information on this page does not include income received by corporate farms. The U.S. Department of Commerce provides farm "business" income data on corporations, in terms of production expenses, sources of income, and net profits. These data are presented in the next section of this report.

Why is it important?

The farm earnings trends shown on this page can be viewed alongside the employment trends on the previous page of this report. In some cases, farm earnings may decline (in absolute or relative terms) while farm employment stays the same or increases. In other cases, farm earnings may increase (in absolute or relative terms) while farm employment stays the same or declines. The same trends apply to farm proprietors and their income and point to declining or improving farm wages. For more information on earnings, see the Wages portion of this report.

Agriculture

Teton County, WY

Farm Business Income*

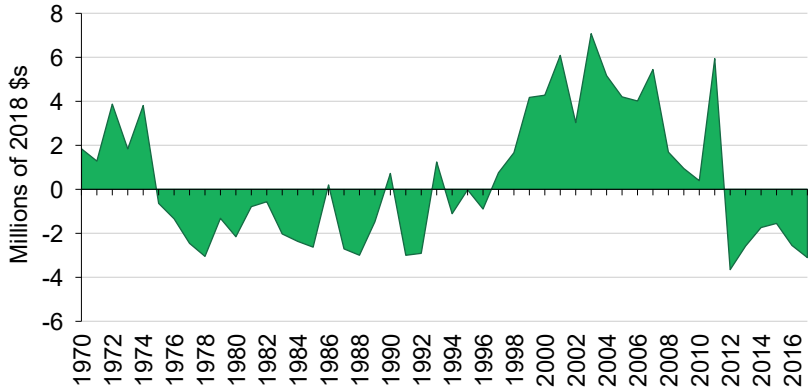
	Teton County, WY	U.S.
Total Cash Receipts & Other Income ($1000), 2017	11,895	446,313,787
Cash Receipts from Marketing	8,203	401,568,047
Livestock & Products	5,717	198,287,916
Crops	2,486	203,280,130
Other Income	3,692	44,745,740
Government Payments	62	11,808,376
Imputed Rent & Misc. Income	3,629	32,937,364
Total Production Expenses	14,989	384,275,422
Net Income: Receipts - Expenses	-3,095	62,038,365
Value of Inventory Change	-9	-10,626,969
Total Net Income Including Corp. Farms	-3,104	51,411,396
Ratio: Total Cash Receipts & Other Income/Total Production Expenses	0.79	1.16

Farm business income shown here is different than farm personal income shown on the previous page.

* Thousands of 2018 $s

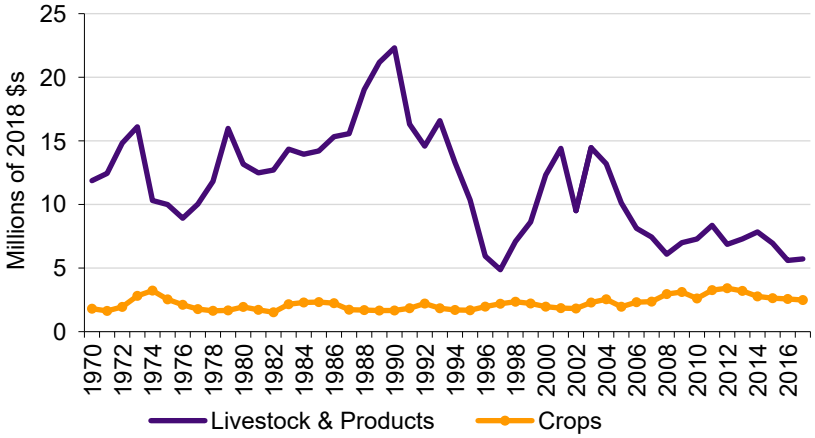
- From 1970 to 2017, net income including corporate farms shrank from $1.8 million to ($3.1) million, a 268.4 percent decrease.

Total Net Income Including Corporate Farms, Teton County, WY



- From 1970 to 2017, cash receipts from livestock and products shrank from $11.9 million to $5.7 million, a 51.8 percent decrease.
- From 1970 to 2017, cash receipts from crops grew from $1.8 million to $2.5 million, a 37.8 percent increase.

Cash Receipts from Marketings, Teton County, WY



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Farm Business Income

What do we measure on this page?

This page describes components of farm business income and expenses (in real terms), and shows a ratio of gross income to production expenses as a measure of profitability. It also shows trends in net farm business income and cash receipts.[1] The farm data on this page are for all forms of agricultural production, including livestock operations. The farm business income reported on this page represents business revenues minus expenses and operating costs. This is a different form of income than farm labor earnings, which are the wages and salaries of farm employees.

Total Cash Receipts & Other Income: The gross cash receipts of all farms. It consists of: the cash receipts from farm marketing of crops and livestock; the cash receipts from other farm-related activities, including recreational services, sales of forest products, and custom-feeding services performed by farm operators; the payments to farmers under several federal government farm subsidy programs; the imputed value of home consumption, which is the value of the farm products produced and consumed on farms; and the imputed gross rental value of farm dwellings.

Total Production Expenses: Expenditures incurred by farm operators in the production of agricultural commodities, including livestock and crops. The major categories of production expenses are intermediate product expenses, which provide inputs to the production process (feed, livestock and poultry, seed, fertilizer, etc.), labor expenses (cash wages, employer contributions to Social Security, perquisites, and contract labor expenses), and other expenses (interest, net rent paid to non-operator landlords, capital consumption, property taxes, etc.).

Value of Inventory Change: The estimated value of net change in the farm inventories of livestock and crops that are held for sale during a given calendar year. This estimate is added to the estimate of realized net income so that the estimate of farm proprietors' income for a given year will include only the farm income from production during that year, or from "current" production. This estimate is added to Realized Net Income to calculate Total Net Income Including Corporate Farms.

Total Net Income Including Corporate Farms: The net income received by the sole proprietorships, partnerships, and corporations that operate farms. It is Realized Net Income plus the Value of Inventory Change.

Ratio (Total Cash Receipts & Other Income divided by Total Production Expenses): This is not an official Bureau of Economic Analysis calculation, but is another measure of farm business profitability.

The datasource for this page (U.S. Dept. of Commerce) was selected due of the high level of detail and long-term trends.[4]

Why is it important?

These data help answer important questions concerning the long-term health of the farm economy. In some places, farm business profits have been highly volatile and rising expenses and/or declining cash receipts have narrowed profitability. In other places, despite the volatility present in commodities markets, farming remains highly profitable.

In the early 1970s a period of high profitability in the agricultural sector was followed by a period of rapid decline—partly due to global economically and politically induced market volatility during that time. For example, the 1973 oil crisis, coupled with the 1973–1974 stock market crash, led to a major recession. The U.S. grain embargo against the Soviet Union in 1980 also negatively impacted farm profits. Since the mid-1980s, farm profits have generally increased.

Trends in livestock and crop production also closely follow commodity prices, which are available from the U.S. Department of Commerce.[5] Additional insights on agriculture are available from the Economic Research Service of the U.S. Department of Agriculture, including data, charts, and maps showing trends.[6]

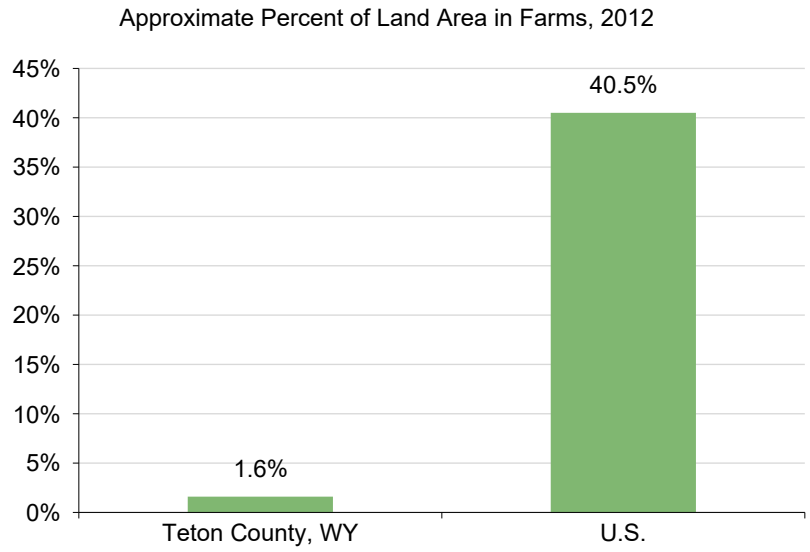
Agriculture

Teton County, WY

Number and Size of Farms

	Teton County, WY	U.S.
Number of Farms, 2012	154	2,109,303
Land in Farms (Acres), 2012	40,160	914,527,657
Average Farm Size (Acres)	261	434
Approximate Land Area (Acres)	2,557,044	2,260,583,852
Approximate Percent of Land Area in Farms	1.6%	40.5%

- In 2012, the U.S. had the largest percent of land area in farms (40.5%), and Teton County, WY had the smallest (1.6%).



Data Sources: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

Number and Size of Farms

What do we measure on this page?

This page describes the number of farms, acres in farms, average farm size, total acres, and percent of total acres in farms.

Farm: All forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Information on this page comes from the U.S. Department of Agriculture's Census of Agriculture[7], which is conducted every five years. The advantage of the Census of Agriculture is that it provides a high level of detail that makes it possible to see the role that farms play in the local economy and landscape, and to compare differences between locations. The disadvantages of this data source are that, like all forms of census, the accuracy of the data depends on the survey methods and the quality of the responses. Also, with this data source it is not possible to display continuous long-term trends.

Why is it important?

Even when agriculture is a small component of the economy, the industry can represent a large portion of the land base.

In many areas private agricultural lands are being converted to other uses, including residential development. The conversion of farm and ranch land is important for a number of reasons including the loss of food production and open space, the decline of rural communities, the change in demand on water resources, the spread of development in wildfire-prone areas, the loss of access to lands for recreation and hunting, and the loss of wildlife habitat.

To see how land is being converted to residential development, create an EPS Land Use report at https://headwaterseconomics.org/eps.

Farms and ranches continue to be important even as they increasingly operate alongside a larger, non-agricultural economy.[8] They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they contribute an important part of local culture and community vitality.

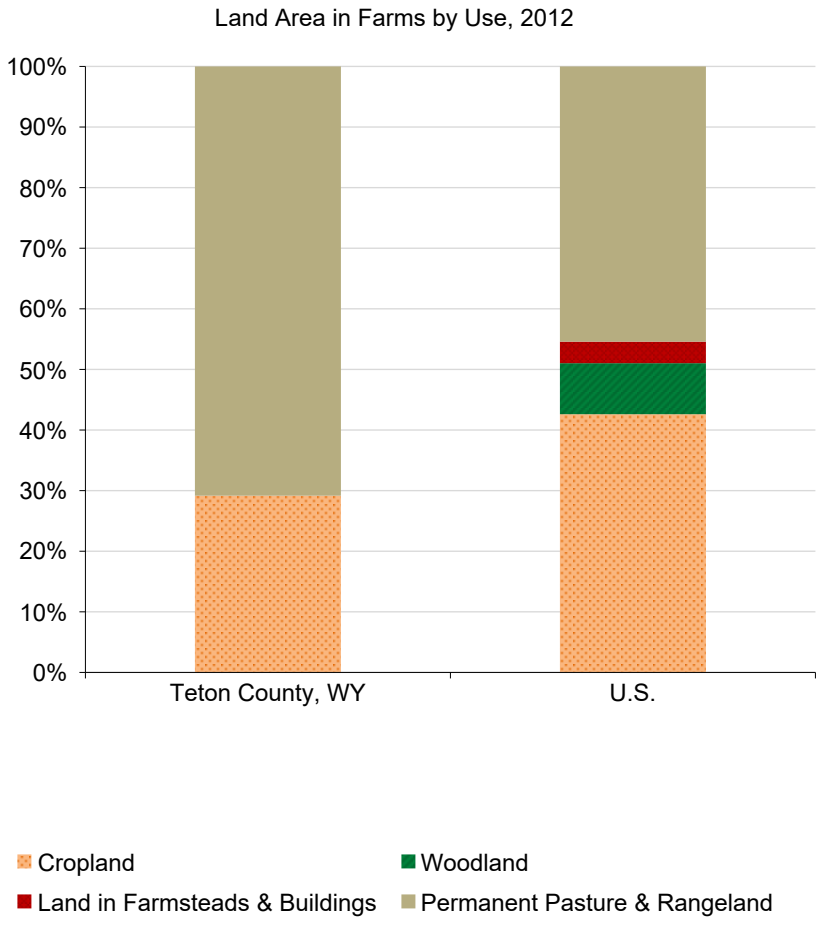
Agriculture

Teton County, WY

Acres of Farm Land

	Teton County, WY	U.S.
Land in Farms (Acres), 2012	40,160	914,527,657
Cropland	10,545	389,690,414
Woodland	0	77,012,907
Land in Farmsteads & Buildings	0	32,515,057
Permanent Pasture & Rangeland	25,613	415,309,280
Percent of Total		
Cropland	26.3%	42.6%
Woodland	0.0%	8.4%
Land in Farmsteads & Buildings	0.0%	3.6%
Permanent Pasture & Rangeland	63.8%	45.4%

- In 2012, the U.S. had the largest percent of land area in cropland (42.6%), and Teton County, WY had the smallest (26.3%).
- In 2012, the U.S. had the largest percent of land area in woodland (8.4%), and Teton County, WY had the smallest (0%).
- In 2012, the U.S. had the largest percent of land area in farmsteads and buildings (3.6%), and Teton County, WY had the smallest (0%).
- In 2012, Teton County, WY had the largest percent of land area in permanent pasture and rangeland (63.8%), and the U.S. had the smallest (45.4%).



Data Sources: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

Acres of Farm Land

What do we measure on this page?

This page describes how much farm land (in acres) is used for different production purposes.[9] The data were obtained from the U.S. Department of Agriculture's Census of Agriculture, which is conducted every five years.

The four categories of farm land use are cropland, woodland, farmsteads and buildings, and permanent pastureland.

Farm: All forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Cropland: Includes harvested cropland, cropland used only for pasture and grazing, and "other cropland" (i.e., idled cropland or cropland used for cover crops or soil improvement).

Woodland: Includes natural or planted woodlots or timber tracts, for wood products and woodland pasture.

Farmsteads and Buildings: Includes livestock facilities, ponds, roads (private access roads and driveways but not public roads), and wasteland (e.g., ditches).

Permanent Pastureland and Rangeland: Includes permanent pasture and rangeland, other than cropland and woodland, and encompasses grazable land that does not qualify as woodland pasture or cropland pasture.

Why is it important?

Even when agriculture is a small component of the economy in terms of jobs, the industry can represent a large portion of the land base.

Not all agricultural land is used in the same manner. How farm and ranch lands are used can have important economic, environmental, and policy implications. For example, cropland may require water from surrounding lands; woodland can provide important habitat and store water; and pasturelands may be associated with public lands grazing and can provide open vistas that are important for attracting tourists and new migrants. Some lands may be less valuable (e.g., pastureland) and therefore more vulnerable to conversion for urban and suburban uses than other lands (e.g., cropland).

Farms and ranches continue to be important even as they increasingly operate alongside a larger, non-agricultural economy.[8] They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they contribute an important part of local culture and community vitality.

Agriculture

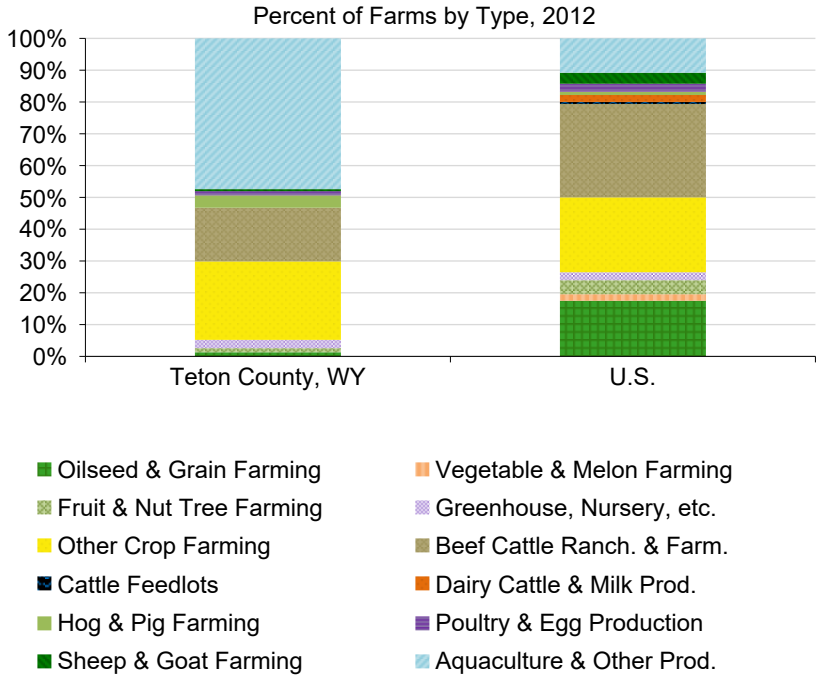
Teton County, WY

Types of Farms

	Teton County, WY	U.S.
All Farms, 2012	154	2,109,303
Oilseed & Grain Farming	2	369,332
Vegetable & Melon Farming	0	43,021
Fruit & Nut Tree Farming	2	93,020
Greenhouse, Nursery, etc.	4	52,777
Other Crop Farming	38	496,837
Beef Cattle Ranch. & Farm.	26	619,172
Cattle Feedlots	0	13,734
Dairy Cattle & Milk Prod.	0	46,005
Hog & Pig Farming	6	21,687
Poultry & Egg Production	2	52,849
Sheep & Goat Farming	1	73,272
Animal Aquaculture & Other Animal Prod.	73	227,597
Percent of Total		
Oilseed & Grain Farming	1.3%	17.5%
Vegetable & Melon Farming	0.0%	2.0%
Fruit & Nut Tree Farming	1.3%	4.4%
Greenhouse, Nursery, etc.	2.6%	2.5%
Other Crop Farming	24.7%	23.6%
Beef Cattle Ranch. & Farm.	16.9%	29.4%
Cattle Feedlots	0.0%	0.7%
Dairy Cattle & Milk Prod.	0.0%	2.2%
Hog & Pig Farming	3.9%	1.0%
Poultry & Egg Production	1.3%	2.5%
Sheep & Goat Farming	0.6%	3.5%
Aquaculture & Other Prod.	47.4%	10.8%

- In 2012, the U.S. had the largest percent of oilseed and grain farming (17.5%), and Teton County, WY had the smallest (1.3%).

- In 2012, the U.S. had the largest percent of beef cattle ranching and farming (29.4%), and Teton County, WY had the smallest (16.9%).



Data Sources: U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

Types of Farms

What do we measure on this page?

This page describes the number and percent of all farms according to what they produce.

Farm: All forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Other Crop Farming (NAICS code 1119): Establishments primarily engaged in (1) growing crops (except oilseed and/or grain; vegetable and/or melon; fruit and tree nut; and greenhouse, nursery, and/or floriculture products). These establishments grow crops, such as tobacco, cotton, sugarcane, hay, sugar beets, peanuts, agave, herbs and spices, and hay and grass seeds; or (2) growing a combination of crops (except a combination of oilseed(s) and grain(s) and a combination of fruit(s) and tree nut(s)).

Beef Cattle Ranching & Farming (NAICS code 112111): Establishments primarily engaged in raising cattle (including cattle for dairy herd replacements).

Aquaculture & Other Animal Production (NAICS codes 11251 & 1129): Aquaculture establishments are primarily engaged in the farm-raising and production of aquatic animals or plants in controlled or selected aquatic environments. Establishments classified as Other Animal Production are primarily engaged in raising animals and insects (except cattle, hogs and pigs, poultry, sheep and goats, and aquaculture) for sale or product production. These establishments are primarily engaged in one of the following: bees, horses and other equine, rabbits and other fur-bearing animals, etc., and producing products such as honey and other bee products. Establishments primarily engaged in raising a combination of animals with no one animal or family of animals accounting for one-half of the establishment's agricultural production are included in this industry group.

The Census of Agriculture data on farms by type are only reported by the number of farms. They are not reported by employment, income, or acreage.[10]

Why is it important?

Not all agricultural land is used in the same manner. Different types of farms have different economic potential and relationships with other natural resources including water and wildlife. Some lands may be less valuable (e.g., pastureland) and therefore more vulnerable to conversion for urban and suburban uses than other lands (e.g., cropland).

To see how land is being converted to residential development, create an EPS Land Use report at https://headwaterseconomics.org/eps.

Agriculture

Teton County, WY

Wages and Employment

Wages*, 2017	Teton County, WY	U.S.
Total Private & Public, (2018 $s)	$45,641	$55,390
Total Private	$43,901	$55,338
Farm	~$42,497	$34,330
Crop Production	na	$32,794
Animal Production	$42,497	$37,575
Non-Farm	~$43,558	$55,479

Percent of Employment*, 2017	Teton County, WY	U.S.
Total Private	88.0%	85.1%
Farm	~0.2%	0.6%
Crop Production	na	0.4%
Animal Production	0.2%	0.2%
Non-Farm	~86.1%	84.5%

* These tables show data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on previous pages of this report.

Data Sources: U.S. Department of Labor. 2018. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Wages and Employment

What do we measure on this page?

This page describes wages (in real terms) from farm employment compared to wages from non-farm employment. It also describes the percent of jobs in each category. These are shown together to illustrate the relative wage levels in farming (including sub-sectors) and how many people are employed in each sub-sector.

The primary purpose of this page is to compare the average annual wages between sectors, and to investigate the relative number of people employed in high- and low-wage sectors.

Farm: All forms of agricultural production, including livestock operations.[11]

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.[12, 13]

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Estimates for data that were not disclosed are indicated with tildes (~).

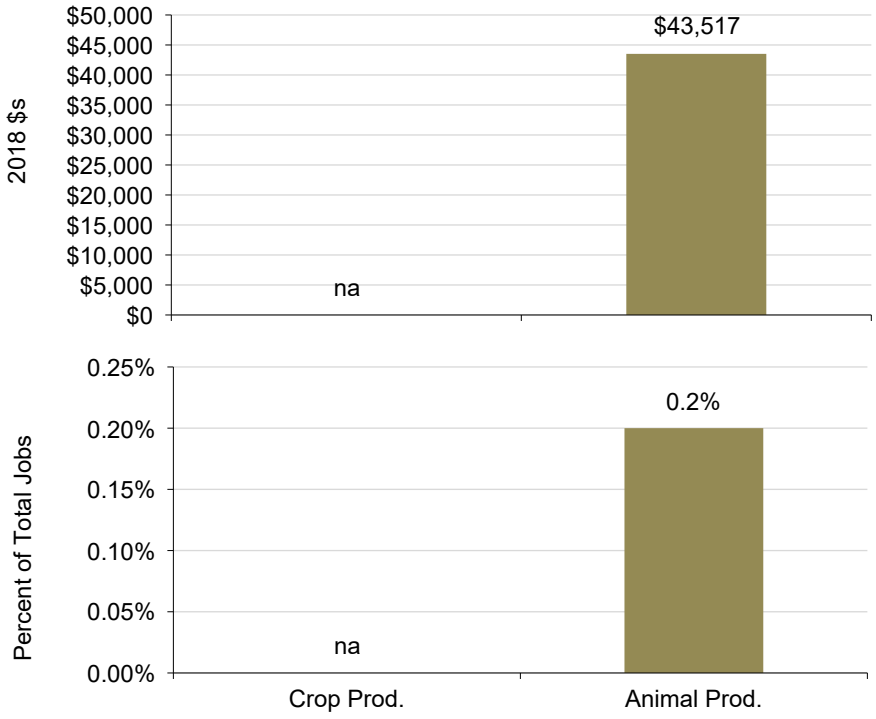
Why is it important?

Farm employment often pays below-average wage rates, but this can vary by farm sub-sector and by location.[14] It is important to consider how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and whether there are significant wage differences between locations.

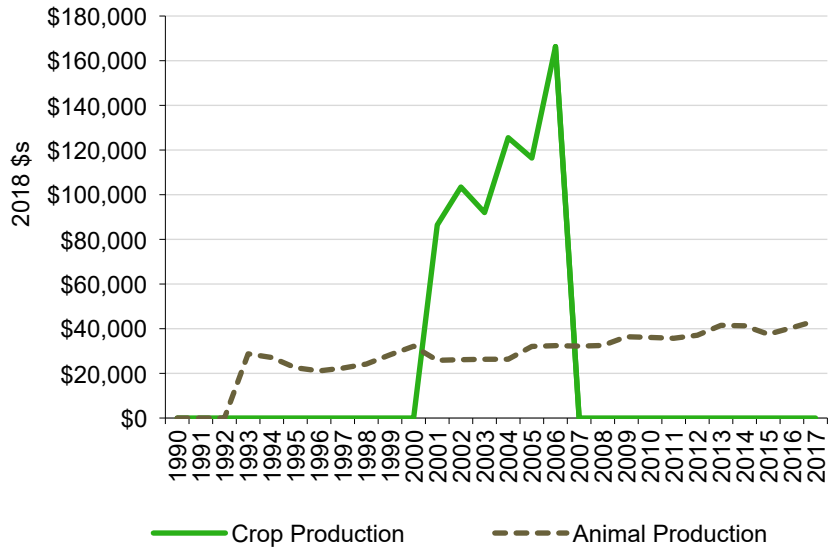
For more information on employment and wages in non-farm industries, create an EPS Socioeconomic Measures report at https://headwaterseconomics.org/eps.

Wages and Employment (cont.)

Avg. Annual Wages & Percent of Total Employment in Crop & Animal Production, Teton County, WY, 2017



Avg. Annual Wages in Crop & Animal Production, Teton County, WY



Wages and Employment (cont.)

What do we measure on this page?

This page describes average wages (in real terms) and employment levels in crop and animal production. It also shows average wage trends (in real terms) for these farm sectors.

The chart Avg. Annual Wages & Percent of Total Employment in Crop & Animal Production is useful for describing how many people are working in relatively high- and low-wage farm sectors. The chart Avg. Annual Wages in Crop & Animal Production is useful for comparing wage trends by farm sector.

Farm: All forms of agricultural production, including livestock operations. The components of Farm on this page (NAICS 111 crop production and NAICS 112 animal production) do not include agricultural services (NAICS 115 support activities for agriculture and forestry) because this category mixes farm and non-farm services.

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.[12]

The chart Avg. Annual Wages in Crop and Animal Production starts in 1990 because this is the first year these wage data are available from the Bureau of Labor Statistics.

Depending on the locations selected, some data may not be available due to disclosure restrictions.[15]

Why is it important?

Not all components of the farm industry pay the same wages or employ the same number of people. It may be important to consider how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and whether there are significant wage differences between locations.

A significant increase in farm jobs that pay below the average for all industries will decrease overall average earnings per job. On the other hand, a significant increase in farm jobs that pay above the average for all industries will increase overall average earnings per job. A modest change in farm employment, especially when this industry is a small share of total employment, will not likely affect average earnings in a local area.

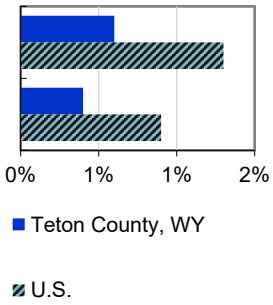
The Bureau of Labor Statistics' Quarterly Census of Employment and Wages data for industries is available at https://www.bls.gov/cew/; the Bureau of Labor Statistics' Occupational Outlook Handbook, which has detailed industry earnings and wages data at the national level, is available at https://www.bls.gov/ooh/; the U.S. Census Bureau's County Business Patterns database, which reports industry-level employment and payroll and can be used to estimate earnings, is available at https://www.census.gov/programs-surveys/cbp.html.

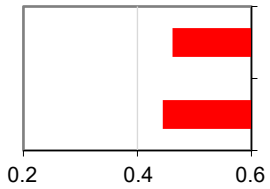
Agriculture

Teton County, WY

Comparisons

	Employment Share		Location Quotient	Employment Share	Location Quotient
	Teton County, WY	U.S.		Teton County, WY vs. U.S.	Teton County, WY vs. U.S.
Farm Employment, 2017	0.6%	1.3%	0.5		
Farm Proprietors Employment, 2017	0.4%	0.9%	0.4		





Teton County, WY

U.S.

- In 2017, farm employment, 2017 had the highest location quotient score (0.5) and farm proprietors employment, 2017 had the lowest (0.4).

Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Agriculture

Teton County, WY

Comparisons

What do we measure on this page?

This page describes whether the region is specialized in farm employment.[1, 16] The chart illustrates the difference between the selected location(s) and the selected benchmark area. (If no custom benchmark area was selected, EPS defaults to benchmarking against the U.S.)

Location quotient[17]: A ratio that compares an industry's share of total employment in a region to the benchmark. More precisely, it is the percent of local employment in a sector divided by the percent employment in the same sector in the benchmark area. In other words, it is a ratio that measures specialization using the benchmark area for comparison. A location quotient of more than 1.0 means the local area is more specialized in that sector relative to the benchmark area. A location quotient of less than 1.0 means it is less specialized.[18]

Another way to think about location quotients is as a measure of whether a place produces enough goods or services from an industry to satisfy local demand for those goods or services. Results above or below the 1.0 standard indicate the degree to which a place may import or export a good or service. Although there is no precise cutoff, location quotients above 2.0 indicate a strong industry concentration (and that an area is likely exporting goods or services) and those less than 0.5 indicate a weak industry concentration (and that an area is likely importing goods or services).

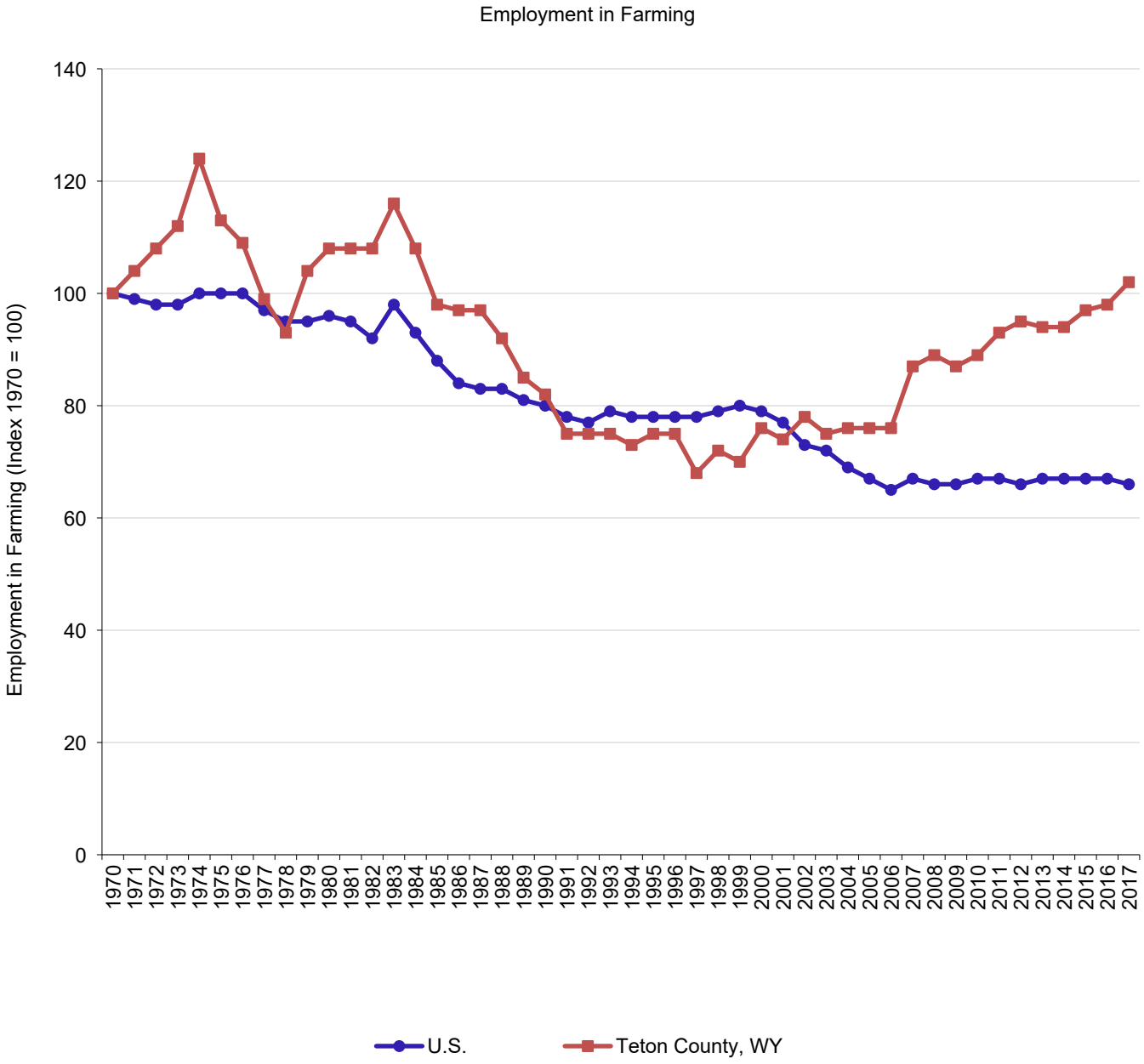
Farm: All forms of agricultural production, including livestock operations.

Why is it important?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. Nevertheless, it is still an important source of jobs in many places. This page shows a measure of importance (employment share) relative to the U.S.

A few caveats: (1) A large location quotient for a particular sector does not necessarily mean that sector is a significant contributor to the economy. (2) LQs greater than 1.0 only suggest potential export capacity when compared to the U.S. and do not take into account local demand. Local demand may be greater than a national average, and therefore all goods and services may be consumed locally (i.e., not exported). (3) LQs can change from year to year. (4) LQs can vary when one uses income or wage data rather than employment.

Comparisons Over Time



- From 1970 to 2017, Teton County, WY had the fastest rate of change in farm employment and Teton County, WY had the slowest.

Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Comparisons Over Time

What do we measure on this page?

This page describes the change in farm employment for all selected locations and the benchmark area. The information is indexed (1970=100) so that data from locations with different-sized economies can be compared and to make it easier to understand the relative rate of growth or decline of farm employment over time.[1, 3]

Index: Indexed numbers are compared with a base value. In the line chart, employment in 1970 is the base value and is set to 100. The employment values for subsequent years are expressed as 100 times the ratio to the base value. The indexing used in the line chart enables easier comparisons between geographies over time. An indexed chart is used primarily to show relative rates of growth.

Farm: All forms of agricultural production, including livestock operations.

Why is it important?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. However, this is not the case everywhere. In addition, not all locations have lost or attracted farm employment at the same rate.[19] An index makes it clear where the rate of farm decline or growth has been the fastest. Lines below 100 indicate absolute decline while those above 100 show absolute growth. The steeper the curve, the faster the rate of change.

It may be helpful to look for large year-to-year rises or dips in the lines to identify rapid employment changes. If the reasons behind these fluctuations are not evident, it may be helpful to talk with regional experts or local citizens to learn more about what caused abrupt changes.

Data Sources & Methods

This EPS Summary report uses national statistics from public government sources. All data used in EPS can be readily verified with the original sources:

- **Quarterly Census of Employment and Wages**
  Bureau of Labor Statistics, U.S. Department of Labor
  https://www.bls.gov/cew
  Contacts
  https://www.bls.gov/bls/contact.htm
- **BEA Regional Economic Accounts**
  Bureau of Economic Analysis, U.S. Department of Commerce
  https://www.bea.gov/regional/
  Contacts
  Contacts: https://www.bea.gov/contacts/
- **Census of Agriculture**
  USDA National Agriculture Statistics Service
  http://www.agcensus.usda.gov
  Contacts
  https://www.agcensus.usda.gov/Contact_Us/

EPS core approaches
EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking – comparing smaller areas such as counties to larger regions, states, and the nation – to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Adjusting dollar figures for inflation
Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Data gaps and estimation
Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated with tildes (~) in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

Endnotes

1 - The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses, production, and employment: https://www.ers.usda.gov/Publications.

2 - Bureau of Economic Analysis data in this report describe only the employment and personal income of people working directly in agricultural operations and do not include the subcategory Forestry, Fishing, Related Activities, and Other (BEA line code 100). We do not include BEA line code 100 because it mixes farm-related categories (e.g., soil preparation) with non-farm-related categories (e.g., hunting). It is not possible to disaggregate BEA line code 100.

3 - For the Economic Research Service's outlook on farm commodities, see https://www.ers.usda.gov/topics/farm-economy/commodity-outlook.aspx.

4 - Detailed tables on farm income and expenses, such as how much is spent on hired farm labor, feed, fertilizer, and petroleum products, are available from the U.S. Department of Commerce at https://www.bea.gov/regional/.

5 - Long-term commodity prices can be found at the National Agricultural Statistics Service of the U.S. Department of Agriculture: https://www.nass.usda.gov/Charts_and_Maps/Agricultural_Prices/index.php.

6 - Economic Research Service, USDA: https://www.ers.usda.gov/.

7 - The Census of Agriculture can be viewed at https://www.agcensus.usda.gov/.

8 - The Economic Research Service of the U.S. Department of Agriculture provides a website on major land uses: https://www.ers.usda.gov/data-products/major-land-uses.aspx. To browse Economic Research Service publications by topic, see https://www.ers.usda.gov/topics.aspx.

9 - The Census of Agriculture can be viewed at https://www.agcensus.usda.gov/.

10 - A description of the form used in the 2012 Census of Agriculture, and definitions of terms, is available at https://agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/usappxb.pdf.

11 - What we show as Farm in the tables on this page is the sum of the following NAICS codes: crop production (111) and animal production (112). It does not include NAICS code 115 (support activities for agriculture and forestry) because this category mixes farm and non-farm services.

12 - For an overview of how the Bureau of Labor Statistics treats employment, see https://www.bls.gov/bls/employment.htm. For an overview of how the Bureau of Labor Statistics treats pay and benefits, see https://www.bls.gov/bls/wages.htm.

Endnotes (cont.)

13 - Employment and wage estimates are also available from the Bureau of Labor Statistics for over 800 occupations. Looking at farming by occupation, rather than by sector or industry, is helpful since wages can vary dramatically across occupations. For more information on the most recent employment and wage estimates for Agriculture, Forestry, Fishing and Hunting (NAICS 11) by occupation, see https://www.bls.gov/oes/.

14- The Census of Agriculture website provides county-level farm data. See https://www.agcensus.usda.gov/.

15- If there are significant undisclosed data on this page, options for accessing wages data for farm sectors include: The Bureau of Labor Statistics' Quarterly Census of Employment and Wages data for industries (https://www.bls.gov/cew/); the Bureau of Labor Statistics' Occupational Outlook Handbook, which has detailed industry earnings and wages data at the national level (https://www.bls.gov/ooh/); and the U.S. Census Bureau's County Business Patterns database, which reports industry-level employment and payroll and can be used to estimate earnings (https://www.census.gov/programs-surveys/cbp.html).

16- For a review of literature on economic diversity, see Sterling, Andrew. 1998. "On the Economics and Analysis of Diversity." Electronic Working Papers Series, University of Sussex, available at: sussex.ac.uk/Units/spru/publications/imprint/sewps/sewp28/sewp28.pdf; and Malizia EE and K Shanzai. 2006. "The Influence of Economic Diversity on Unemployment and Stability." Journal of Regional Science 33(2):221-235.

17- LQ = (ei/e) divided by (Ei/E)
Where: ei = Local employment in industry i; e = Total local employment; Ei = U.S. employment in industry i; E = Total U.S. employment.

18- A succinct definition of a location quotient is offered by Indiana Business Research Center at IU's Kelley School of Business. See http://www.incontext.indiana.edu/2006/march/1.asp.

19- The Bureau of Labor Statistics provides an overview and outlook for farm occupations: https://www.bls.gov/ooh/management/farmers-ranchers-and-other-agricultural-managers.htm.

A Profile of Public Land Amenities

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
https://headwaterseconomics.org/eps
August 1, 2019

Public Land Amenities

Teton County, WY

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See https://headwaterseconomics.org/eps for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Public Land Amenities

Teton County, WY

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Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See https://headwaterseconomics.org/eps.

Public Land Amenities

Teton County, WY

Land Ownership

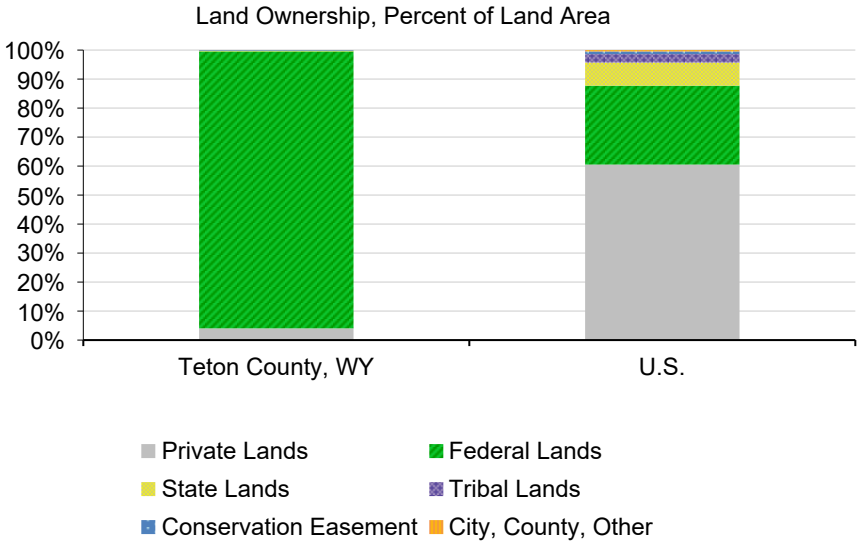
	Teton County, WY	U.S.
Total Area (Acres)	2,699,045	2,303,091,014
Private Lands	109,352	1,406,717,148
Conservation Easement	5,729	21,237,199
Federal Lands	2,583,044	632,461,561
Forest Service	1,367,702	192,648,950
BLM	2,385	242,857,628
National Park Service	1,188,214	78,366,536
Military	0	24,412,029
Other Federal	24,743	94,176,418
State Lands	6,493	184,973,953
State Trust Lands*	3,996	51,983,763
Other State	2,497	132,990,190
Tribal Lands	0	67,946,824
City, County, Other	158	10,989,958

Percent of Total

Private Lands	4.1%	61.1%
Conservation Easement	0.2%	0.9%
Federal Lands	95.7%	27.5%
Forest Service	50.7%	8.4%
BLM	0.1%	10.5%
National Park Service	44.0%	3.4%
Military	0.0%	1.1%
Other Federal	0.9%	4.1%
State Lands	0.2%	8.0%
State Trust Lands*	0.1%	2.3%
Other State	0.1%	5.8%
Tribal Lands	0.0%	3.0%
City, County, Other	0.0%	0.5%

* Most state trust lands are held in trust for designated beneficiaries, principally public schools. Managers typically lease and sell these lands for a diverse range of uses to generate revenues for the beneficiaries.

- Teton County, WY has the largest share of federal public lands (95.7%), and the U.S. has the smallest (27.5%).
- The U.S. has the largest share of state public lands (8%), and Teton County, WY has the smallest (0.2%).
- The U.S. has the largest share of private lands (61.1%), and Teton County, WY has the smallest (4.1%).



U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0; Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207

Public Land Amenities

Teton County, WY

Land Ownership

What do we measure on this page?

This page describes the share of the selected location that is private and the share that is managed by various public agencies.

Public Land Amenities: The qualities of public lands that make a region an attractive place to live, recreate, and work such as scenic vistas, recreational opportunities, and wildlife habitat. Nearby public lands may impact a local economy by creating a setting that attracts and retains people and businesses. Recreational opportunities may attract tourists. And the opportunities to hunt, fish, and view wildlife may be important to local residents and serve as a magnet that keeps them from leaving.[1, 2, 3]

This report displays a number of indicators that are commonly present when public land amenities play a role in economic development. No single indicator is sufficient proof of an economic contribution by public lands. Rather, when taken as a whole, these data may indicate that one of the economic contributions of public lands is a setting that attracts and retains people and business. The information presented in this report should be coupled with additional research, including surveys of area residents and business leaders, to discern whether and how public land amenities play an economic role in an area.

No publicly available federal database contains statistics on the area of land by ownership. The data presented in this report were calculated using Geographic Information System (GIS) tools. Two primary GIS datasets were used: U.S. Census Bureau's TIGER/Line County Boundaries4 and U.S. Geological Survey's Protected Areas Database (PADUS).[5]

Although every attempt was made to use the best available land ownership data, the data sometimes have errors or become outdated. Please report any inaccuracies to eps@headwaterseconomics.org.

Why is it important?

Public lands provide recreational, environmental, and lifestyle amenities that can stimulate economic growth.[6] While amenities alone are typically not sufficient to foster growth, they have increasingly been shown to contribute to population growth and economic development.

Many factors can contribute to economic growth, including access to raw materials, workforce quality, availability of investment capital, and transportation networks. In recent decades, amenities have also become increasingly important for people who can choose where to live and work and for businesses that are not subject to location constraints.[7] Employers now advertise public land amenities to attract and retain a talented workforce. Communities are taking advantage of nearby public lands to attract new businesses and retirement and investment income.[8] Thus, amenities provided by public lands can be considered an economic asset.[9]

Public Land Amenities

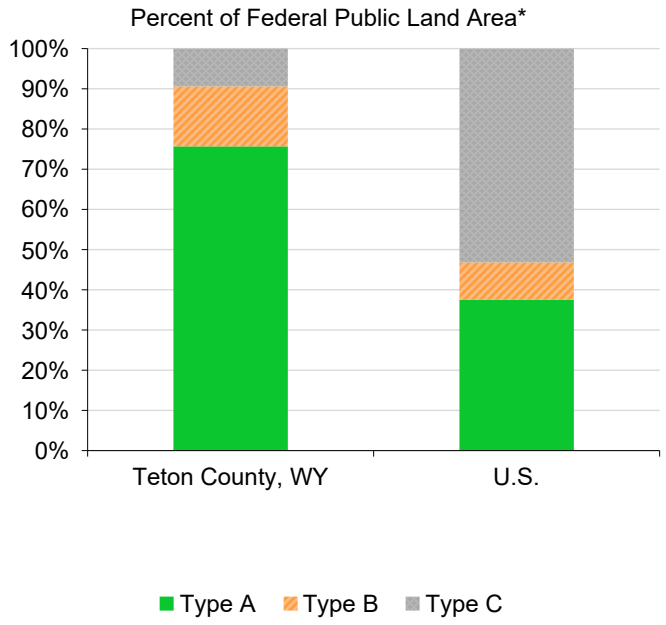
Teton County, WY

Types of Federal Lands

	Teton County, WY	U.S.
Total Area of Type A, B, and C (Acres)	2,601,652	690,953,496
Type A	1,969,035	259,556,739
Type B	388,318	63,979,938
Type C	244,299	367,416,819
Percent of Total		
Type A	75.7%	37.6%
Type B	14.9%	9.3%
Type C	9.4%	53.2%

* Year for data varies by geography and source. See data sources below for more information.

- Teton County, WY has the largest share of Type A land (75.7%), and the U.S. has the smallest (37.6%).
- Teton County, WY has the largest share of Type B land (14.9%), and the U.S. has the smallest (9.3%).
- The U.S. has the largest share of Type C land (53.2%), and Teton County, WY has the smallest (9.4%).



Type A lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments, (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS, FS, BLM), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Type B lands include Wilderness Study Areas (NPS, FWS, FS, BLM), Inventoried Roadless Areas (FS).

Type C lands include Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (FS).

NPS = National Park Service; FS = Forest Service; BLM = Bureau of Land Management; FWS = Fish and Wildlife

Data Sources: U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0; Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207.

Types of Federal Lands

What do we measure on this page?

This page describes the acreage and share of federal public lands managed for various purposes under differing statutory authority. For purposes of this section, federal public lands have been defined as Type A, B, or C.[10, 11] Private lands and areas managed by state agencies and local government are not included in this classification.

Type A lands tend to have more managerial and commercial use restrictions than Type C lands, represent smaller proportions of total land management areas (except within Alaska), and have a designation status less easily changed than Type B lands. They may be described as areas having uncommon bio-physical and/or cultural character worth preserving. In the peer-reviewed academic literature these lands are often referred to as "protected public lands."[3]

Type B lands are similar to Type A lands in terms of activities allowed. They may be described as areas worth preserving that have limited development and motorized transportation.

Type C lands generally have no special designations. They represent the bulk of federal land management areas and may allow a wider range of uses or compatible activities including timber production, mining and energy development, grazing, recreation, and large-scale watershed projects and fire management options. Type C lands may be described as areas where the landscape may be altered within the objectives and guidelines of multiple use.

The classifications offered on this page are categories of relative degrees of management priority, categorized by land designation. Lands such as wilderness and national monuments, for example, are more likely to be managed for conservation and recreation, even though there may exist exceptions (e.g., a pre-existing mine in a wilderness area or oil and gas development in a national monument). Forest Service and BLM lands without designations are more likely to allow commercial activities such as mining and timber harvesting.

Why is it important?

Some types of federal lands, such as national parks, national monuments, and wilderness, can be associated with above-average economic growth. These lands by themselves do not guarantee economic growth but when combined with other factors, such as an educated workforce and access to major markets via airports, they have been shown to be statistically significant predictors of growth.[3, 12, 13, 14, 15]

The acreage in particular land types may not be the only indicator of quality. For example, Wild and Scenic Rivers may provide amenity values far greater than their land acreage would indicate.

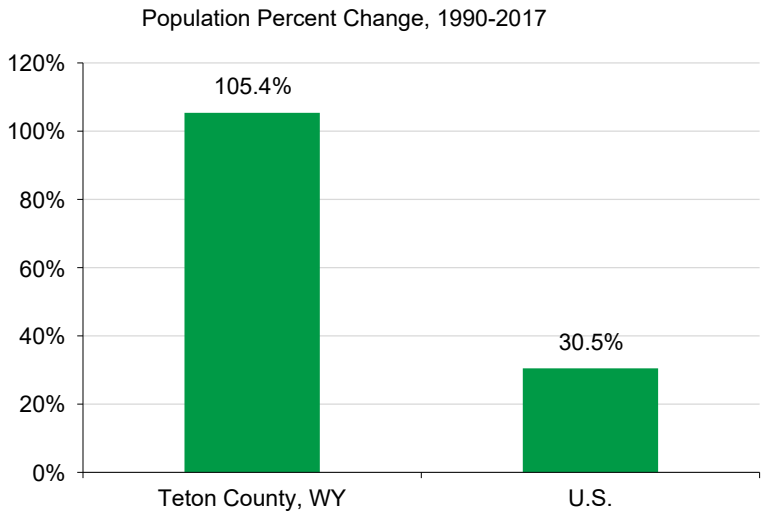
Public Land Amenities

Teton County, WY

Population Trends

	Teton County, WY	U.S.
Population 1990	11,328	249,622,814
Population 2000	18,381	282,162,411
Population 2017	23,265	325,719,178
Population Change 1990-2017	11,937	76,096,364
Percent Change 1990-2017	105.4%	30.5%

- Between 1990 and 2017, Teton County, WY had the largest percent change in population (105.4%), and the U.S. has the smallest (30.5%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Population Trends

What do we measure on this page?

This page depicts the size of the population of the selected location(s) and population change since 1990.

Why is it important?

Rapid population increase may indicate that amenities of public lands play a role in stimulating growth in an area.[16] This trend can be seen in many counties and regions during the 1990s and early 2000s.[17]

Population growth by itself is not sufficient evidence that the amenities of public lands contribute to growth. This indicator should be considered together with all other indicators in this report, and with the recommended additional reading, as a resource that helps the user understand amenity-driven growth.[18]

Public Land Amenities

Teton County, WY

Births, Deaths, and Migration

	Teton County, WY	U.S.
Population Change, 2000-2018	4,714	44,995,477
Average Annual Population Change	249	1,980,169
From Natural Change	177	1,228,461
Births	253	3,125,853
Deaths	76	1,897,391
From Net Migration	75	706,873
International Migration	71	706,873
Domestic Migration	4	na
From Residual	-4	58,631

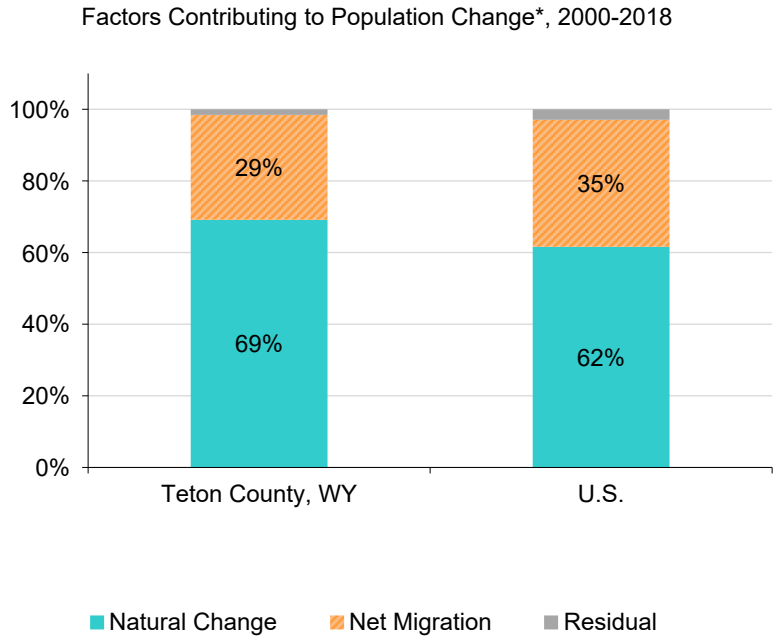
Factors Contributing to Population Change*, 2000-2018

Natural Change	69.1%	61.6%
Net Migration	29.3%	35.5%
Residual	1.6%	2.9%

* The absolute value of the individual component of population change divided by the sum of the absolute values of the three components (natural change, net migration, and the residual).

- From 2000 to 2018, Teton County, WY had the largest share of population change from natural change (69.1%), and the U.S. had the smallest (61.6%).

- From 2000 to 2018, the U.S. had the largest share of population change from migration (35.5%), and Teton County, WY had the smallest (29.3%).



Data Sources: U.S. Department of Commerce. 2014. Census Bureau, Population Division, Washington, D.C.

Births, Deaths, and Migration

What do we measure on this page?

This page describes components of population change. Total population change is the sum of natural change (births minus deaths) and migration (international and domestic).

The purpose of this page is to discern how much of the growth in population is due to net in-migration, shown in the orange bar in the chart Factors Contributing to Population Change.

The U.S. Census Bureau makes a minor statistical correction called a "residual" as part of its estimates of foreign-born immigrants.[19] Because of this correction, natural change plus net migration may not add to total population.[20]

Why is it important?

A growing body of literature has shown that public lands can play a role in stimulating amenity migration, defined as the permanent movement to a locality by people who have been influenced to move in part by the presence of environmental, recreational, social, and cultural amenities.[21, 22, 23, 24]

It is useful to understand the components of population change because they show whether growth (or decline) is led by migration, and whether it derives from international or domestic migration. If migration accounts for significant population growth, it may be helpful to look for links with other potential amenity variables such as a rise in relatively footloose business (such as services) and the growth of non-labor income such as investments and retirement.

In-migration by itself is not sufficient evidence that public land amenities contribute to growth. There are other reasons for migration that may not be related to amenities, such as the migration of oil and gas workers into an area for fossil fuels production.

Public Land Amenities

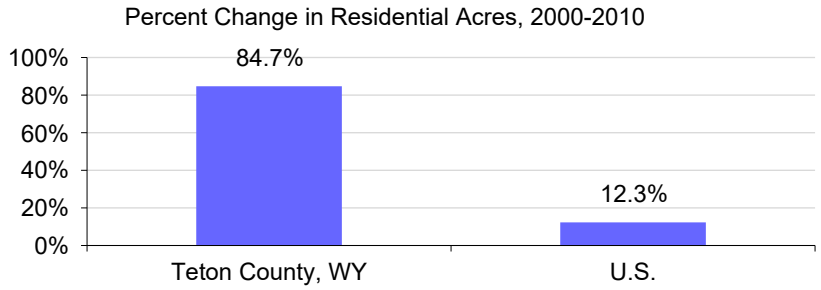
Teton County, WY

Residential Development

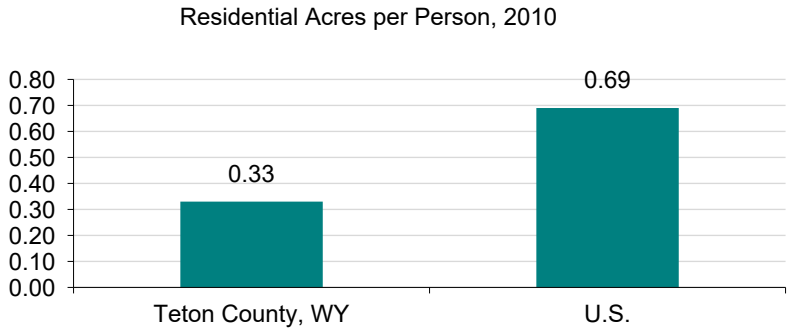
	Teton County, WY	U.S.
Residential Acres 2000	3,778	190,918,648
Residential Acres 2010	6,979	214,475,717
Change in Res. Acres 2000-2010	3,201	23,557,069
Percent Change	84.7%	12.3%
Residential Acres/Person, 2000	0.21	0.67
Residential Acres/Person, 2010	0.33	0.69
Change in Res. Ac./Person 2000-2010	0.12	0.02
Total Residential Units 2017*	13,508	135,393,564
Second Homes in 2017*	3,065	5,462,087
Percent Second Homes	22.7%	4.0%

* The data in this table are calculated by ACS using annual surveys conducted during 2013-2017 and are representative of average characteristics during this period.

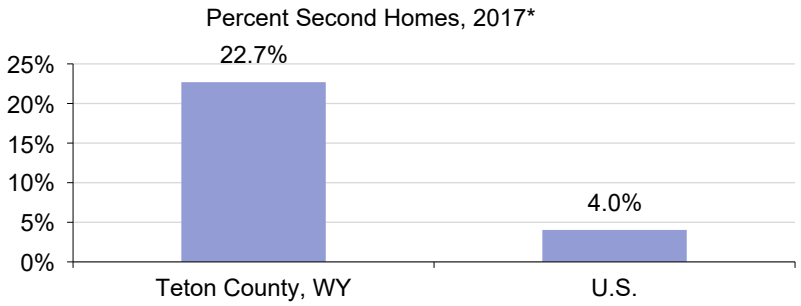
- From 2000 to 2010, Teton County, WY had the largest percent change in residential development (84.7%), and the U.S. had the smallest (12.3%).



- From 2000 to 2010, the U.S. had the largest average acreage in residential development per person (0.69 acres), and Teton County, WY had the smallest (0.33 acres).



- In 2000, Teton County, WY had the largest share of second homes as a percent of total homes (22.7%), and the U.S. had the smallest (4%).



Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University; U.S. Department of Commerce. 2018. Census Bureau, American Community Survey Office, Washington, D.C.

Residential Development

What do we measure on this page?

This page describes the conversion of open space to residential development, residential acres per person, and the percent of homes that are second homes.

The rate of development is expressed as the percent change in acres used for residential development from 2000 to 2010 (the latest years available from the Decennial Census). Land consumption is expressed in terms of residential acres per person. These figures refer only to residential development and do not include lot sizes greater than 40 acres. Per capita consumption of land used for housing is a measure of the pattern of development. Areas with negative values of change in residential acres/person indicate more dense development in 2010 than in 2000. Large positive values of change indicate that an area was substantially more sprawled in 2010 than it was in 2000.

Second Homes: Residences intended for use only in certain seasons or for weekends or other occasional use throughout the year.

Comparisons are made between 2000 and 2010. These are the latest published data available from the Decennial Census.

Why is it important?

One of the characteristics of growth that is associated with the presence of public land amenities is a rapid conversion of open space (including agricultural lands) for residential development, and a relatively high proportion of homes as second homes.

Several papers are available that describe reasons for open space loss and the impact of housing on protected areas.[25, 26, 27]

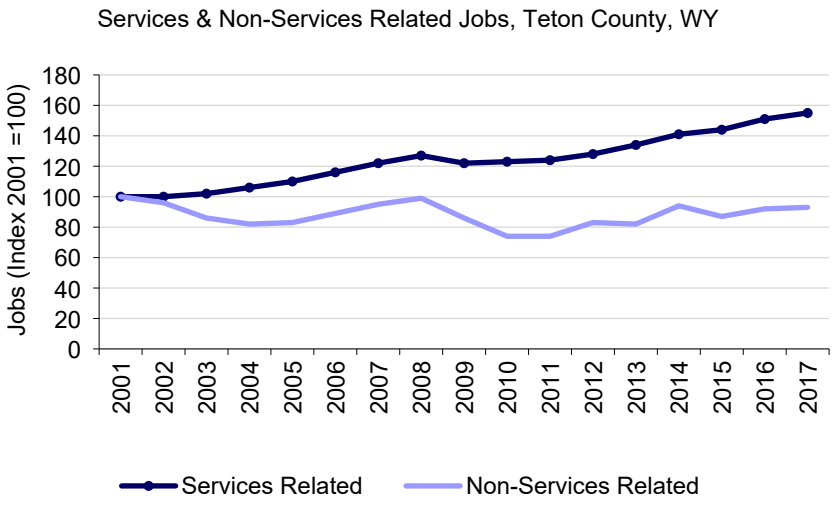
Public Land Amenities

Teton County, WY

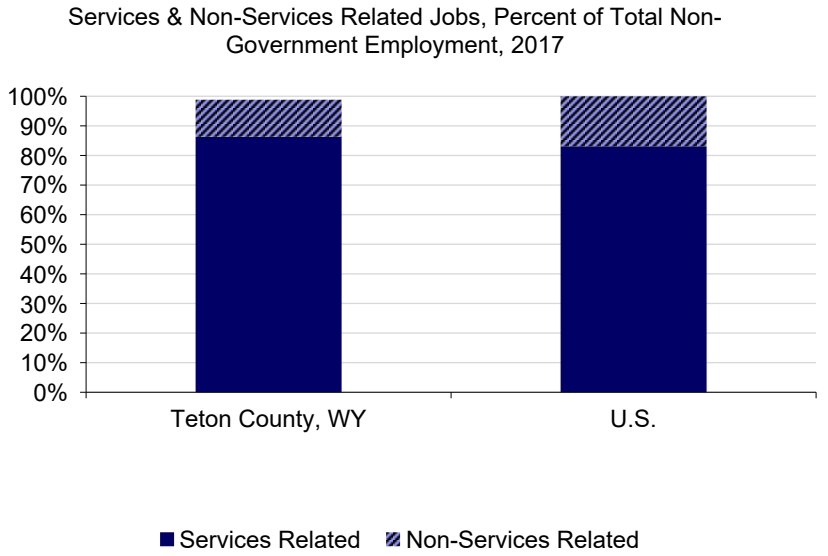
Service Sector

	Teton County, WY	U.S.
Total Non-Government Employment, 2017	30,157	171,727,200
Services Related	~26,029	142,719,300
Non-Services Related	~3,776	29,007,900
Percent of Total		
Services Related	~86.3%	83.1%
Non-Services Related	~12.5%	16.9%

- From 2001 to 2017, services related jobs in the region grew by 55 percent. Over the same period, non-services related jobs shrank by 7 percent.



- In 2017, Teton County, WY had the largest share of total jobs in services related industries (86.3%), and U.S. had the smallest (83.1%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Public Land Amenities

Teton County, WY

Service Sector

What do we measure on this page?

This page describes the number of jobs and share of total jobs in services related industries and non-services related industries.

Services: Utilities; Wholesale Trade; Retail Trade; Transportation & Warehousing Information; Finance & Insurance; Real Estate, Rental & Leasing; Professional, Scientific, & Tech.; Mgmt. of Companies & Enterprises; Administrative & Support Services; Educational Services; Health Care & Social Assistance; Arts, Entertainment, & Recreation; Accommodation & Food Services; and Other Services.

Non-Services: Mining; Construction; Manufacturing; and Agriculture, Forestry, Fishing, and Hunting.

The EPS Services report provides more detail on the components of services; the EPS Tourism report provides more information on industries that include travel and tourism, including some service industries: https://headwaterseconomics.org/eps.

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses data from the U.S. Department of Commerce to estimate these data gaps.[28] These values are indicated with tildes (~).

Why is it important?

One characteristic of growth associated with the presence of public land amenities is above-average growth in services occupations and businesses.[29, 30] Some services-related jobs are associated with a growth in recreation and tourism. There are also services occupations and businesses that, due to telecommunications technology and transportation networks, are relatively "footloose," i.e., able to move to locations in part for quality of life reasons, including the amenities provided by public lands. Examples of potentially footloose occupations and businesses include architects, software developers, engineers, financial and management consultants, and researchers.[31]

Growth in services by itself is not sufficient evidence that the amenities of public lands contribute to growth. This indicator should be taken together with all other indicators in this report, and with the recommended additional reading, as a resource that helps the user understand amenity-driven growth. This work may have to be supplemented with additional resources, such as surveys of local residents and businesses.

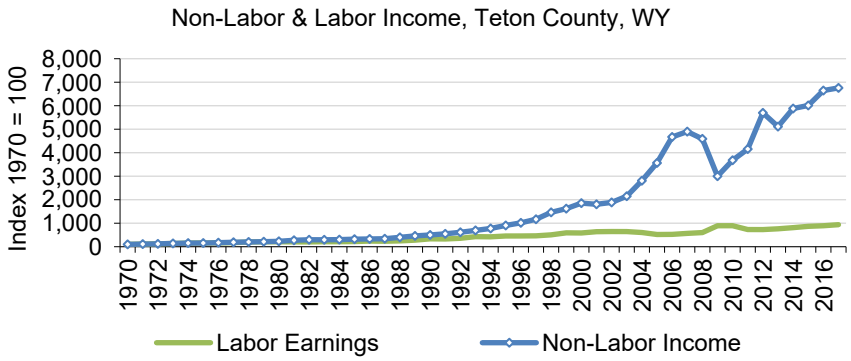
Public Land Amenities

Teton County, WY

Non-Labor Income

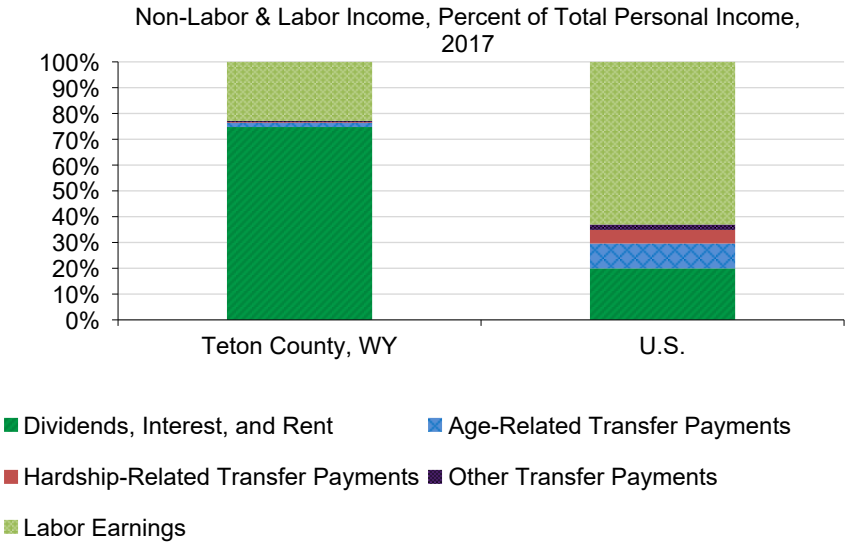
	Teton County, WY	U.S.
Personal Income, 2017, (thous. of 2018 $s)	5,571,334	17,223,936,818
Non-Labor Income	4,297,745	6,365,700,398
Dividends, Interest, and Rent	4,164,419	3,437,437,091
Age-Related Transfer Payments	88,335	1,660,249,167
Hardship-Related Transfer Payments	15,673	907,920,427
Other Transfer Payments	29,317	360,093,713
Labor Earnings	1,273,590	10,858,236,420
Percent of Total		
Non-Labor Income	77.1%	37.0%
Dividends, Interest, and Rent	74.7%	20.0%
Age-Related Transfer Payments	1.6%	9.6%
Hardship-Related Transfer Payments	0.3%	5.3%
Other Transfer Payments	0.5%	2.1%
Labor Earnings	22.9%	63.0%

- From 1970 to 2017, non-labor income in the Teton County, WY grew by 6658 percent. Over the same period, labor income grew by 837 percent.



- In 2017, Teton County, WY had the largest share of total personal income in non-labor income (77.1%), and the U.S. had the smallest (37%).

- In 2017, Teton County, WY had the largest share of non-labor income in dividends, interest, and rent (74.7%), and the smallest share in hardship-related transfer payments (0.3%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Non-Labor Income

What do we measure on this page?

This page describes components of non-labor income and compares non-labor income to labor earnings. It also shows how non-labor income has changed over time compared to labor earnings.

Non-Labor Income: Dividends, interest, rent, and transfer payments (includes government retirement and disability insurance benefits, medical payments such as mainly Medicare and Medicaid, income maintenance benefits, unemployment insurance benefits, etc.). Non-labor income is reported by place of residence.

Dividends, Interest, and Rent: Personal dividend income, personal interest income, and rental income of persons with capital consumption adjustments. Dividends, interest, and rent are sometimes referred to as "investment income" or "property income."

Age-Related Transfer Payments: Payments, including Social Security and Medicare, associated with older populations.

Hardship-Related Transfer Payments: Payments associated with poverty and welfare, including Medicaid and income maintenance.

Other Transfer Payments: Payments from veteran's benefits, education and training, Workers Compensation insurance, railroad retirement and disability, other government retirement and disability, and other receipts of individuals and nonprofits.

Labor Earnings: Net earnings by place of residence, which is earnings by place of work (the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income) less contributions for government social insurance, plus an adjustment to convert earnings by place of work to a place of residence basis.

The EPS Non-Labor report provides a more detailed analysis of non-labor income and its components: https://headwaterseconomics.org/eps.

Why is it important?

One characteristic of population and income growth influenced by public land amenities is a rapid growth of non-labor income, in particular investment income (dividends, interest, and rent) and age-related transfer payments.[32] Because retirees are not tied to a place for work, they are relatively mobile and are often freer to choose where they live.[33] Amenities provided by public lands can attract (and retain) retirees. This is particularly important as the Baby Boom generation (born 1946 to 1964) continues to retire.[34, 35]

Public Land Amenities

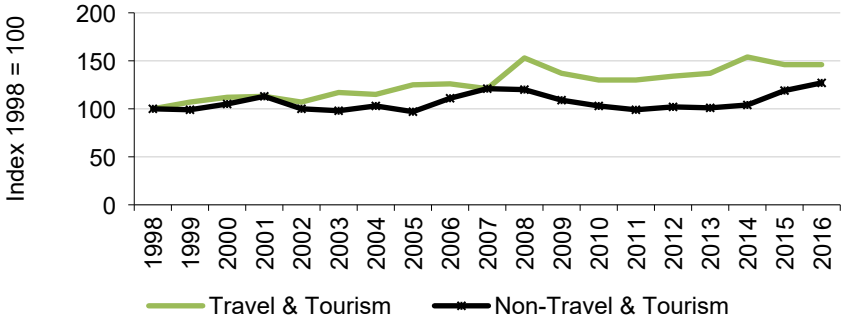
Teton County, WY

Travel and Tourism

	Teton County, WY	U.S.
Total Private Employment, 2016	17,864	~126,752,238
Travel & Tourism Related	~7,782	~19,977,824
Retail Trade	529	3,466,865
Passenger Transportation	~174	495,505
Arts, Entertainment, & Recreation	~2,406	2,311,437
Accommodation & Food	4,673	13,704,017
Non-Travel & Tourism	~10,082	106,774,414
Percent of Total		
Travel & Tourism Related	~43.6%	~15.8%
Retail Trade	3.0%	2.7%
Passenger Transportation	~1.0%	0.4%
Arts, Entertainment, & Recreation	~13.5%	1.8%
Accommodation & Food	26.2%	10.8%
Non-Travel & Tourism	~56.4%	84.2%

- From 1998 to 2016, industries associated with travel and tourism in the region grew by 46 percent. Over the same period, non-travel and tourism industries grew by 27 percent.

Jobs in Industries that include Travel & Tourism and Non-Travel & Tourism, Teton County, WY



- In 2016, Teton County, WY had the largest share of jobs in industries associated with travel and tourism (43.6%), and the U.S. had the smallest (15.8%).

Jobs in Industies that include Travel & Tourism and Non-Travel & Tourism, Percent of Total Private Employment, 2016

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Travel and Tourism

What do we measure on this page?

This page describes the number of jobs and share of total jobs in industries that include travel and tourism. It also compares employment trends in industries that include travel and tourism to all other industries.

The EPS Tourism report provides details on industries that include travel and tourism businesses: https://headwaterseconomics.org/eps.

Travel and Tourism: Sectors that provide goods and services to visitors as well as to the local population.

The exact proportion of jobs in these sectors attributable to expenditures by visitors, including business and pleasure travelers, is not known without additional research such as surveys. Some researchers refer to these sectors as “tourism-sensitive.” They could also be called “travel and tourism-potential sectors” because they have the potential of being influenced by expenditures by non-locals. In this report, they are referred to as "industries that include travel and tourism."

There is no single industrial classification for travel and tourism under the North American Classification System (NAICS).[36] However, there are sectors that, at least in part, provide goods and services to visitors to a local economy. Specific industries that are closely related to travel and tourism include Gasoline Stations, Clothing & Accessory Stores, and Miscellaneous Store Retailers; Air Transportation, and Scenic & Sightseeing Transportation; Performing Arts & Spectator Sports, Museums, Parks, & Historical Sites, and Amusement, Gambling, & Recreation; and Accommodation, Food Services & Drinking Places.

Data on this page were obtained from the U.S. Census Bureau’s County Business Patterns (CBP) series. Compared to other sources, CBP has fewer data gaps (instances when the federal government will not release data to protect confidentiality of individual businesses). It also includes both full- and part-time employment. However, CBP data do not include employment in government, agriculture, railroads, or the self-employed and, as a result, under-count the size of industry sectors. Also, CBP data are based on mid-March employment and do not take into account seasonal fluctuations. For these reasons, the data are most useful for showing long-term trends, displaying differences between places, and showing relationships between sectors over time.

The line chart begins in 1998 because that is the year the U.S. Census Bureau and CBP shifted to using NAICS.

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses data from the U.S. Department of Commerce to estimate these data gaps. Estimates for data that were not disclosed are indicated with tildes (~).

Why is it important?

This page is useful for explaining whether sectors associated with travel or tourism are growing or shrinking in the selected location(s).

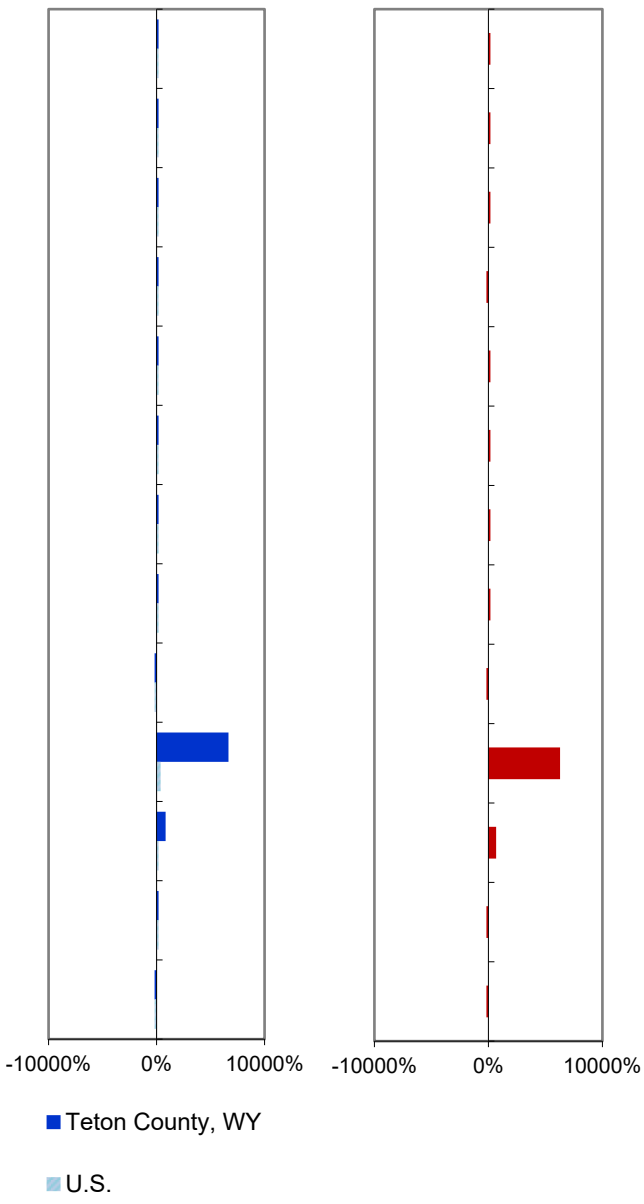
Public lands can play a role in stimulating local employment by providing opportunities for recreation.[37] Communities adjacent to public lands benefit economically from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. In addition, some migrants to communities with high levels of environmental and recreational amenities visit first as tourists and then return permanently with their families and businesses.[38] Public lands can therefore also stimulate growth in non-tourism sectors via in-migration.[39]

Public Land Amenities

Teton County, WY

Comparisons

Potential Indicators of Amenity Growth	Teton County, WY	U.S.	Difference in Percent Difference
Federal Public Land (% Total Land Area)	95.7%	27.5%	68.2%
Protected Federal Public Land (Class A % Fed. Land Area)	76.2%	41.0%	35.2%
Population (% Change 1990-2017	105.4%	30.5%	74.9%
Migration (% of Population Change 2000-2018)	30.1%	35.7%	-5.6%
Residential Acres (% Change of Total Land Area 2000-2010)	84.7%	12.3%	72.4%
Residential Acres/Person (% Change 2000-2010)	59.0%	2.0%	57.0%
Second Homes (% of Total 2017)	22.7%	4.0%	18.7%
Services (% of Total Non-Government Jobs, Change 2001-2017)	6.7%	5.2%	1.5%
Non-Services (% of Total Non-Government Jobs, Change 2001-2017)	-6.7%	-5.2%	-1.5%
Non-Labor Income (% Change 1970-2017)	6657.9%	372.7%	6285.2%
Labor Earnings (% Change 1970-2017)	836.5%	159.5%	677.0%
Travel & Tourism (Jobs % Change 1998-2016)	8.7%	16.2%	-7.5%
Non-Travel & Tourism (Jobs % Change 1998-2016)	-5.8%	-2.5%	-3.3%



- The region is most different from the U.S. in non-labor income (% change 1970-2017), (6285.2% greater), and is least different in services (% of total non-government jobs, change 2001-2017), (1.5% greater).

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, American Community Survey Office, Washington, D.C.; U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.; Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University; U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0; U.S. Department of Commerce. 2014. Census Bureau, Population Division, Washington, D.C.; U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Public Land Amenities

Teton County, WY

Comparisons

What do we measure on this page?

This page compares indicators that, when taken as a whole (and supplemented with published literature), offer ways of thinking about the economic contribution of public land amenities.

The charts illustrate difference between the selected location(s) and the selected benchmark area. If no custom benchmark area was selected, EPS defaults to benchmarking against the U.S.

Why is it important?

Public land amenities are the qualities of public lands that make a region an attractive place to live, recreate, and work. This report offers a number of indicators that can provide insight into whether and how amenities on public lands contribute to the local and regional economy.

When a location has a high proportion of public lands, and when many of these lands are designated as wilderness, national park, and national monument (Type A), then it is likely that the level of environmental and recreation amenities is high. When a location also has a high rate of population growth due largely to in-migration, combined with a conversion of lands for residential development and a high proportion of second homes, then it is likely that amenity-driven growth is taking place. In addition, when the economy has a high rate of growth in service industry jobs, travel- and tourism-related sectors, and non-labor income, then amenities are likely to play a role in economic development.

When many of the indicators in the selected region are comparatively high, then it is likely that public land amenities are contributing to economic growth.

However, even when taken as a group, these indicators may not be sufficient evidence that the amenities of public lands contribute to growth. These indicators should be studied together with the existing literature to fully understand amenity-driven growth.[40, 41, 42, 43, 44] This work may have to be supplemented with local research, such as surveys of local residents and businesses, to measure the economic role of public land amenities.

Public Land Amenities

Teton County, WY

Data Sources & Methods

This EPS report also uses published statistics on population, employment, and personal income from government sources that are available to the public and cover the entire country. The contact information for these databases is:

- **County Business Patterns**
  Census Bureau, U.S. Department of Commerce.
  https://www.census.gov/programs-surveys/cbp.html
  Contacts:
  https://www.census.gov/about/contact-us.html
- **Regional Economic Accounts**
  Bureau of Economic Analysis, U.S. Department of Commerce
  https://www.bea.gov/regional/
  Contacts:
  https://www.bea.gov/contacts/search.htm
- **Population Estimates**
  Census Bureau, U.S. Department of Commerce.
  https://www.census.gov/programs-surveys/popest.html
  Contacts:
  https://www.census.gov/about/contact-us.html
- **2010 Decennial U.S. Census**
  U.S. Census Bureau, U.S. Department of Commerce.
  https://www.census.gov/history/www/programs/demographic/decennial_census.html
  Contacts:
  https://www.census.gov/about/contact-us.html

The EPS Public Land Amenities report uses national data sources derived from Geographic Information Systems (GIS) to represent land ownership and residential development. The contact information for these databases is:

- **TIGER/Line County Boundaries**
  Bureau of the Census, U.S. Department of Commerce
  https://www.census.gov/geo/maps-data/data/tiger.html
- **Protected Areas Database**
  U.S. Geological Survey, Gap Analysis Program
  https://gapanalysis.usgs.gov/padus/

EPS core approaches
EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking – comparing smaller areas such as counties to larger regions, states, and the nation – to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Adjusting dollar figures for inflation
Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Data gaps and estimation
Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated with tildes (~) in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

Endnotes

1 - For a general analysis of the role of amenities in economic development, see McGranahan DA. 1999. *Natural Amenities Drive Rural Population Change*. USDA Economic Research Service, Agricultural Economic Report No. 781. For a review of literature on the role of amenities in National Forests, see: Garber-Yonts, B. E. 2004. *The Economics of Amenities and Migration in the Pacific Northwest: Review of Selected Literature with Implications for Natural Forest Management*. USDA, Forest Service, Pacific Northwest Research Station, General Technical Report, PNW-GTR-617. https://www.ers.usda.gov/webdocs/publications/41047/13201_aer781.pdf?v=42061.

2 - For resources describing the economic benefits of public lands, see: https://headwaterseconomics.org/public-lands/public-lands-research/.

3 - For an annotated bibliography of peer-reviewed literature on the value of amenities provided by public lands, see: https://headwaterseconomics.org/wp-content/uploads/Annotated_Bib_Value_Public_Lands.pdf.

4 - U.S. Census Bureau TIGER/Line Boundaries are available at https://census.gov/geo/maps-data/data/tiger-line.html.

5 - The U.S. Geological Survey Protected Areas Database (PADUS) is available at https://gapanalysis.usgs.gov/padus/.

6 - For an analysis of the economic role of protected public lands, see Eichman H, Hunt GL, Kerkvliet J, and Plantinga AJ. 2010. Local Employment Growth, Migration, and Public Land Policy: Evidence from the Northwest Forest Plan. *Journal of Agricultural and Resource Economics* 35(2):316-333. A recent book on the value of public lands may also be useful: Davis S. 2018. *In Defense of Public Lands: The Case Against Privatization and Transfer*. Philadelphia, PA: Temple University Press.

7 - For a review of the literature on the relationship between public land amenities and economic development and migration, see Garber-Yonts BE. 2004. *The Economics of Amenities and Migration in the Pacific Northwest: Review of Selected Literature with Implications for National Forest Management*. PNW-GTR-617. Corvallis, OR: USDA Forest Service Pacific Northwest Research Station. https://www.fs.fed.us/pnw/pubs/pnw_gtr617.pdf

8 - For an example of a survey conducted to assess the public's perceptions of quality of life and how public lands actions may affect these, see Reed P and Brown G. 2003. Public land management and quality of life in neighboring communities - The Chugach National Forest planning experience. *Forest Science* 49(4):479-498.

9 - For an extensive slide show and references on the economic contribution of federal public lands, see https://headwaterseconomics.org/wp-content/uploads/Public_Lands_Slideshow.pdf

10 - The definitions of land classifications (Type A, B, and C) are not legal or agency-approved and are provided only for comparative purposes.

Endnotes (cont.)

11 - Land defined as either Type A, B, or C includes areas managed by the National Park Service, the Forest Service, the Bureau of Land Management, or the Fish and Wildlife Service. Lands administered by other federal agencies (including the Army Corps of Engineers, Bureau of Reclamation, Department of Agriculture, Department of Defense, Department of Energy, and Department of Transportation) were not classified into Type A, B, or C. Therefore, the total acreage of Type A, B, and C lands may not add to the Total Federal Land Area reported on page 1 of this report.

12 - Studies, articles, and literature reviews on the economic contribution of protected public lands are available at https://headwaterseconomics.org/public-lands/public-lands-research/.

13 - For an analysis on the effect of wilderness designations on local economies, in particular on resource-based industries, see Garber-Yonts BE. 2004. *The Economics of Amenities and Migration in the Pacific Northwest: Review of Selected Literature with Implications for Natural Forest Management*. USDA, Forest Service, Pacific Northwest Research Station, General Technical Report, PNW-GTR-617; and Holmes TP, Bowker JM, Englin J, Hjerpe E, Loomis JB, Philips S, and Richardson R. 2016. A Synthesis of the Economic Values of Wilderness. *Journal of Forestry* 114(3):320-328.

14 - For analysis of the role of transportation in high-amenity areas, see Rasker R, Gude PH, Gude JA, and van den Noort J. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. *Journal of Rural Studies* 25(2009):343-353.

15 - For an analysis of the effect of wilderness on growth, see: Duffy-Deno KT. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. *Journal of Regional Science* 38(1):109-136.

16 - For a discussion of population and economic growth in relation to amenities and the restructuring of the economy that began to take place in the 1980s, see Rudzitis G. 1989. Migration, Places, and Nonmetropolitan Development. *Urban Geography* 10(4):396-411.

17 - For a discussion of the relationship between environmental amenities and population growth, see Hunter LM, Boardman JD, and Onge JMS. 2005. The Association Between Natural Amenities, Rural Population Growth, and Long-Term Residents' Economic Well-Being. *Rural Sociology* 70(4):452-469. See also Nelson PB. 1997. Migration, Sources of Income, and Community Change in the Non-Metropolitan Northwest. *Professional Geographer* 49(4):419-430. For analysis of the reasons for migration to the rural West, see Cromartie JB and Wardwell JM. 1999. Migrants Settling Far and Wide in the Rural West. *Rural Development Perspectives* 14(2):2-8.

18 - For a critical examination of whether amenities play a role in development (including a review of the literature), see Gottlieb PD. 1994. Amenities as an Economic Development Tool: Is there Enough Evidence? *Economic Development Quarterly* 8(3):270-285.

Endnotes (cont.)

19 - International Migration consists of people who have moved into the local geography directly from a foreign country.

20 - For a glossary of terms used by the Bureau of the Census, see https://www.census.gov/programs-surveys/popest/about/glossary.html. For methods used by the Bureau of the Census, see https://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html

21 - For a regional example of the causes and consequences of “amenity migration," see Loeffler R and Steinicke E. 2007. Amenity Migration in the U.S. Sierra Nevada. *Geographical Review* 97(1):67-88.

22 - For a discussion of the role of amenities in people’s migration decisions, see Knapp TA and Graves PE. 1989. On the Role of Amenities in Models of Migration and Regional Development. *Journal of Regional Science* 29(1):71-87.

23 - For a review of the theory that people decide where to live first and then create jobs, see Vias AC. 1996. Jobs Follow People in the Rural Rocky Mountain West. *Rural Development Perspectives* 14(2):14-23.

24 - A book on the international phenomenon of people moving to places for their amenities: Moss LAG, ed. 2006. *The Amenity Migrants: Seeking and Sustaining Mountains and Their Cultures*. Oxfordshire, UK: CABI.

25 - For an analysis of the reasons for a loss of open space, see Kline JD. 2006. Public Demand for Preserving Local Open Space. Society & Natural Resources 19(7):645-659. Also Vias AC and Carruthers JI. 2005. Regional Development and Land Use Change in the Rocky Mountain West, 1982-1997. *Growth and Change* 36(2):244-272.

26 - For an analysis of the ecological effects of exurban development, see Hansen AJ, Knight RL, Marzluff JM, Powell S, Brown K, Gude PH, and Jones K. 2005. Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs. *Ecological Applications* 15(6):1893-1905. See also Gude PH, Hansen AJ, Rasker R, and Maxwell B. 2006. Rates and Drivers of Rural Residential Development in the Greater Yellowstone. *Landscape and Urban Planning* 77:131-151.

27 - The effect of housing development on protected public lands is analyzed by Radeloff VC, Stewart SI, Hawbaker TJ, Gimmi U, Pidgeon AM, Flather CH, Hammer RB and Helmers DP. 2010. Housing Growth in and Near United States Protected Areas Limits Their Conservation Value. *Proc. National Academy of Sciences* 107(2):940-945.

28 - Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

Endnotes (cont.)

29 - For an analysis of the relationship between amenities and the growth of service-based economies, see Shumway JM and Otterstrom SM. 2001. Spatial Patterns of Migration and Income Change in the Mountain West: The Dominance of Service-Based, Amenity-Rich Counties. *Professional Geographer* 53(4):492-502.

30 - See also Beyers W and Lindahl D. 1996. Lone Eagles and High Fliers in the Rural Producer Services. *Rural Development Perspectives* 11:2-10; and Beyers WB and Nelson PB. 2000. Contemporary Development Forces in the Nonmetropolitan West: New Insights from Rapidly Growing Communities. *Journal of Rural Studies* 16(4):459-474.

31 - For an analysis of the growth of “footloose” and knowledge-based industries whose owners are attracted by amenities, see Rasker R, Gude PH, Gude JA, and van den Noort J. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. *Journal of Rural Studies* 25(2009):343-353.

32 - For a discussion of the relationship between amenities and an aging population, see Wright SD, Caserta M, and Lund DE. 2003. Older Adults' Attitudes, Concerns, and Support for Environmental Issues in the "New West." *The International Journal of Aging and Human Development* 57(2):151-179; Nelson PB. 1999. Quality of Life, Nontraditional Income, and Economic Growth: New Development Opportunities for the Rural West. *Rural Development Perspectives* 14 (2):32-37; Walters WH. 2002. Place Characteristics and Later-Life Migration. *Research on Aging* 24(2):243-277.

33 - Conway KS and Houtenville AJ. 2003. Out with the Old, In with the Old: A Closer Look at Younger Versus Older Elderly Migration. *Social Science Quarterly* 84(2):309-328; Clark DE and Hunter WJ. 1992. The Impact of Economic Opportunity, Amenities and Fiscal Factors on Age-Specific Migration Rates. *Journal of Regional Science* 32(3):349-65.

34 - Cromartie J and Nelson P. 2009. Baby Boom Migration and Its Impact on Rural America. USDA-ERS Report No. 79. Washington, DC: USDA Economic Research Service. https://www.ers.usda.gov/webdocs/publications/err79/9346_err79_1_.pdf.

35 - For a discussion and analysis of the aging baby boom and amenity retirement migration, see: Haas WH and Serow WJ. 2002. The Baby Boom, Amenity Retirement Migration, and Retirement Communities: Will the Golden Age of Retirement Continue? *Research on Aging* 24(1):150-164.

36 - The list of NAICS codes associated with travel and tourism were obtained from: Marcouiller DW and Xia X. 2008. Distribution of Income from Tourism-Sensitive Employment. *Tourism Economics* 14(3):545-565. http://journals.sagepub.com/doi/abs/10.5367/000000008785633622?journalCode=teua.

37 - For a discussion about the relationship between recreation opportunities and economic growth, see: Johnson KM and Beale CL. 2002. Nonmetro Recreation Counties: Their identification and rapid growth. *Rural America* 17(4):12-19.

Endnotes (cont.)

38 - For an example of how tourism can stimulate permanent migration, see: Johnson JD and Rasker R. 1995. The Role of Economic and Quality of Life Values in Rural Business Location. *Journal of Rural Studies* 11(4):405-416.

39 - For a review of the importance of quality of life to business location decisions, see Salvesen D and Renski H. 2003. *The Importance of Quality of Life in the Location Decisions of New Economy Firms*. Chapel Hill, NC: Center for Urban and Regional Studies, University of North Carolina. http://curs.unc.edu/files/2013/05/neweconomyreport.pdf.

40 - For an analysis of the wages people are willing to forego to live in proximity to amenities, see Schmidt L and Courant PN. 2006. Sometimes Close is Good Enough: The Value of Nearby Environmental Amenities. *Journal of Regional Science* 46(5):931-951.

41 - For an analysis of the distribution of amenity-driven activity in the Intermountain West, comparing "New West" to "Old West" communities, see Winkler R, Field DR, Luloff AE, Krannich RS, and Williams T. 2007. Social Landscapes of the Inter-Mountain West: A Comparison of "Old West" and "New West" Communities. *Rural Sociology* 72(3):478-501.

42 - For a detailed discussion of the history and challenges of economic analysis related to federal public lands, see: Nelson RH. 2006. Valuing Nature: Economic Analysis and Public Land Management, 1975–2000. *American Journal of Economics and Sociology* 65(3):525-557.

43 - For results of a national survey of rural elected officials and their environmental and economic development attitudes, see: Foster RH and McBeth MK. 1996. Urban-Rural Influences in U.S. Environmental and Economic Development Policy. *Journal of Rural Studies* 12(4):387-397. The authors found that "Empirical studies have demonstrated the importance of environmental quality of life factors in the lives of rural residents" and that "rural-based officials were more likely to see the importance of environmental quality of life features in the lives of rural residents."

44 - For a discussion of the relationship between amenities and tourism, see: Marcouiller DW, Kim K-K, and Deller SC. 2004. Natural Amenities, Tourism and Income Distribution. *Annals of Tourism Research* 31(4):1031-1050.

A Profile of Federal Land Payments

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Economic Profile System
EPS
August 1, 2019

About the Economic Profile System (EPS)

EPS is a free, easy-to-use software application that produces detailed socioeconomic reports of counties, states, and regions, including custom aggregations.

EPS uses published statistics from federal data sources, including Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; and Bureau of Labor Statistics, U.S. Department of Labor.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See headwaterseconomics.org/EPS for more information about the other tools and capabilities of EPS.

For technical questions, contact Patty Gude at eps@headwaterseconomics.org, or 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions in the West.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of the Interior, administers 249.8 million acres of America's public lands, located primarily in 12 Western States. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to achieve quality land management under the "sustainable multiple-use management concept" to meet the diverse needs of people while protecting the resource. Significant intellectual, conceptual, and content contributions were provided by the following individuals: Dr. Pat Reed, Dr. Jessica Montag, Doug Smith, M.S., Fred Clark, M.S., Dr. Susan A. Winter, and Dr. Ashley Goldhor-Wilcock.

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Note to Users:

This is one of fourteen reports that can be created and downloaded from EPS Web. You may want to run another EPS report for either a different geography or topic. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. Throughout the reports, references to online resources are indicated in parentheses. These resources are provided as hyperlinks on each report's final page. The EPS reports are downloadable as Excel, PDF, and Word documents. For further information and to download reports, go to:

headwaterseconomics.org/eps

What are federal land payments?

This page describes all federal land payments distributed to state and local governments by the geography of origin.

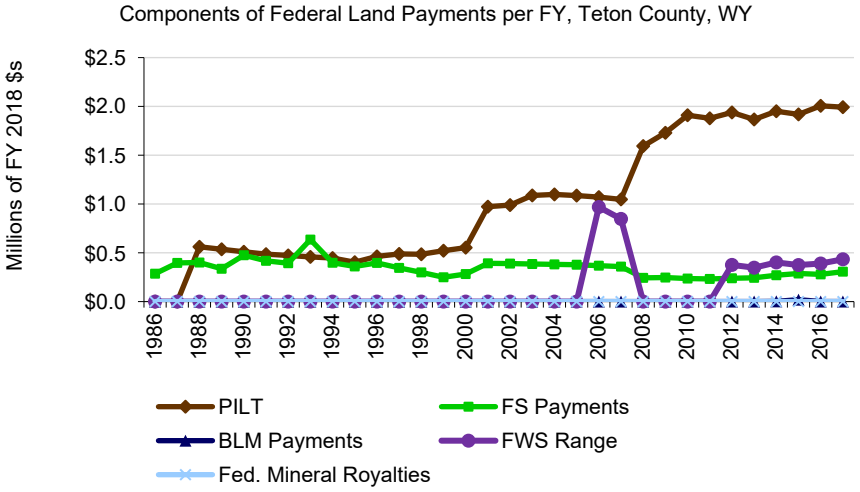
Components of Federal Land Payments to State and Local Governments by Geography of Origin, FY 2017 (FY 2018 $s)

	Teton County, WY	U.S.
Total Federal Land Payments	2,732,909	2,392,820,254
PILT	1,992,016	475,699,827
Forest Service Payments	306,850	299,617,579
BLM Payments	574	122,943,586
USFWS Refuge Payments	433,468	21,552,581
Federal Mineral Royalties	0	1,473,006,681

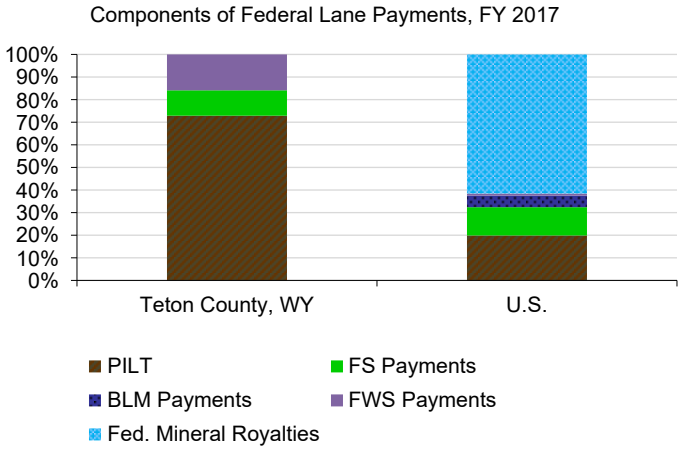
Percent of Total

PILT	72.9%	19.9%
Forest Service Payments	11.2%	12.5%
BLM Payments	0.0%	5.1%
USFWS Refuge Payments	15.9%	0.9%
Federal Mineral Royalties	0.0%	61.6%

- From FY 1986 to FY 2017, Forest Service revenue sharing payments grew from $285,943 to $306,850, an increase of 7 percent.
- From FY 1986 to FY 2017, BLM revenue sharing payments grew from $0 to $574.



- In FY 2017, PILT made up the largest percent of federal land payments in Teton County, WY (72.9%), and Federal Mineral Royalties made up the smallest (0%).



Data Sources: U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

What are federal land payments?

What do we measure on this page?

This page describes all federal land payments distributed to state and local governments by the geography of origin.
Federal land payments: These are federal payments that compensate state and local governments for non-taxable federal lands within their borders. Payments are funded by federal appropriations (e.g., PILT) and from receipts received by federal agencies from activities on federal public lands (e.g., timber, grazing, and minerals).
Payments in Lieu of Taxes (PILT): These payments compensate county governments for non-taxable federal lands within their borders. PILT is based on a maximum per-acre payment reduced by the sum of all revenue sharing payments and subject to a population cap.
Forest Service Revenue Sharing: These are payments based on USFS receipts and must be used for county roads and local schools. Payments include the 25% Fund, Secure Rural Schools & Community Self-Determination Act, and Bankhead-Jones Forest Grasslands.
BLM Revenue Sharing: The BLM shares a portion of receipts generated on public lands with state and local governments, including grazing fees through the Taylor Grazing Act and timber receipts generated on Oregon and California (O & C) grant lands.
USFWS Refuge: These payments share a portion of receipts from National Wildlife Refuges and other areas managed by the USFWS directly with the counties in which they are located.
Federal Mineral Royalties: These payments are distributed to state governments by the U.S. Office of Natural Resources Revenue. States may share, at their discretion, a portion of revenues with the local governments where royalties were generated.
Federal Fiscal Year: FY refers to the federal fiscal year that begins on October 1 and ends September 30.

Why is it important?

State and local government cannot tax federally owned lands the way they would if the land were privately owned. A number of federal programs exist to compensate county governments for the presence of federal lands. These programs can represent a significant portion of local government revenue in rural counties with large federal land holdings.

Before 1976, all federal payments were linked directly to receipts generated on public lands. Congress funded PILT with appropriations beginning in 1977 in recognition of the volatility and inadequacy of federal revenue sharing programs. PILT was intended to stabilize and increase federal land payments to county governments. More recently, the Secure Rural Schools and Community Self-Determination Act of 2000 (SRS) decoupled USFS payments from commercial receipts. SRS received broad support because it addressed several major concerns around receipt-based programs--volatility, the payment level, and the incentives provided to counties by linking federal land payments directly to extractive uses of public lands.

PILT and SRS each received a significant increase in federal appropriations in FY 2008 through the Emergency Economic Stabilization Act of 2008. Despite the increased appropriations, SRS is authorized only through FY 2011, PILT only through FY 2012, and federal budget concerns are creating uncertainty for the future of both.

Methods

Data Limitations: Local government distributions of federal land payments may be underreported due to data limitations from USFWS, ONRR, and some states that make discretionary distributions of mineral royalties and some BLM payments.
Significance of Data Limitations: USFWS data limitations are relatively insignificant at the federal level (data gaps on local distributions of USFWS Refuge revenue sharing is less than one percent of total federal land payments in FFY 2009) but may be important to specific local governments with significant USFWS acreage. Federal mineral royalties represent a more significant omission in states that share a portion of royalties with local governments. Federal mineral royalties made up 68% of federal land payments in the U.S. in FFY 2008.

Additional Resources

An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to The Forest County Payments Committee, Washington, D.C. by Research Unit 4802 - Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT.
Gorte, Ross W., M. Lynne Corn, and Carol Hardy Vincent. 1999. Federal Land Management Agencies' Permanently Appropriated Accounts. Congressional Research Service Report RL30335.
Trends in federal land payments are closely tied to commodity extraction on public lands. For more on the economic importance (in terms of jobs and income) of these activities, see the EPS-HDT Socioeconomic Measures report and other industry specific reports at headwaterseconomics.org/eps *(1)*.
For data on federal land ownership, see the EPS-HDT Land Use report at headwaterseconomics.org/eps *(1)*.

Data Sources

U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

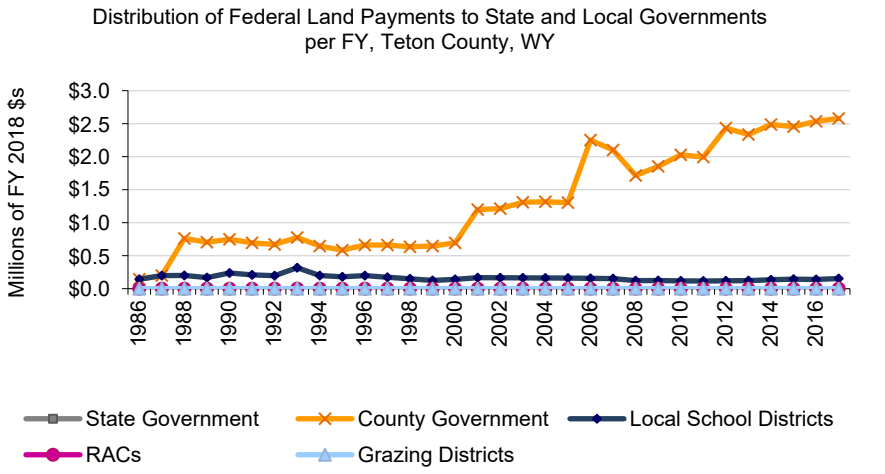
How are federal land payments distributed to state and local governments?

This page describes how federal land payments are distributed to state and local governments by geography of origin.

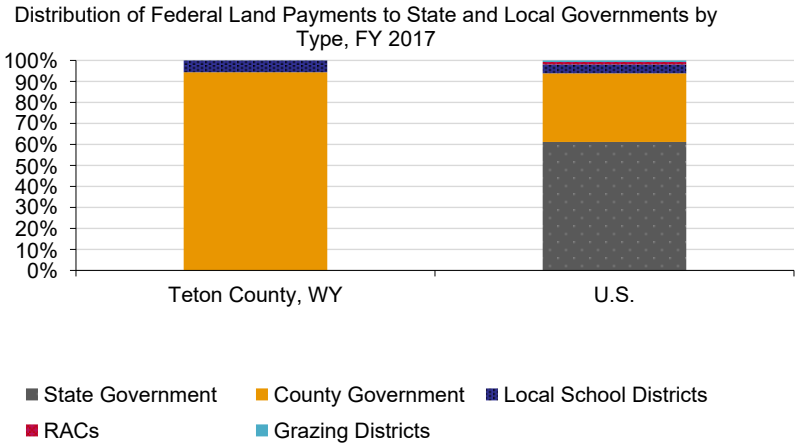
Distribution of Federal Land Payments to State and Local Governments by Geography of Origin, FY 2017 (FY 2018 $s)

	Teton County, WY	U.S.
Total Federal Land Payments	2,732,909	2,392,820,254
State Government	0	1,463,731,882
County Government	2,578,909	781,782,002
Local School Districts	153,425	102,169,071
RACs	0	27,097,785
Grazing Districts	574	18,039,515
Percent of Total		
State Government	0.0%	61.2%
County Government	94.4%	32.7%
Local School Districts	5.6%	4.3%
RACs	0.0%	1.1%
Grazing Districts	0.0%	0.8%

- From FY 1986 to FY 2017, the amount county governments received in federal land payments grew from $142,972 to $2,578,909, an increase of 1704 percent.



- In FY 2017, County Government made up the largest percent of federal land payments in Teton County, WY (94.4%), and State Government made up the smallest (0%).



Data Sources: U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

Study Guide and Supplemental Information

How are federal land payments distributed to state and local governments?

What do we measure on this page?

This page describes how federal land payments are distributed to state and local governments by geography of origin.

Why is it important?

A variety of state and local governments receive federal land payments, and the way these payments are distributed explains who benefits. For example, PILT is directed to county government only, while USFS payments are shared between county government and schools. If USFS payments decline, the PILT formula ensures that county government payments will increase, but school districts will not share in the increased PILT payments. While PILT and SRS have decoupled local government payments from commercial activities on public lands, all the federal land payments delivered to state government (mineral royalties, BLM revenue sharing payments) are still linked directly to how public lands are managed. This means state legislators and governors have a different set of expectations and incentives to lobby for particular outcomes on public lands than do county commissioners or school officials.

Methods

State Government Distributions: Consist of: (1) federal mineral royalties and (2) portions BLM revenue sharing. States make subsequent distributions to local government according to state and federal statute (see note about data limitations).
County Government Distributions: Consist of: (1) PILT; (2) portions of Forest Service payments including Secure Rural Schools and Community Self-Determination Act (SRS) Title I and Title III, 25% Fund, and Forest Grasslands ; (4) BLM Bankhead-Jones; (4) USFWS Refuge revenue sharing; and (5) discretionary state government distributions of federal mineral royalties where these data are available.
Local School District Distributions: Consist of portions of SRS Title I, 25% Fund, and Forest Grasslands.
Resource Advisory Council (RAC) Distributions: Consist of SRS Title II. These funds are retained by the Federal Treasury to be used on public land projects on the national forest or BLM land where the payment originated. Resource Advisory Committee (RAC) provides advice and recommendations to the Forest Service on the development and implementation of special projects on federal lands as authorized under the Secure Rural Schools Act and Community Self-Determination Act, Public Law 110-343. Each RAC consists of 15 people representing varied interests and areas of expertise, who work collaboratively to improve working relationships among community members and national forest personnel.
Grazing District Distributions: Consist of BLM Taylor Grazing Act payments.
Data Limitations: Local government distributions of federal land payments may be underreported due to data limitations from USFWS, ONRR, and from states (some states make discretionary distributions of mineral royalties and some BLM payments, and these data may not be available).

Additional Resources

An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to The Forest County Payments Committee, Washington, D.C. by Research Unit 4802 - Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT.

Gorte, Ross W., M. Lynne Corn, and Carol Hardy Vincent. 1999. Federal Land Management Agencies' Permanently Appropriated Accounts. Congressional Research Service Report RL30335.

Trends in federal land payments are closely tied to commodity extraction on public lands. For more on the economic importance (in terms of jobs and income) of these activities, see the EPS Socioeconomic Measures report and other industry specific reports at headwaterseconomics.org/eps *(1)*.

Data Sources

U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

How are federal land payments distributed to county governments allocated to unrestricted and restricted uses?

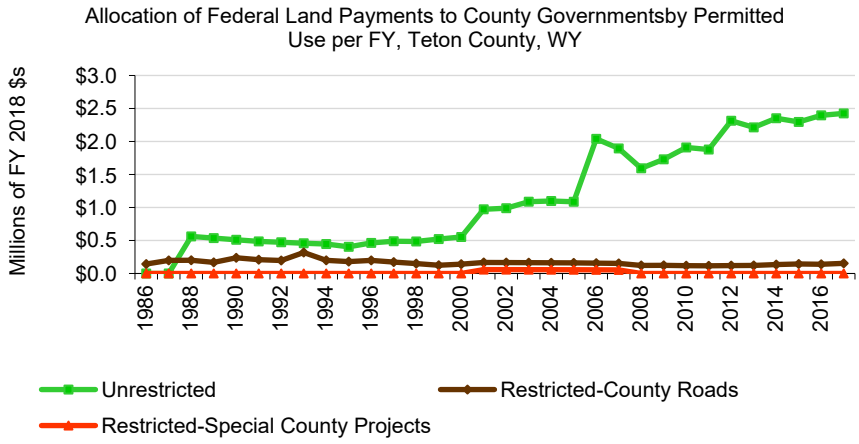
This page describes the amount of money distributed to county governments (federal land payments distributed to the state, school districts, grazing districts, and RACs are excluded) based on the permitted uses of federal land payments.

Allocation of Federal Land Payments to County Government by Permitted Use, FY 2017 (FY 2018 $s)

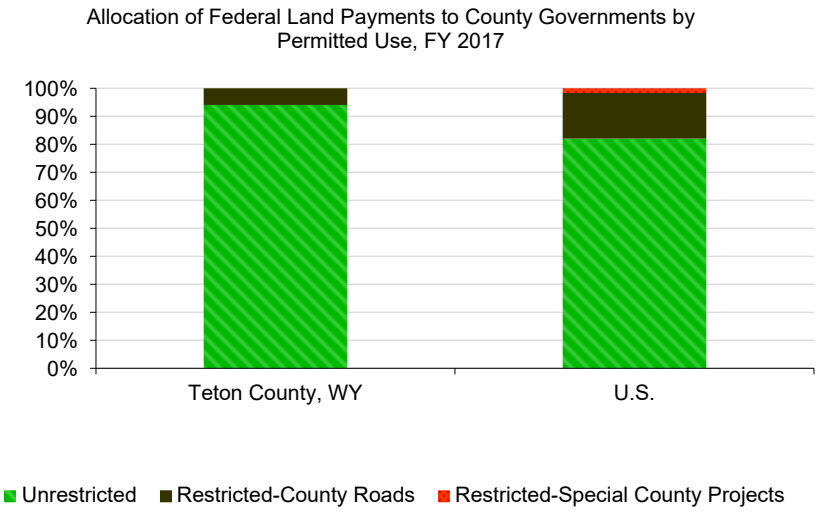
	Teton County, WY	U.S.
Total Federal Land Payments	2,578,909	781,782,002
Unrestricted	2,425,484	641,270,122
Restricted-County Roads	153,425	127,498,822
Restricted-Special County Projects	0	13,013,058
Percent of Total		
Unrestricted	94.1%	82.0%
Restricted-County Roads	5.9%	16.3%
Restricted-Special County Projects	0.0%	1.7%

- From 1986 to 2017, unrestricted federal land payments grew from $0 to $2,425,484.

- From FY 1986 to FY 2017, federal land payments restricted to county roads grew from $142,972 to $153,425, an increase of 7 percent.



- In FY 2017, unrestricted federal land payments were the largest type of payment to the county government in Teton County, WY (94.1%), and restricted-special county projects were the smallest (0%).



Data Sources: U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

Study Guide and Supplemental Information

How are federal land payments distributed to county governments allocated to unrestricted and restricted uses?

What do we measure on this page?

This page describes the amount of money distributed to county governments (federal land payments distributed to the state, school districts, grazing districts, and RACs are excluded) based on the permitted uses of federal land payments.

Why is it important?

County governments can incur a number of costs associated with activities that take place on federal public lands within their boundaries. For example, counties must maintain county roads used by logging trucks and recreational traffic traveling to and from federal lands, and they must pay for law enforcement and emergency services associated with public lands. Several federal land payment programs, particularly those from the Forest Service, are specifically targeted to help pay for these costs.

Methods

Unrestricted: Consist of (1) PILT, (2) U.S. Fish and Wildlife Service Refuge Revenue Sharing, and (3) any distributions of federal mineral royalties from the state government.
Restricted--County Roads: Consist of (1) Secure Rural Schools and Community Self-Determination Act (SRS) Title I, (2) Forest Service 25% Fund, (3) Forest Service Owl payments (between 1993 and 2000 only), and (4) Forest Grasslands. Federal law mandates payments be used for county roads and public schools. Each state determines how to split funds between the two services.
Restricted--Special County Projects: Consist of (1) SRS Title III funds that are distributed to county government for use on specific projects, such as Firewise Communities projects, reimbursement for emergency services provided on federal land, and developing community wildfire protection plans.
Data Limitations: Local government distributions of federal land payments may be underreported due to data limitations from USFWS, ONRR, and from states (some states make discretionary distributions of mineral royalties and some BLM payments, and these data may not be available).

Additional Resources

An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to The Forest County Payments Committee, Washington, D.C. by Research Unit 4802 - Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT.

Gorte, Ross W. 2008. The Secure Rural Schools and Community Self-Determination Act of 2000: Forest Service Payments to Counties. Congressional Research Service Report RL33822.

Data Sources

U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

How important are federal land payments to state and local governments?

This page describes federal land payments as a proportion of total county and state government general revenue.

Federal Land Payments as a Share of Total General Government Revenue, Thousands of FY 2012 (FY 2018 $s)

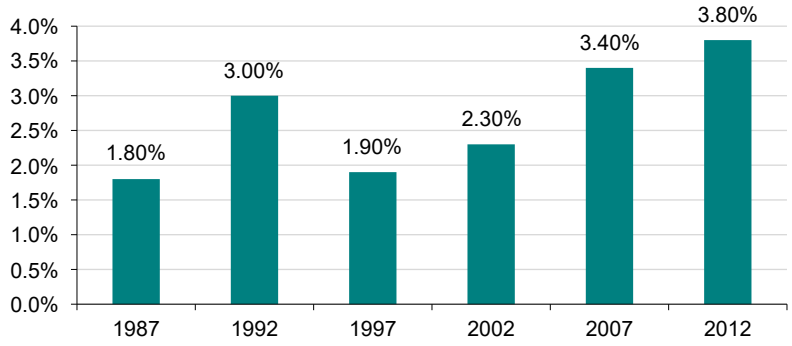
	Teton County, WY	U.S.
Total General Revenue	54,485	0
Taxes	37,736	0
Intergovernmental Revenue	6,044	0
Total Charges	9,575	0
All Other (Miscellaneous)	1,130	0
Federal Land Payments (FY 2011)	2,111	5,118,496

Percent of Total

Taxes	69.3%	na
Intergovernmental Revenue	11.1%	na
Total Charges	17.6%	na
All Other (Miscellaneous)	2.1%	na
Federal Land Payments (FY 2011)	3.9%	na

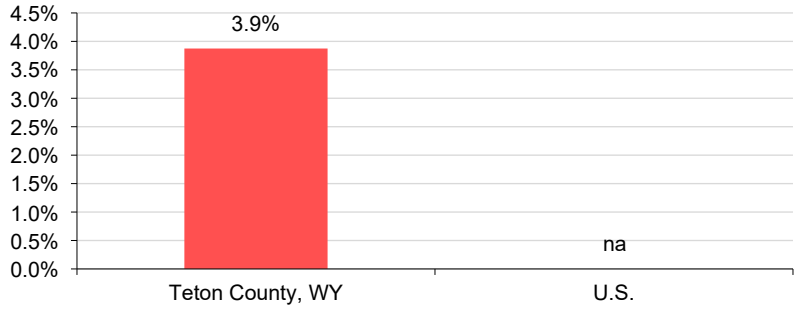
- From FY 1987 to FY 2012, federal land payments grew from 1.8 to 3.8 percent of total general government revenue, an increase of 111 percent.

Federal Land Payments per FY, Percent of Total General Government Revenue, Teton County, WY



- In FY 2012, federal land payments as a percent of total general government revenue in Teton County, WY was 3.9%.

Federal Land Payments, Percent of Total General Government Revenue, FY 2012



Data Sources: U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

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How important are federal land payments to state and local governments?

What do we measure on this page?

This page describes federal land payments as a proportion of total county and state government general revenue.

Reporting Period: State and local financial data is from the U.S. Census of Governments, conducted every five years. The latest was for Fiscal Year (FY) 2007. Federal land payments reported for FY 2006 are received by state and local government during FY 2007.
Interactive Table: Census of Government county financial statistics are based on a national survey and may not match local government financial reports. The interactive table on the next page allows the user to input data gathered from primary sources to avoid these data limitations and update data for the latest year.
Taxes: All taxes collected by state and local governments, including property, sales, and income tax.
Intergovernmental Revenue: Payments, grants, and distributions from other governments, including federal education, health care, and transportation assistance to state governments, and state assistance to local governments.
Total Charges: Charges imposed for providing current services, including social services, library, and clerk and recorder charges.
All Other (Miscellaneous): All other general government revenue from their own sources.

Why is it important?

County payments are an important component of local government fiscal health for a handful of rural counties with a large share of land in federal ownership. For counties with fewer public lands and larger economies, federal land payments are a small piece of a much broader revenue stream. Counties most dependent on federal land payments are affected most by changes in distribution and funding levels. For these counties, volatility and uncertainty makes budgeting and planning difficult.

Methods

Reporting Period: The Census of Government FY covers the period July1 to June 30 for most states and counties and does not match the federal FY beginning October 1 and ending September 31. Federal land payments reported for the current FY are often distributed to counties during the following FY. For example, Forest Service payments authorized and appropriated for FY 2007 are delivered to counties in January of 2008, during the Census of Government FY 2008. To correct for the different reporting periods, federal land payments allocated in FY 2006 are compared to local government revenue received in FY 2007.
Federal Land Payments Data Limitations: Local government distributions of federal land payments may be underreported due to data limitations from USFWS, ONRR, and from states (some states make discretionary distributions of mineral royalties and some BLM payments, and these data may not be available).
Census of Governments Data Limitations: (1) county financial statistics may not match local government financial reports for three main reasons: (a) The Census of Government defines the general county government as the aggregation of the parent (county) government and all agencies, institutions, and authorities connected to it (including government and quasi-governmental entities). This may differ from the way local governments define themselves for budgeting purposes; (b) different reporting periods between the Census of Governments fiscal year and the reporting period used by local governments (for example, some counties use a calendar year for reporting purposes); and (c) survey methods introduce error; (2) the last published edition of the Census of Governments was FY 2007, before the recent increase in payments from SRS and PILT; and (3) federal land payments data limitations may under-represent the importance of federal land payments relative to other sources of county revenue.

Additional Resources

U.S. Census Bureau State and Local Government Finance statistics can be downloaded at: census.gov/govs/estimate/ *(2)*.
For a detailed description of Census of Governments survey methods, survey year (fiscal year), and definitions, see: 2006 Government Finance and Employment Classification Manual at census.gov/govs/ *(3)*.
Schuster, Ervin G. and Krista M. Gebert. 2001. Property Tax Equivalency on Federal Resource Management Lands. Journal of Forestry. May 2001 pp 30-35.
Ingles, Brett. 2004. Changing the Funding Structure: An Analysis of the Secure Rural School and Community Self-Determination Act of 2000 on National Forest Lands. Environmental Science and Public Policy Research Institute, Boise State University.

Data Sources

U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.; U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.; U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

What are Payments in Lieu of Taxes (PILT)?

This page describes Payments in Lieu of Taxes (PILT).

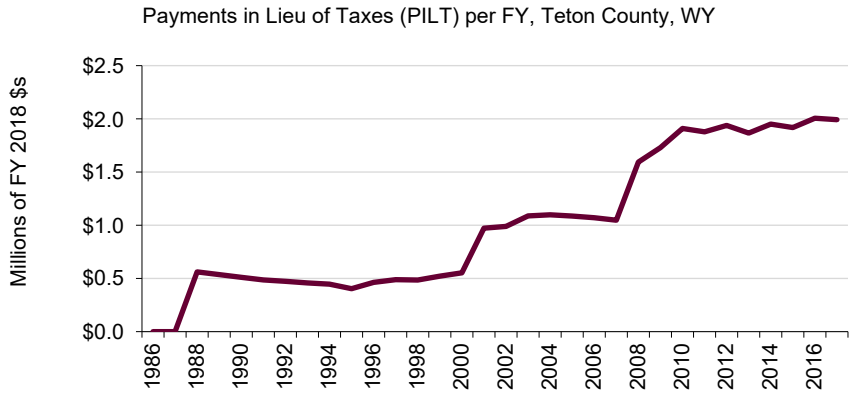
PILT Eligible Acres by Agency, FY 2017

	Teton County, WY	U.S.
Total Eligible Acres	2,623,480	606,853,621
BLM	10,793	241,711,329
Forest Service	1,372,373	190,615,690
Bureau of Reclamation	11,541	3,936,913
National Park Service	1,224,096	76,933,143
Military	0	333,189
Army Corps of Engineers	0	8,064,504
U.S. Fish and Wildlife Service	4,677	85,235,559
Other Eligible Acres	0	23,294
PILT Payment (FY 2018 $s)	1,992,016	475,699,827
Avg. Per-Acre Payment (FY 2018 $s)	0.76	0.78

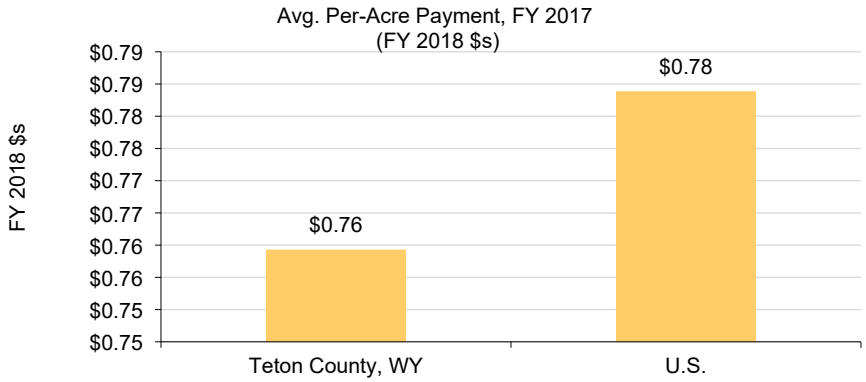
Percent of Total

BLM	0.4%	39.8%
Forest Service	52.3%	31.4%
Bureau of Reclamation	0.4%	0.6%
National Park Service	46.7%	12.7%
Military	0.0%	0.1%
Army Corps of Engineers	0.0%	1.3%
U.S. Fish and Wildlife Service	0.2%	14.0%
Other Eligible Acres	0.0%	0.0%

- From FY 1986 to FY 2017, PILT payments grew from $0 to $1,992,016.



- In FY 2017, the U.S. had the highest average per-acre PILT payment ($0.78), and Teton County, WY had the lowest ($0.76).



Data Sources: U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.

Study Guide and Supplemental Information

What are Payments in Lieu of Taxes (PILT)?

What do we measure on this page?

This page describes Payments in Lieu of Taxes (PILT).

Congress authorized PILT in 1976 in recognition of the volatility and inadequacy of federal revenue sharing payment programs to compensate counties for non-taxable federal lands within their borders (Public Law 94-565). PILT increases and stabilizes county government revenue sharing payments by paying counties based on a per-acre average "base payment" that is reduced by the amount of revenue sharing payments and is subject to a population cap.

A low average per-acre PILT payment may indicate significant revenue sharing payments from the previous year or that the county's population is below the population cap that limits the base per acre payment.

PILT is permanently authorized, but congress must appropriate funding on an annual basis. PILT was typically not fully funded until FY 2008 when counties received a guarantee of five years at full payment amounts (FY 2008 to FY 2012 payments).

Why is it important?

As county payments became more important to local government after WWII (largely due to high timber extraction levels to fuel the post-war housing and economic growth), volatility became an issue. PILT increased and stabilized payments by funding counties from congressional appropriations rather than directly from commodity receipts. PILT payments are also important because they are not restricted to particular local government services, but can be used at the discretion of county commissioners to fund any local government needs.

Additional Resources

The U.S. Department of the Interior maintains an online searchable database of PILT payments and eligible PILT acres by county and state total. Data are available back to FY 1999 at: doi.gov/nbc/index.cfm *(4)*.

Schuster, Ervin G. 1995. PILT - Its Purpose and Performance. Journal of Forestry. 93(8):31-35.

Corn, M. Lynne. 2008. PILT (Payments in Lieu of Taxes): Somewhat Simplified. Congressional Research Service Report RL31392.

Data Sources

U.S. Department of Interior. 2018. Payments in Lieu of Taxes (PILT), , Washington, D.C.

What is Forest Service Revenue Sharing?

This page describes Forest Service revenue sharing programs, including the Secure Rural Schools and Community Self-Determination Act (SRS), 25% Fund, and Forest Grasslands.

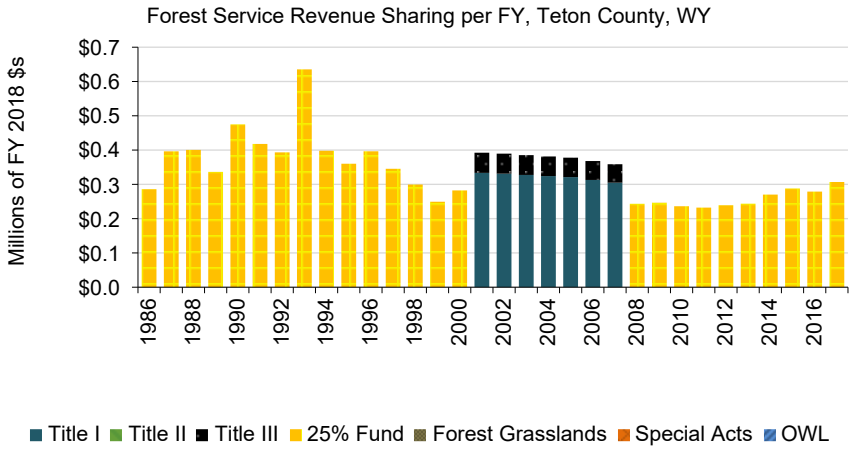
Forest Service Revenue Sharing Payments, FY 2017 (FY 2018 $s)

	Teton County, WY	U.S.
Forest Service Total	306,850	299,617,579
Secure Rural Schools Total	0	255,116,009
Title I	0	217,158,037
Title II	0	26,158,707
Title III	0	11,799,267
25% Fund	306,850	12,509,856
Forest Grasslands	0	25,641,842
Special Acts	0	6,349,871

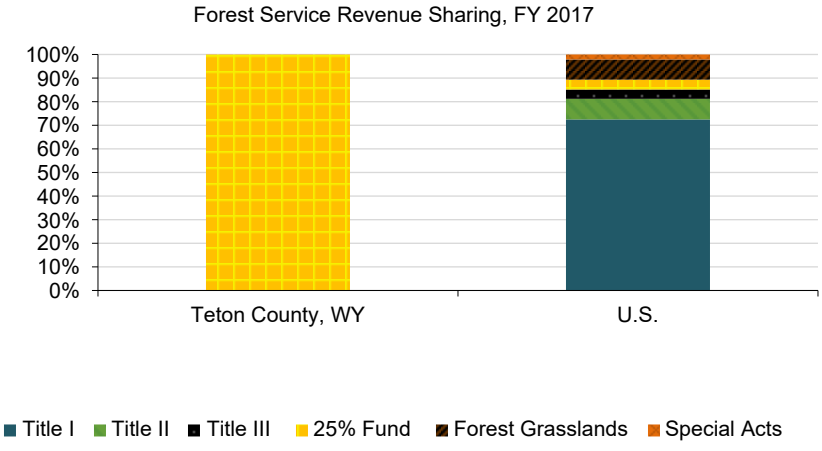
Percent of Total

Secure Rural Schools Total	0.0%	85.1%
Title I	0.0%	72.5%
Title II	0.0%	8.7%
Title III	0.0%	3.9%
25% Fund	100.0%	4.2%
Forest Grasslands	0.0%	8.6%
Special Acts	0.0%	2.1%

- From FY 1986 to FY 2017, Forest Service revenue sharing payments grew from $285,943 to $306,850, an increase of 7 percent.



- In FY 2017, 25% Fund payments were the greatest portion of Forest Service revenue sharing in Teton County, WY (100%), and Title I were the smallest (0%).



Data Sources: U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.

What is Forest Service Revenue Sharing?

What do we measure on this page?

This page describes Forest Service revenue sharing programs, including the Secure Rural Schools and Community Self-Determination Act (SRS), 25% Fund, and Forest Grasslands.

U.S. Forest Service 25 Percent Fund: The 25% Fund, established in 1908, shares revenue generated from the sale of commodities produced on public land with the county where the activities take place. Twenty-five percent of the value of public land receipts are distributed directly to counties and must be used to fund roads and schools. States determine how to allocate receipts between these two local services.

The Secure Rural Schools and Community Self-Determination Act of 2000 (SRS), or Public Law 106-393: SRS was enacted in FY 2001 to provide 5 years of transitional assistance to rural counties affected by the decline in revenue from timber harvests on federal lands. SRS was reauthorized for a single year in 2007, and again in 2008 for a period of four years. The SRS Act has three titles that allocate payments for specific purposes.

- Title I - these payments to counties make up 80 to 85 percent of the total SRS payments and must be dedicated to funding roads and schools. States determine the split between these two services, and some states let the counties decide.
- Title II - these funds are retained by the federal treasury to be used on special projects on federal land. Resource advisory committees (RACs) at the community level help make spending determinations and monitor project progress.
- Title III - these payments may be used to carry out activities under the Firewise Communities program, to reimburse the county for search and rescue and other emergency services, and to develop community wildfire protection plans.

What is the Relationship Between the 25% Fund and SRS? Counties elect to receive Secure Rural Schools Payments, or to continue with 25% Fund payments. Most counties have elected to receive Secure Rural Schools payments. Some counties, particularly in the East, continue to prefer 25% Fund payments to Secure Rural Schools.

Forest Grasslands: Forest Grasslands are lands acquired by the Forest Service through the Bankhead-Jones Farm Tenant Act of 1937 (P.L. 75-210). The Act authorized acquisition of damaged lands to rehabilitate and use them for various purposes. Receipts from activities on Forest Grasslands are shared directly with county governments.

Special Acts: These include Payments to Minnesota (Act of June 22, 1948, 16 U.S.C. 577g), payments associated with the Quinault Special Management Area in Washington (P.L. 100-638, 102 Stat. 3327), and receipts from the sale of quartz from the Ouachita National Forest in Arkansas (§423, Interior Appropriations Act for FY1989; P.L. 100-446, 102 Stat. 1774). Payments to Minnesota provides a special payment (75% of the appraised value) for lands in the Boundary Waters Canoe Area in St. Louis, Cook, and Lake counties. The Forest Service shares 45 percent of timber receipts from the Quinault Special Management Area with both the Quinault Indian Tribe and with the State of Washington. Congress directed the Forest Service to sell quartz from the Ouachita National Forest as common variety mineral materials (rather than being available under the 1872 General Mining Law), with 50 percent of the receipts to Arkansas counties with Ouachita National Forest lands for roads and schools.

Why is it important?

USFS revenue sharing is the largest source of federal land payments to counties on a national basis (federal mineral royalties are distributed to states). For some counties it provides a significant portion of total local government revenue. Payments became important after WWII when timber harvests on the National Forests increased sharply in response to post-war housing and economic growth.

As the timber economy shifted and ideas about public land management changed, harvests declined and county payments along with it. Congress addressed these changes by authorizing "owl" transition payments in the Pacific Northwest, and later extended the concept of transition payments nationally in 2000 with the SRS act. SRS changed USFS revenue sharing in three fundamental ways: SRS (1) decoupled county payments from National Forest receipts traditionally dominated by timber, (2) introduced new purposes of restoration and stewardship through Title II funds that pay for projects on public lands, and (3) addressed payment equity concerns by adjusting county and school payments based on economic need (the Title I formula is adjusted using each county's per capita personal income).

SRS transition payments are only authorized through FY 2011, at which point Congress must decide to extend and/or reform SRS, or allow it to expire. If SRS expires, counties will again receive payments from the 25% Fund, recoupling payments directly to commercial activities on public land.

Additional Resources

Secure Rural Schools and Community Self Determination Act payments available at: fs.usda.gov/pts/ *(5)*.

Gorte, Ross W. 2008. The Secure Rural Schools and Community Self-Determination Act of 2000: Forest Service Payments to Counties. Congressional Research Service Report RL33822.

Data Sources

U.S. Department of Agriculture. 2018. Forest Service, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

What is BLM Revenue Sharing?

This page describes BLM payments to states and local governments. Payments are derived from a variety of revenue-generating activities on BLM land, including revenue from the sale of land and materials, grazing, and minerals leasing.

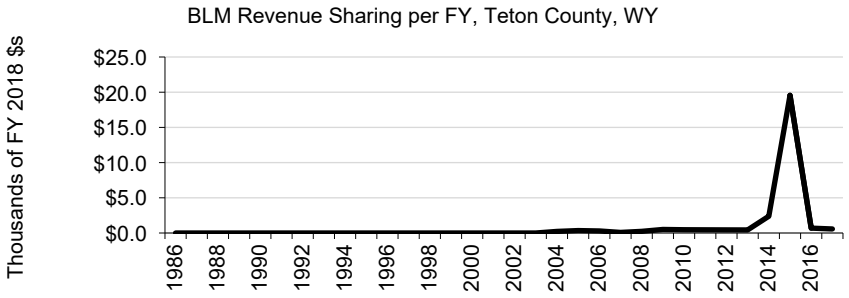
BLM Payments to States and Local Governments, FY 2017 (FY 2018 $s)

	Teton County, WY	U.S.
Total BLM Payments ($)	574	122,943,586
Proceeds of Sales	0	5,816,906
Mineral Leasing Act	0	96,664
Taylor Grazing Act	574	18,039,515
State Payments	0	509,646
National Grasslands	0	1,173,728
Miscellaneous Receipts	0	64,337,528
O&C and CBWR land grants	0	32,969,601
Title I	0	12,199,596
Title II	0	939,078
Title III	0	1,213,791

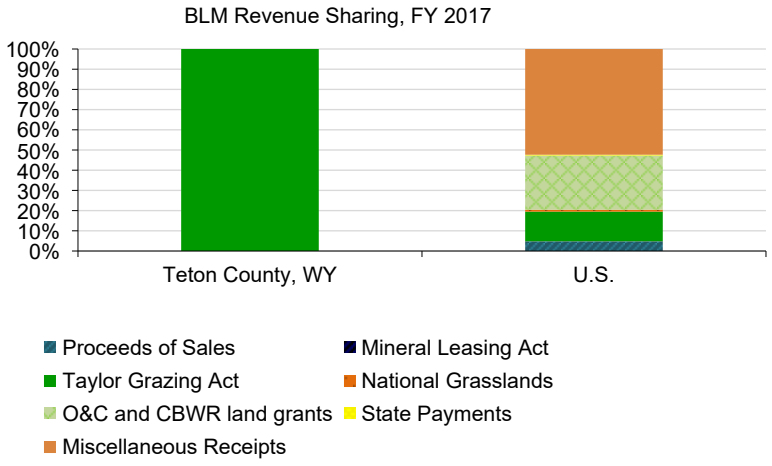
Percent of Total

Proceeds of Sales	0.0%	4.7%
Mineral Leasing Act	0.0%	0.1%
Taylor Grazing Act	100.0%	14.7%
State Payments	0.0%	0.4%
National Grasslands	0.0%	1.0%
Miscellaneous Receipts	0.0%	52.3%
O&C and CBWR land grants	0.0%	26.8%
Title I	0.0%	9.9%
Title II	0.0%	0.8%
Title III	0.0%	1.0%

- From FY 1986 to FY 2017, BLM revenue sharing payments grew from $0 to $574.



- In FY 2017, Taylor Grazing Act payments were the greatest portion of BLM revenue sharing in Teton County, WY (100%), and Proceeds of Sales payments were the smallest (0%).



Data Sources: U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.

What is BLM Revenue Sharing?

What do we measure on this page?

This page describes BLM payments to states and local governments. Payments are derived from a variety of revenue-generating activities on BLM land, including revenue from the sale of land and materials, grazing, and minerals leasing.

Proceeds of Sales: These include receipts from the sale of land and materials.

Mineral Leasing Act: These include Oil and Gas Right of Way lease revenue and the National Petroleum Reserve - Alaska Lands. These do not include royalties from mineral leasing on BLM lands, which are distributed by the Office of Natural Resources Revenue (ONRR). For ONRR payments see worksheet 10.

Taylor Grazing Act: The Taylor Grazing Act, June 28, 1934, established grazing allotments on public land and extended tenure to district grazers. In 1936 the Grazing Service (BLM) enacted fees to be shared with the county where allotments and leases are located. Funds are restricted to use for range improvements (e.g., predator control, noxious weed programs) in cooperation with BLM or livestock organizations.

• Section 3 of the Taylor Grazing Act concerns grazing permits issued on public lands within grazing districts established under the Act.

• Section 15 of the Taylor Grazing Act concerns issuing grazing leases on public lands outside the original grazing district established under the Act.

National Grasslands: Revenue derived from the management of National Grasslands under the Bankhead-Jones Farm Tenant Act (7 U.S.C. 1012), and Executive Order 10787, November 6, 1958.

Oregon and California Land Grants: These include (1) the Oregon and California (O&C) land grant payment and (2) Coos Bay Wagon Road (CBWR) payment administered by the Secure Rural Schools and Community Self-Determination Act. Amounts include Title I, Title II, and Title III payments (see the Forest Service revenue sharing section in this report for definitions and information on the Secure Rural Schools and Community Self-Determination Act).

Why is it important?

The BLM is the nation's largest land owner, and activities that take place on BLM lands can be extremely important to adjacent communities. Similarly, the non-taxable status of BLM lands is important to local government who must provide services to county residents, and provide public safety and law enforcement activities on BLM lands. BLM revenue sharing programs provide resources to local governments in lieu of property taxes (and these revenue sharing dollars are supplemented by PILT).

Methods

BLM data on this page are from BLM FRD 196 and FRD 198 reports. The FRD 196 reports receipts by county and state of origin while the FRD 198 reports actual distribution amounts to state and local governments. FRD 198 is not available for some years, so the FRD 196 report is used. To arrive at distribution amounts from receipts, the Legal Allocation of BLM Receipts (Table 3-31 of BLM Public Land Statistics) was used. Some error is likely. In addition, some data are obtained directly from states. Distribution statistics obtained from the state or local government are related to the previous FY's reported distributions (BLM distributions reported for federal FY 2008 are received and reported by state and local government in FY 2009.)

Additional Resources

BLM Public Land Statistics are available at the Annual Reports and Public Land Statistics website: blm.gov/wo/st/en/res/Direct_Links_to_Publications/ann_rpt_and_pls.html *(6)*.

Information about the Taylor Grazing Act is available at: blm.gov/wy/st/en/field_offices/Casper/range/taylor.1.html *(7)*.

Data Sources

U.S. Department of Interior. 2018. Bureau of Land Management, , Washington, D.C.; Additional sources and methods available at www.headwaterseconomics.org/eps-hdt

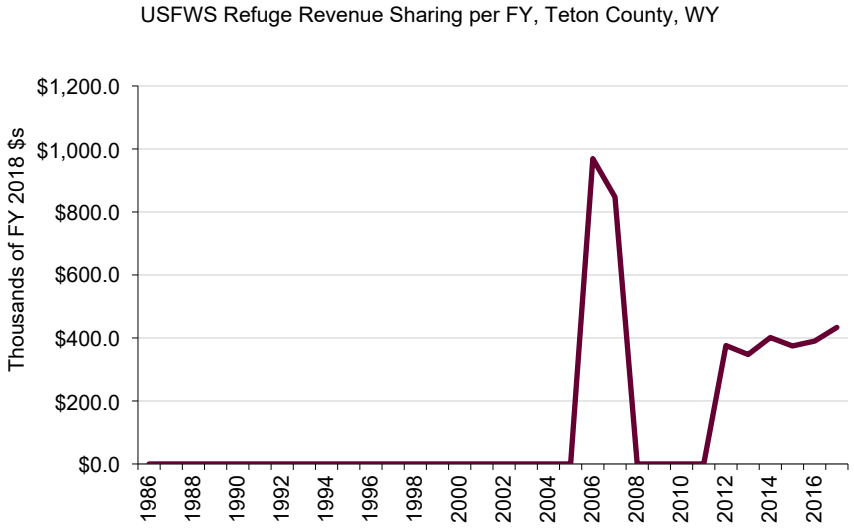
What is U.S. Fish and Wildlife Service Refuge Revenue Sharing?

This page describes U.S. Fish and Wildlife Service Refuge revenue sharing.

USFWS Refuge Revenue Sharing Payments, FY 2017 (FY 2018 $s)

	Teton County, WY	U.S.
USFWS Refuge Revenue Share	433,468	21,552,581

- From FY 1986 to 2017, U.S. Fish and Wildlife Service Refuge revenue sharing payments grew from $0 to $433,468.



Data Sources: U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.

Study Guide and Supplemental Information

What is U.S. Fish and Wildlife Service Refuge Revenue Sharing?

What do we measure on this page?

This page describes U.S. Fish and Wildlife Service Refuge revenue sharing.

Twenty-five percent of the net receipts collected from the sale of various products or privileges from Refuge lands, or three-quarters of one percent (0.75%) of the adjusted purchase price of Refuge land, whichever is greater, is shared with the counties in which the Refuge is located.

Why is it important?

National Wildlife Refuges and other lands administered by the U.S. Fish and Wildlife Service do not pay property taxes to local governments. The Refuge revenue sharing program is intended to compensate counties for non-taxable Refuge lands. As with other revenue sharing programs, these payments can be important if USFWS ownership is a large percentage of all land in the county, reducing the ability of the local government to raise sufficient tax revenue to provide basic services. In addition, linking payments to revenue derived from USFWS lands can create incentives for local government officials to lobby for particular uses of public land.

Methods

Data Limitations: The USFWS publishes a database of Refuge revenue sharing payments for FY 2006 and FY 2007 only, and does not make data available for other years for the nation. Data on Refuge revenue sharing may be obtained directly from the receiving county government. County governments may request county-specific Refuge revenue sharing payment data from U.S. Fish and Wildlife Services, Division of Financial Management, Denver Operations.

Significance of Data Limitations: Data limitations are relatively insignificant on the national scale (USFWS Refuge revenue sharing payments were about 4% of total federal land payments for the United States in FY 2007), however they may be significant for counties that have large areas managed by USFWS.

Additional Resources

A detailed description of USFWS Refuge revenue sharing payments is available on the U.S. Fish and Wildlife Service Realty website at: fws.gov/refuges/realty/rrs.html *(8)*.

The Refuge Revenue Sharing Database is available at: fws.gov/refuges/realty/RRS/2007/RevenueSharing_Search_2007.cfm *(9)*. The database currently only includes payments for FY 2006 and FY 2007. The agency does not provide data for the nation for additional years.

Data Sources

U.S. Department of Interior. 2018. U.S. Fish and Wildlife Service, , Washington, D.C.

What are Federal Mineral Royalties?

This page describes components of federal mineral royalty distributions to state and local governments.

Federal Mineral Royalties by Source, FY 2017 (FY 2018 $s)

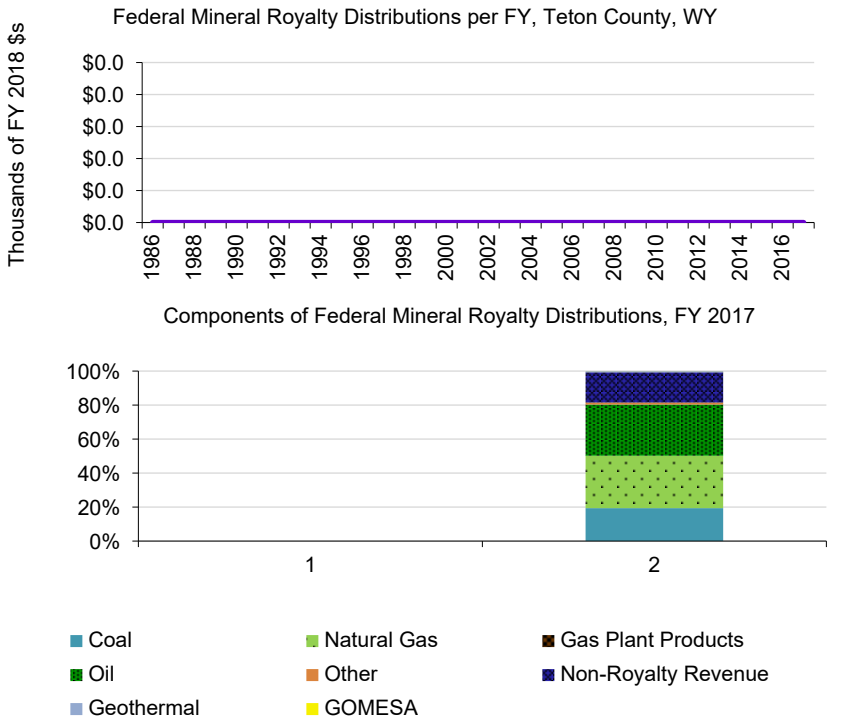
	Teton County, WY	U.S.
Total Federal Royalty	0	1,473,006,681
Royalties	0	1,200,350,447
Coal	0	285,451,428
Natural Gas	0	454,012,911
Gas Plant Products	0	0
Oil	0	443,646,937
Other	0	17,239,172
Non-Royalty Revenue	0	262,087,788
Rents	0	10,497,671
Bonus	0	228,839,389
Other Revenues	0	22,750,728
Geothermal	0	9,588,446
GOMESA	0	980,001

Percent of Total

Royalties	na	81.5%
Coal	na	19.4%
Natural Gas	na	30.8%
Gas Plant Products	na	0.0%
Oil	na	30.1%
Other	na	1.2%
Non-Royalty Revenue	na	17.8%
Rents	na	0.7%
Bonus	na	15.5%
Other Revenues	na	1.5%
Geothermal	na	0.7%
GOMESA	na	0.1%

This table shows federal royalties disbursed directly to state and local governments. States may share a portion of their royalties with counties. These state "pass through" disbursements are not reported here. See 'Additional Resources'.

- In FY 2017, natural gas royalties were the largest component of federal mineral royalties in the U.S. (30.8%), and gas plant products were the smallest (0%).
- In FY 2017, bonus were the largest component of federal mineral non-royalty revenue in the U.S. (15.5%), and rents were the smallest (0.7%).



Data Sources: U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

What are Federal Mineral Royalties?

What do we measure on this page?

This page describes the components of federal mineral royalty distributions to state and local governments across geographies, and trends for the region.

Royalties, rents, and bonus payments from mining activities on federal land are shared with the state of origin (49% of revenue is returned to states and 51% is retained by the federal government). In addition, revenue from geothermal production on federal lands and a share of royalties from offshore drilling the Gulf of Mexico (GOMESA) are shared directly with county governments. State and local governments determine how to spend their share of federal mineral royalties within broad federal guidelines (priority must be given to areas socially or economically impacted by mineral development for planning, construction/maintenance of public facilities, and provision of public services).

Royalties: Royalty payments represent a stated share or percentage of the value of the mineral produced. The royalty may be an established minimum, a step-scale, or a sliding-scale. A step-scale royalty rate increases by steps as the average production on the lease increases. A sliding-scale royalty rate is based on average production and applies to all production from the lease. A royalty is due when production begins.
Geothermal: Geothermal payments are distributed directly to counties where the activity takes place.
GOMESA: The Gulf of Mexico Energy Security Act of 2006 (GOMESA) makes distributions of offshore federal mineral royalties to coastal states and communities. The four states and their eligible political subdivisions receiving revenues from the GOMESA leases include Alabama, Louisiana, Mississippi, and Texas.
Rents: A rent schedule is established at the time a lease is issued. Rents are annual payments, normally a fixed dollar amount per acre, required to preserve the right to a lease.
Bonuses: Leases issued in areas known or believed to contain minerals are awarded through a competitive bidding process. Bonuses represent the cash amount successfully bid to win the rights to a lease.
Other Revenues: A disbursement that is not a royalty, rent, or bonus. Other revenue may include minimum royalties, settlement payments, gas storage fees, estimated payments, recoupments, and fees for sand and gravel used for beach restoration.

Why is it important?

Mineral royalties are the largest source of revenue derived from extractive activities on public lands. Mineral extraction can place significant demands on federal, state, and local infrastructure and services. Royalty revenue helps meet some of these demands. They are also designed to provide an ongoing public benefit from the depletion of non-renewable resources owned by the public.

Methods

Data Limitations: State governments that receive federal mineral royalty distributions often choose to pass through a share of federal distributions directly to the local government of origin (the location where the royalties were generated). For example, Montana distributes 25 percent of the state government's share of federal mineral royalties with the county of origin. Because information about royalties by county of origin and state government distributions to local governments are not published by ONRR, EPS users must contact each state directly for these data. Headwaters Economics includes a list of state distribution policy, links to data, and contact information for Western U.S. States in the EPS Federal, State, and Local Government Financial Data Methods and Resources document. http://headwaterseconomics.org/wphw/wp-content/uploads/EPS_Federal_Land_Payments_Documentation_1-30-2011.pdf.

Additional Resources

Headwaters Economics provides a methods document specific to the EPS Federal Lands Payments report that includes a list of state distribution policy, links to data, and contact information for Western U.S. States in the EPS-HDT Federal, State, and Local Government Financial Data Methods and Resources document: headwaterseconomics.org/wphw/wp-content/uploads/EPS_Federal_Land_Payments_Documentation_1-30-2011.pdf *(10)*.

For more definitions, see the Glossary of Mineral Terms, Office of Natural Resources Revenue available at: onrr.gov/Stats/pdfdocs/glossary.pdf *(11)*.

Data Sources

U.S. Department of Interior. 2018. Office of Natural Resources Revenue, , Washington, D.C.

Data Sources

The EPS Federal Land Payments report uses published statistics from government sources that are available to the public and cover the entire country. All data used in EPS can be readily verified by going to the original source. The contact information for databases used in this profile is:

- **U.S. Census of Governments**
  Census Bureau, U.S. Department of Commerce
  www.census.gov/govs
  Tel. 800-242-2184

- **U.S. Fish and Wildlife Service**
  Realty Division, U.S. Department of Interior
  www.fws.gov
  Tel. 703-358-1713

- **U.S. Office of Natural Resources Revenue**
  U.S. Department of Interior
  www.onrr.gov
  Tel. 303-231-3078

- **U.S. Bureau of Land Management**
  U.S. Department of Interior
  www.blm.gov
  Tel. 202-208-3801

- **U.S. Forest Service**
  U.S. Department of Agriculture
  www.fs.fed.us
  Tel. 800-832-1355

Methods

EPS core approaches

EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers.

EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time.

EPS employs cross-sectional benchmarking, comparing smaller geographies such as counties to larger regions, states, and the nation, to give a sense of relative performance.

EPS allows users to aggregate data for multiple geographies, such as multi-county regions, to accommodate a flexible range of user-defined areas of interest and to allow for more sophisticated cross-sectional comparisons.

Adjusting dollar figures for inflation

Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Links to Additional Resources

For more information about EPS see:

headwaterseconomics.org/EPS

Web pages listed under Additional Resources include:

Throughout this report, references to on-line resources are indicated with italicized numbers in parentheses. These resources are provided as hyperlinks here.

1 headwaterseconomics.org/eps
2 www.census.gov/govs/estimate/
3 www.census.gov/govs/
4 www.doi.gov/nbc/index.cfm
5 www.fs.usda.gov/pts/
6 www.blm.gov/wo/st/en/res/Direct_Links_to_Publications/ann_rpt_and_pls.html
7 www.blm.gov/wy/st/en/field_offices/Casper/range/taylor.1.html
8 www.fws.gov/refuges/realty/rrs.html
9 www.fws.gov/refuges/realty/RRS/2007/RevenueSharing_Search_2007.cfm
10 headwaterseconomics.org/wphw/wp-content/uploads/EPS_Federal_Land_Payments_Documentation_1-30-2011.pdf
11 www.onrr.gov/Stats/pdfdocs/glossary.pdf

A Profile of Land Use

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
https://headwaterseconomics.org/eps
August 1, 2019

Land Use

Teton County, WY

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See https://headwaterseconomics.org/eps for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Land Use

Teton County, WY

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Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See https://headwaterseconomics.org/eps.

Land Use

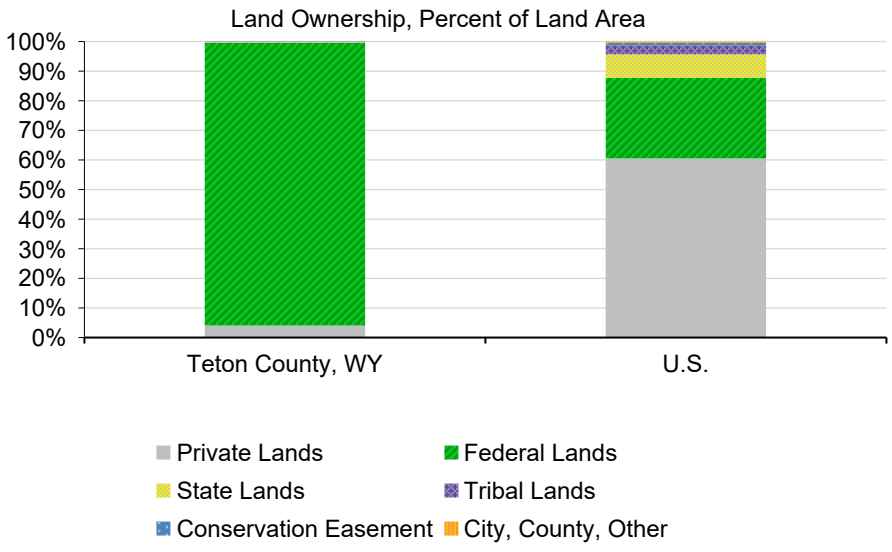
Teton County, WY

Land Ownership

	Teton County, WY	U.S.
Total Acres	2,699,045	2,303,091,014
Private Lands	109,352	1,406,717,148
Conservation Easement	5,729	21,237,199
Federal Lands	2,583,044	632,461,561
Forest Service	1,367,702	192,648,950
BLM	2,385	242,857,628
National Park Service	1,188,214	78,366,536
Military	0	24,412,029
Other Federal	24,743	94,176,418
State Lands	6,493	184,973,953
State Trust Lands*	3,996	51,983,763
Other State	2,497	132,990,190
Tribal Lands	0	67,946,824
City, County, Other	158	10,989,958
Percent of Total		
Private Lands	4.1%	61.1%
Conservation Easement	0.2%	0.9%
Federal Lands	95.7%	27.5%
Forest Service	50.7%	8.4%
BLM	0.1%	10.5%
National Park Service	44.0%	3.4%
Military	0.0%	1.1%
Other Federal	0.9%	4.1%
State Lands	0.2%	8.0%
State Trust Lands*	0.1%	2.3%
Other State	0.1%	5.8%
Tribal Lands	0.0%	3.0%
City, County, Other	0.0%	0.5%

* Most state trust lands are held in trust for designated beneficiaries, principally public schools. Managers may lease and sell these lands for a diverse range of uses to generate revenues for the beneficiaries.

- Teton County, WY has the largest share of federal public lands (95.7%), and the U.S. has the smallest (27.5%).
- The U.S. has the largest share of state public lands (8%), and Teton County, WY has the smallest (0.2%).
- The U.S. has the largest share of private lands (61.1%), and Teton County, WY has the smallest (4.1%).



Data Sources: U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0

Land Use

Teton County, WY

Land Ownership

What do we measure on this page?

This page describes the share of the selected location that is private and the share that is managed by various public agencies.

The data presented in this report were calculated using Geographic Information System (GIS) tools. Two primary GIS datasets were used: U.S. Census Bureau's TIGER/Line County Boundaries[1] and U.S. Geological Survey's Protected Areas Database (PADUS).[2, 3]

Although every attempt was made to use the best available GIS land ownership dataset, the data sometimes have errors or become outdated. Please report any inaccuracies to eps@headwaterseconomics.org.

Why is it important?

Decisions made by public land managers may influence the local economy, particularly if public lands represent a large portion of the land base. Agency management actions that affect water quality, access to recreation, scenery (as well as other quality-of-life amenities), and the extent and type of resource extraction are particularly important in areas where much of the land is managed by public agencies.

Federal and state land managers, private land owners, and others are constrained in different ways by laws and regulations that dictate how different lands can be managed. Adjacency can offer challenges and opportunities.

In addition, where a large portion of land is owned and managed by federal agencies, local governments may rely heavily on federal PILT ("Payments in Lieu of Taxes") and revenue-sharing payments such as those from the Secure Rural Schools and Community Self-Determination Act or BLM Taylor Grazing Act.

The EPS Federal Land Payments report provides additional information about payments made to counties with federal public lands: https://headwaterseconomics.org/eps.

Land Use

Teton County, WY

Types of U.S. Forest Service Lands

	Teton County, WY	U.S.
Total Acres (2009)	2,699,045	2,303,091,014
Forest Service Lands	1,370,507	192,750,310
Unspecified Designated Area Type	492,360	146,630,207
National Wilderness	788,153	36,155,579
National Monument	0	3,661,327
National Recreation Area	0	2,950,660
National Game Refuge	0	1,198,099
National Wild River	50,084	568,059
National Recreation River	8,843	398,207
National Scenic River	31,067	289,617
National Scenic Area	0	230,459
Primitive Area	0	173,762
National Volcanic Monument	0	167,427
Special Management Area	0	164,707
Protection Area	0	45,051
Recreation Management Area	0	43,900
National Scenic and Wildlife Area	0	39,171
Scenic Recreation Area	0	12,645
National Botanical Area	0	8,256
National Scenic and Research Area	0	6,637
National Historic Area	0	6,540
Percent of Total		
Forest Service Lands	50.8%	8.4%
Unspecified Designated Area Type	18.2%	6.4%
National Wilderness	29.2%	1.6%
National Monument	0.0%	0.2%
National Recreation Area	0.0%	0.1%
National Game Refuge	0.0%	0.1%
National Wild River	1.9%	0.0%
National Recreation River	0.3%	0.0%
National Scenic River	1.2%	0.0%
National Scenic Area	0.0%	0.0%
Primitive Area	0.0%	0.0%
National Volcanic Monument	0.0%	0.0%
Special Management Area	0.0%	0.0%
Protection Area	0.0%	0.0%
Recreation Management Area	0.0%	0.0%
National Scenic and Wildlife Area	0.0%	0.0%
Scenic Recreation Area	0.0%	0.0%
National Botanical Area	0.0%	0.0%
National Scenic and Research Area	0.0%	0.0%
National Historic Area	0.0%	0.0%

County specific acreages for Forest Service National Game Refuges are not available for the following states: Arkansas, Florida, Georgia, Louisiana, North Carolina, South Carolina, and Tennessee.

Data Sources: USDA, FS - Land Areas Report 2009, Oracle LAR Database

Types of U.S. Forest Service Lands

What do we measure on this page?

This page describes the acreage and share of different U.S. Forest Service land designations.

All acreages on this page were reported by the U.S. Forest Service's Land Areas Report.[4, 5] The total acreage of Forest Service land on this page may differ from that reported on previous pages because of differences in data sources.

Why is it important?

These data allow the user to see the range and scale of U.S. Forest Service land designations that may impact the economic value and uses of associated lands.

Land Use

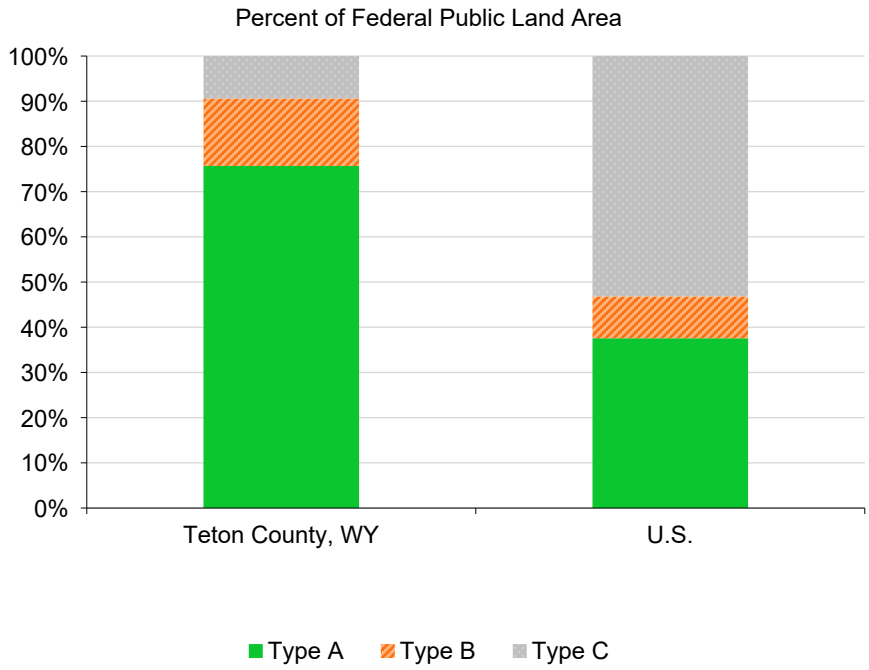
Teton County, WY

Types of Federal Lands

	Teton County, WY	U.S.
Total Acres of Type A, B, and C Lands	2,601,652	690,953,496
Type A	1,969,035	259,556,739
Type B	388,318	63,979,938
Type C	244,299	367,416,819
Percent of Total*		
Type A	75.7%	37.6%
Type B	14.9%	9.3%
Type C	9.4%	53.2%

* Percent of total federal lands classified as either Type A, B, or C.

- Teton County, WY has the largest share of Type A land (75.7%), and the U.S. has the smallest (37.6%).
- Teton County, WY has the largest share of Type B land (14.9%), and the U.S. has the smallest (9.3%).
- The U.S. has the largest share of Type C land (53.2%), and Teton County, WY has the smallest (9.4%).



Type A lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments, (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS, FS, BLM), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Type B lands include Wilderness Study Areas (NPS, FWS, FS, BLM), Inventoried Roadless Areas (FS).

Type C lands include Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (FS).

Data Sources: U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0; Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207.

Types of Federal Lands

What do we measure on this page?

This page describes the acreage and share of federal public lands managed for various purposes under differing statutory authority. For purposes of this section, federal public lands have been defined as Type A, B, or C.[6, 7] Private lands and areas managed by state agencies and local government are not included in this classification.

Type A lands tend to have more managerial and commercial use restrictions than Type C lands, represent smaller proportions of total land management areas (except within Alaska), and have a designation status less easily changed than Type B lands. They may be described as areas having uncommon bio-physical and/or cultural character worth preserving.

Type B lands are similar to Type A lands in terms of activities allowed. They may be described as areas worth preserving that have limited development and motorized transportation.

Type C lands generally have no special designations. They represent the bulk of federal land management areas and may allow a wider range of uses or compatible activities including timber production, mining and energy development, grazing, recreation, and large-scale watershed projects and fire management options. Type C lands may be described as areas where the landscape may be altered within the objectives and guidelines of multiple use.

The classifications offered on this page are categories of relative degrees of management priority, categorized by land designation. Lands such as wilderness and national monuments, for example, are more likely to be managed for conservation and recreation, even though there may exist exceptions (e.g., a pre-existing mine in a wilderness area or oil and gas development in a national monument). Forest Service and BLM lands without designations are more likely to allow commercial activities such as mining and timber harvesting.

Why is it important?

Some types of federal lands, such as National Parks, National Monuments, and Wilderness, can be associated with above-average economic growth. These lands by themselves do not guarantee economic growth but when combined with other factors, such as an educated workforce and access to major markets via airports, they have been shown to be statistically significant predictors of growth.[8, 9, 10, 11]

The acreage in particular land types may not be the only indicator of quality. For example, Wild and Scenic Rivers may provide amenity values far greater than their land acreage would indicate.

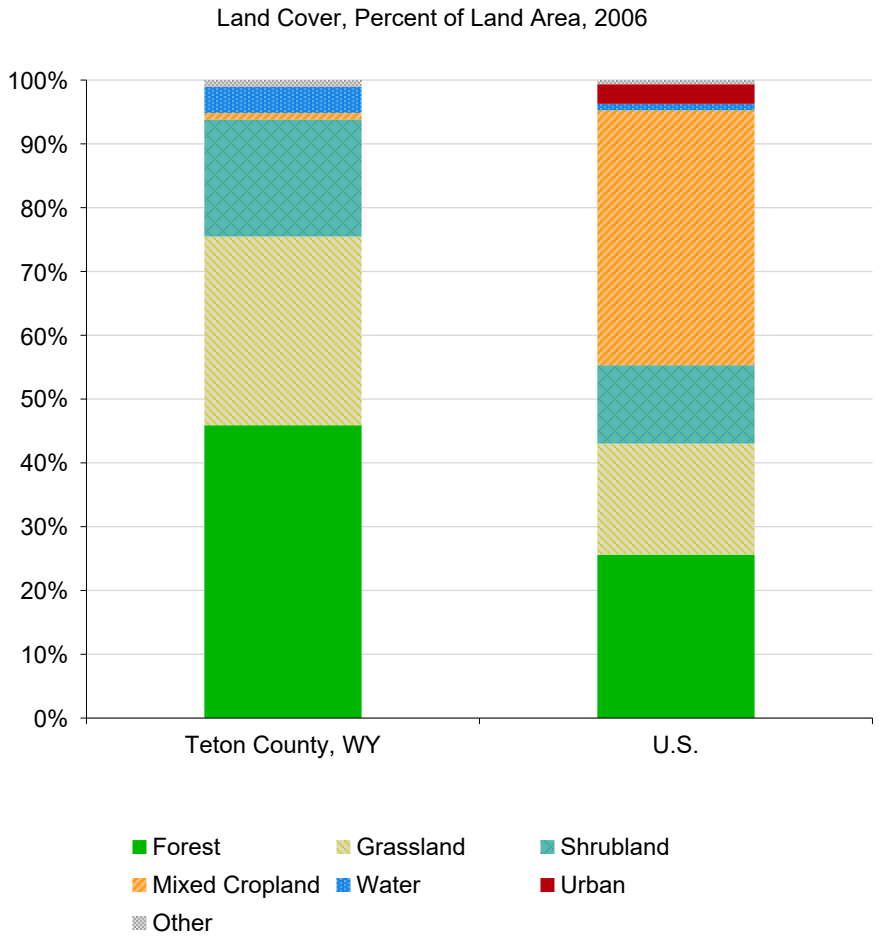
Land Use

Teton County, WY

Forest, Grassland, and Other Land Cover

	Teton County, WY	U.S.
Total Acres (2006)	2,699,045	2,303,091,014
Forest	1,214,570	575,772,754
Grassland	782,723	391,525,472
Shrubland	485,828	276,370,922
Mixed Cropland	26,990	898,205,495
Water	107,962	23,030,910
Urban	1,236	69,092,730
Other	26,990	14,656,376
Percent of Total		
Forest	45.0%	25.0%
Grassland	29.0%	17.0%
Shrubland	18.0%	12.0%
Mixed Cropland	1.0%	39.0%
Water	4.0%	1.0%
Urban	0.0%	3.0%
Other	1.0%	0.6%

- Teton County, WY has the largest share of forest cover (45%), and the U.S. has the smallest (25%).
- Teton County, WY has the largest share of grassland cover (29%), and the U.S. has the smallest (17%).
- Teton County, WY has the largest share of shrubland cover (18%), and the U.S. has the smallest (12%).



Data Sources: NASA MODIS Land Cover Type Yearly L3 Global 1km MOD12Q1, 2006.

Forest, Grassland, and Other Land Cover

What do we measure on this page?

This page describes the acreage and share of various land cover types.

The National Land Cover Database (NLCD) was selected to describe cover types because it is publicly available and has a relatively small number of general classes that are easily summarized.[12]

NLCD is based primarily on a decision-tree classification of Landsat satellite data, and uses a 16-class land cover classification scheme that has been applied consistently across the United States.[13] These classes were summarized into seven classes as follows:

Forest: An aggregate of the following NLCD classes: Evergreen Forest, Deciduous Forest, and Mixed Forest.

Grassland: An aggregate of the following NLCD classes: Grasslands, Sedge, Lichens, and Moss.

Shrubland: An aggregate of the following NLCD classes: Dwarf Scrub and Shrub/Scrub.

Mixed Cropland: An aggregate of the following NLCD classes: Pasture/Hay and Cultivated Crops.

Water: The same in the original NLCD Open Water classification.

Urban: An aggregate of the four Developed classes within NLCD.

Other: An aggregate of the following NLCD classes: Barren Land, Perennial Ice/Snow, and the two Wetlands classifications.

Why is it important?

The mix of land cover influences a range of socioeconomic and natural factors, including potential and suitable economic activities, the availability of recreation opportunities, water storage, the potential for wildfire, and other cultural and economic factors.

For data on development in wildfire-prone areas, create an EPS Wildland-Urban Interface report at https://headwaterseconomics.org/eps.

Land Use

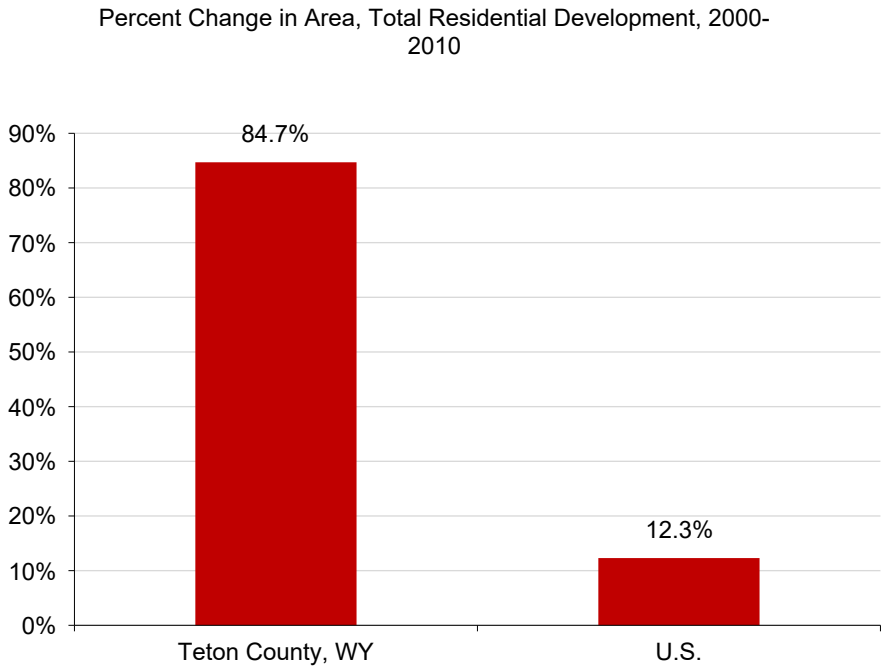
Teton County, WY

Residential Development (Acres)

	Teton County, WY	U.S.
Total Private Land, Acres (2000-2010)	109,352	1,406,717,148
Total Residential, 2000	3,778	190,918,648
Urban/Suburban, 2000	1,281	31,001,465
Exurban, 2000	2,497	159,917,167
Total Residential, 2010	6,979	214,475,717
Urban/Suburban, 2010	1,412	37,816,640
Exurban, 2010	5,566	176,659,056
Percent Change in Total Residential	84.7%	12.3%
Percent of Total*		
Total Residential, 2000	3.5%	13.6%
Urban/Suburban, 2000	1.2%	2.2%
Exurban, 2000	2.3%	11.4%
Total Residential, 2010	6.4%	15.2%
Urban/Suburban, 2010	1.3%	2.7%
Exurban, 2010	5.1%	12.6%

* The percentages in this table represent the percent of private land developed at various housing densities, and should not sum to 100%.

- From 2000 to 2010, Teton County, WY had the largest percent change in residential development (84.7%), and the U.S. had the smallest (12.3%).



Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.

Residential Development (Acres)

What do we measure on this page?

This page describes the area (in acres) used for housing and the rate at which this area is growing.

Comparisons in development patterns are made between 2000 and 2010. The data can also be used to draw comparisons between locations. These are the latest published data available from the Decennial Census.

Statistics are provided for residential areas developed at relatively high densities (urban/suburban areas where the average residential lot sizes are less than 1.7 acres) and those developed at relatively low densities (exurban areas where the average lot sizes are between 1.7 and 40 acres). Urban/suburban areas, as shown here, combine “urban” housing densities (less than 0.25 acres per unit) and “suburban” housing densities (0.25–1.7 acres per unit). Urban and suburban are represented in one class because they often represent a small proportion of the land area within counties. Lot sizes greater than 40 acres are more typical of working agricultural landscapes and are not considered residential, and therefore are not discussed here.

Locations with a large percent change in the area of residential development often have experienced significant in-migration from more urbanized areas. Counties with a small percent change either experienced little growth or were already highly urbanized in 2000.[14]

Why is it important?

In the past decade, the conversion of open space and agricultural land to residential development has continued at a rapid pace in many parts of the U.S. The popularity of exurban lot sizes in much of the country has exacerbated this trend. Low-density development results in a larger area of land converted to residential development.[15]

This pattern of development reflects several factors, including demographic trends, the increasingly "footloose" nature of economic activity, the availability and price of land, and preferences for homes on larger lots. Development patterns can affect resident’s quality of life and safety, and impact protected areas as development increasingly pushes up against public land boundaries.[16] Human-wildlife conflicts and wildfire threats may become more serious issues as development continues. In addition, there may be new demands for recreation opportunities and concern about commodity uses of the landscape.

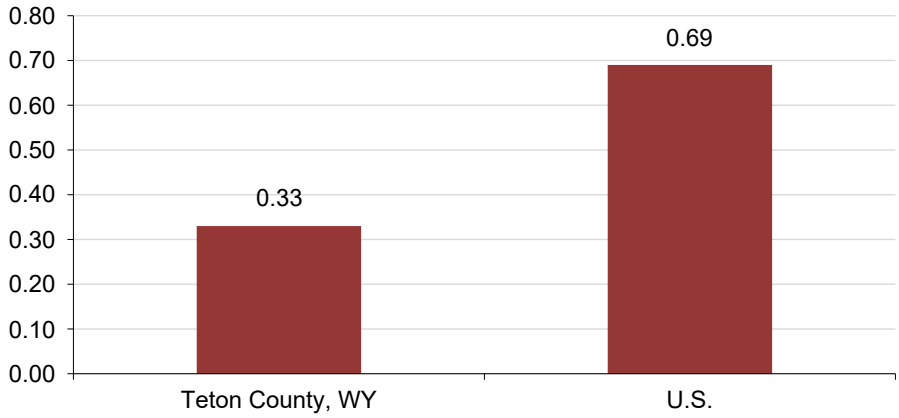
For data on development in wildfire-prone areas, create an EPS Wildland-Urban Interface report at https://headwaterseconomics.org/eps.

Residential Development (Population Density)

	Teton County, WY	U.S.
Residential Acres/Person, 2000	0.21	0.67
Residential Acres/Person, 2010	0.33	0.69
Change in Residential Acres/Person, 2000-2010*	0.12	0.02
Private Acres/Person, 2010	5.13	4.50

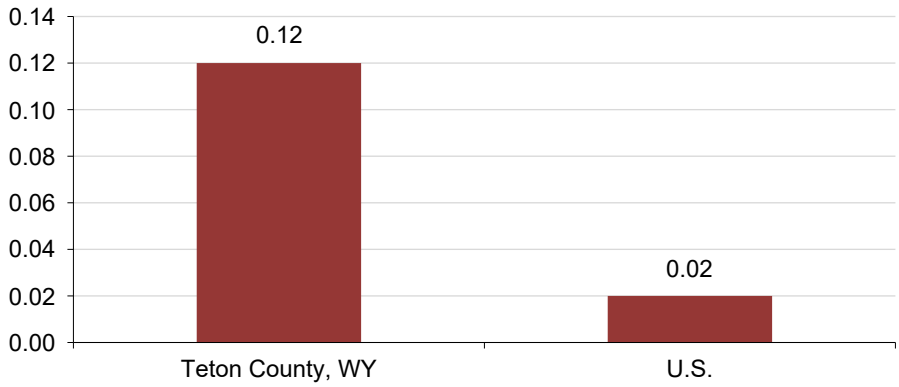
- In 2010, Teton County, WY had the largest average acreage in residential development per person (5.13 acres), and the U.S. had the smallest (4.5 acres).

Average Residential Acres per Person, 2010



- From 2000 to 2010, Teton County, WY had the largest change in average acreage in residential development per person (0.12 acres), and the U.S. had the smallest (0.02 acres).

Change in Average Residential Acres per Person, 2000-2010



Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University.

Residential Development (Population Density)

What do we measure on this page?

This page describes the degree to which development patterns have changed (becoming more or less dense) between 2000 and 2010.

Per capita consumption of land used for housing is a measure of the pattern of development (i.e., denser or more sprawling). Comparisons in development patterns are made between 2000 and 2010. The data can also be used to draw comparisons between locations. These are the latest published data available from the Decennial Census.

Land consumption is expressed as the average number of acres that each person uses for housing (the average lot size) within a selected location. Importantly, these figures refer only to residential development and do not include farms or ranches greater than 40 acres. Population density is also displayed as the acres of private land per person.

Areas with negative values of change in residential acres/person were more densely developed in 2010 than in 2000. Large positive values of change indicate that an area was substantially more sprawling in 2010 than it was in 2000. It is important to note that a small change does not indicate that the selected location is not sprawling, but rather that the pattern of development has not changed substantially over the time period.

Why is it important?

Outside of urban areas, large lot development has increased since the 1970s in many parts of the country.

Population growth is a metric often used to describe human impacts. However, in most locations land consumption is outpacing population growth. In these areas, land consumption (the area of land used for residential development) is strongly related to the loss of natural areas and impacts on ecological processes. Impacts include changes in ecosystem structure; effects on crucial wildlife habitat; and exposure to humans through hunting, exotic species, and disease.[15]

The pattern of land consumption in 2010 shown in the top graph (*Average Residential Acres per Person*) is equally important as the change in land consumption shown in the bottom graph (*Change in Average Residential Acres per Person*). Locations where the average number of residential acres per person is greater than one acre have considerable sprawling development.

Land Use

Teton County, WY

Data Sources & Methods

The EPS Land Use report uses national data sources to represent land cover and residential development. In an effort to report more accurate statistics for land ownership, a compilation of state-level data was used. All the data in this report were the result of calculations made in Geographic Information Systems (GIS). The contact information for databases used in this profile is:

- **TIGER/Line County Boundaries**
  Bureau of the Census, U.S. Department of Commerce
  https://www.census.gov/geo/maps-data/data/tiger.html
- **Protected Areas Database**
  U.S. Geological Survey, Gap Analysis Program
  https://gapanalysis.usgs.gov/padus/
- **Developed Areas**
  Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013.
  Unpublished report, Colorado State University.
- **National Land Cover Database**
  Multi-Resolution Land Characteristics Consortium
  https://www.mrlc.gov/
- **USDA Forest Service**
  Land Areas Report, Oracle LAR Database
  https://www.fs.fed.us/land/staff/lar-index.shtml

EPS core approaches
EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking—comparing smaller areas such as counties to larger regions, states, and the nation—to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Endnotes

1 - U.S. Census Bureau TIGER/Line Boundaries are available at https://census.gov/geo/maps-data/data/tiger-line.html.

2 - The U.S. Geological Survey Protected Aeas Database (PADUS) is available at https://gapanalysis.usgs.gov/padus/.

3 - If accurate measurements of water surface area are needed, the U.S. Geological Survey's national hydrography dataset can be used: https://nhd.usgs.gov/.

4 - A copy of the most recent Forest Service Land Areas Report, including detailed tables, is available at https://www.fs.fed.us/land/staff/lar-index.shtml.

5 - U.S. Forest Service Land Areas Report definitions of terms are available at https://www.fs.fed.us/land/staff/lar/definitions_of_terms.htm.

6 - The definitions of land classifications (Type A, B, and C) are not legal or agency-approved, and are provided only for comparative purposes.

7 - Land defined as either Type A, B, or C includes areas managed by the National Park Service, the Forest Service, the Bureau of Land Management, or the Fish and Wildlife Service. Lands administered by other federal agencies (including the Army Corps of Engineers, Bureau of Reclamation, Department of Agriculture, Department of Defense, Department of Energy, and Department of Transportation) were not classified into Type A, B, or C. Therefore, the total acreage of Type A, B, and C lands may not add to the Total Federal Land Area reported on page 1 of this report.

8 - Studies, articles, and literature reviews on the economic contribution of protected public lands are available at https://headwaterseconomics.org/public-lands/public-lands-research/.

9 - An annotated bibliography of studies on the economic contributions of public lands can be found at https://headwaterseconomics.org/wp-content/uploads/Annotated_Bib_Value_Public_Lands.pdf.

10 - For an analysis on the effect of wilderness designations on local economies, in particular on resource-based industries, see Duffy-Deno KT. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. Journal of Regional Science 38(1):109-136. For the results of a national survey of residents in counties with Wilderness, see Rudzitis G and Johansen HE. 1991. How Important is Wilderness? Results from a United States Survey. Environmental Management 15(2):227-233.

11 - For analysis of the role of transportation in high-amenity areas, see Rasker R, Gude PH, Gude JA, and van den Noort J. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. Journal of Rural Studies 25(2009):343-353.

Endnotes (cont.)

12 - Land cover data is available from many sources. Other commonly used datasets in the United States are the U.S. Geological Survey's National Land Cover Dataset and state and regional GAP datasets available from the U.S. Geological Survey's National Biological Information Infrastructure. Information about these and many other land cover datasets can be viewed at https://landcover.usgs.gov/landcoverdata.php.

13 - For more information about the National Land Cover Database, see https://www.mrlc.gov/.

14 - For an overview of past national land-use trends, see Brown DG, Johnson KM, Loveland TR, and Theobald DM. 2005. Rural land-use trends in the conterminous United States, 1950–2000. Ecological Applications 15(6):1851–1863; Theobald DM. 2005. Landscape Patterns of Exurban Growth in the USA from 1980 to 2020. Ecology and Society 10(1):32.

15 - The following paper provides an overview of the ecological effects of residential development: Hansen AJ, Knight R, Marzluff J, Powell S, Brown K, Hernandez P, and Jones K. 2005. Effects of exurban development on biodiversity: patterns, mechanisms, research needs. Ecological Applications 15(6):1893-1905.

16 - The following papers focus on the effects of land-use change on nearby protected landscapes: Hansen AJ and DeFries R. 2007. Ecological mechanisms linking protected areas to surrounding lands. Ecological Applications 17(4):974-988; and Gude PH, Hansen AJ, Rasker R, Maxwell B. 2006. Rates and Drivers of Rural Residential Development in the Greater Yellowstone. Landscape and Urban Planning 77:131-151.

A Summary Profile

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
https://headwaterseconomics.org/eps
August 1, 2019

Summary

Teton County, WY

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See https://headwaterseconomics.org/eps for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Summary

Teton County, WY

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Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See https://headwaterseconomics.org/eps.

Summary

Teton County, WY

Overview

	Teton County, WY	U.S.
Population, 2017	23,265	325,719,178
Trends		
Population % change, 1970-2017	376.8%	59.8%
Employment % change, 1970-2017	852.5%	114.9%
Personal Income % change, 1970-2017	2691.4%	211.4%
Prosperity		
Unemployment rate, 2018	3.0%	3.9%
Average earnings per job, 2017 (2018 $s)	$48,948	$62,116
Per capita income, 2017 (2018 $s)	$239,473	$52,880
Economy		
Non-Labor % of personal income, 2017	77.1%	37.0%
Services % of employment, 2017	~79.3%	72.8%
Government % of employment, 2017	8.1%	12.4%
Use Sectors^		
Timber % of private employment, 2016	~0.0%	0.6%
Mining % of private employment, 2016	~0.0%	0.5%
Fossil fuels (oil, gas, & coal), 2016	~0.0%	0.4%
Other mining, 2016	~0.1%	0.3%
Agriculture % of employment, 2017	0.6%	1.3%
Travel & Tourism % of private emp., 2016	~43.6%	15.8%
Federal Land*		
Federal Land % total land ownership	95.7%	27.5%
Forest Service %	50.7%	8.4%
BLM %	0.1%	10.5%
Park Service %	44.0%	3.4%
Military %	0.0%	1.1%
Other %	0.9%	4.1%
Federal land % Type A**	75.7%	37.6%
Federal payments % of gov. revenue, FY201	3.9%	
Development		
Residential area % change, 2000-2010	84.7%	12.3%
Wildland-Urban Interface % developed, 2010	8.8%	16.3%

Estimates for data that were not disclosed are indicated with tildes (~).

^Data for timber, mining, and travel and tourism-related are from County Business Patterns which excludes proprietors, and data for agriculture are from Bureau of Economic Analysis which includes proprietors.

* The land ownership data source and year vary depending on the selected geography. See following pages for specifics.

** Federal public lands that are managed primarily for natural, cultural, and recreational features. These lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Data Sources: Various; see following pages for specifics.

Summary

Teton County, WY

Overview

What do we measure on this page?

Using summary statistics from topical EPS reports, this page compares socioeconomic indicators[1] of the selected area to a benchmark.

Trends: General indicators of economic well-being (population, employment, and real personal income) measured over time.

Prosperity: Common indicators of individual well-being or hardship (unemployment, average earnings per job, and per capita income).

Economy: Three significant sectors of the economy: non-labor income (e.g., government transfer payments, and investment and retirement income), services, and government employment.

Use Sectors: Components of the economy (commodity sectors including timber, mining and agriculture, and industries that include travel and tourism) that could be associated with the use of public lands.

Federal Land: The amount and type of federal land ownership, and the dependence of county governments on payments related to federal lands such as National Park Service (NPS), Forest Service (FS), Bureau of Land Management (BLM), and Fish and Wildlife Service (FWS).

Development: Residential development of private lands, including the wildland-urban interface. The wildland-urban interface data are available and reported only for the 11 western states and do not include Alaska and Hawaii.

Why is it important?

This report allows the user to compare a broad range of socioeconomic measurements. A user can refer to EPS topic-specific reports for more details. For example, when a county shows unusually high unemployment rates, a user may want to create an EPS Socioeconomic Measures report for that county. Or an EPS Timber report could be created for a county that shows a relatively high number of people employed in the timber industry.

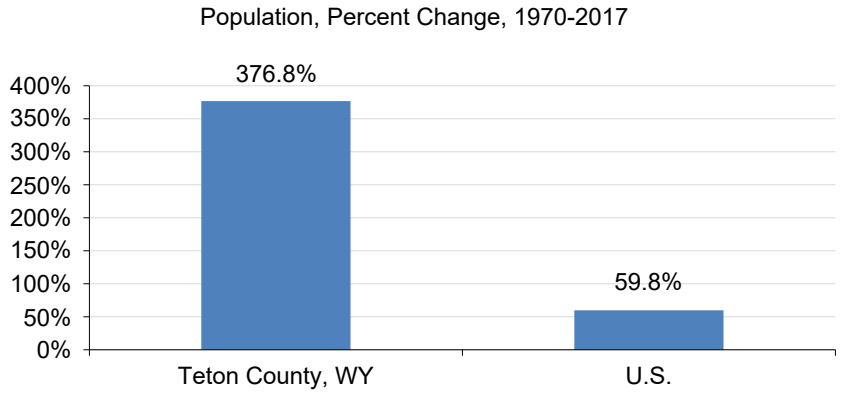
This report uses information from the following EPS reports: Socioeconomic Measures, Demographics, Agriculture, Mining, Services, Tourism, Government, Non-Labor Income, Timber, Land Use, Public Land Amenities, Wildland-Urban Interface, and Federal Land Payments. Consult these reports directly for additional information at https://headwaterseconomics.org/eps.

Summary

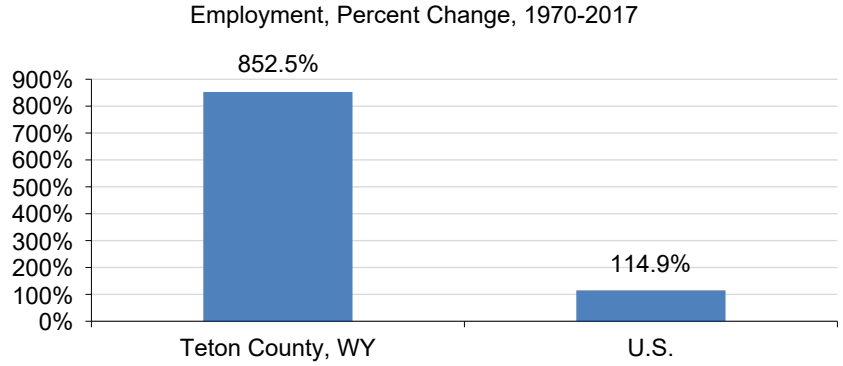
Teton County, WY

Population, Employment, and Personal Income

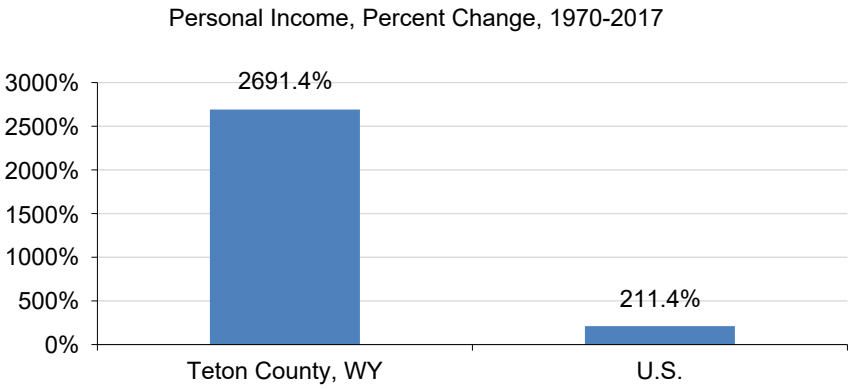
- Between 1970 and 2017, Teton County, WY had the largest percent change in population (376.8%), and the U.S. had the smallest (59.8%).



- Between 1970 and 2017, Teton County, WY had the largest percent change in employment (852.5%), and the U.S. had the smallest (114.9%).



- Between 1970 and 2017, Teton County, WY had the largest percent change in personal income (2691.4%), and the U.S. had the smallest (211.4%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Population, Employment, and Personal Income

What do we measure on this page?

This page describes percent change in population, employment, and real personal income.

The EPS Demographics report provides additional information on population dynamics, while the EPS Socioeconomic Measures report provides additional information on employment and personal income. See https://headwaterseconomics.org/eps.

The Bureau of Economic Analysis reports data either by place of residence or by place of work. Population and personal income data on this page are reported by place of residence, and employment data by place of work.[2]

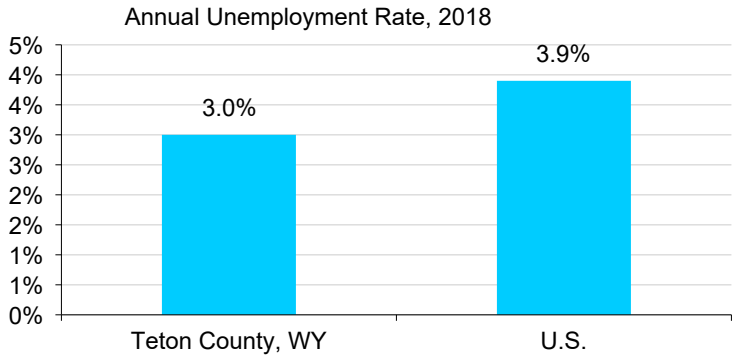
Why is it important?

One measure of economic performance is whether a location is growing or declining. Standard measures of growth and decline are population, employment, and real personal income.

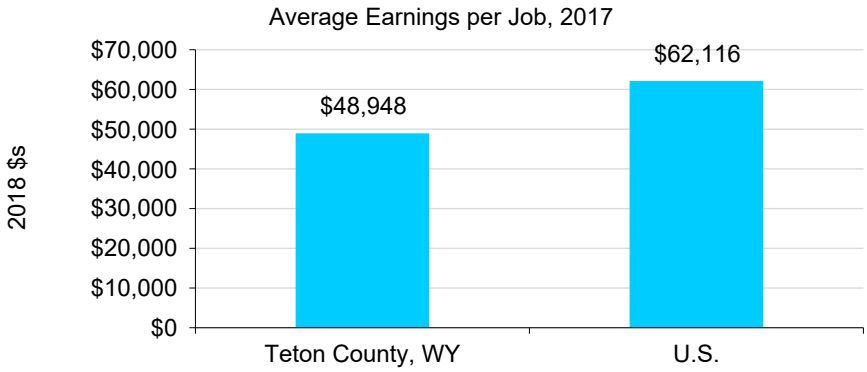
The information on this page helps users understand whether locations are growing or declining at different rates, and makes it easy to see discrepancies between changes in population, employment, and real personal income. If population and employment are growing faster than real personal income, for example, it may be worthwhile to research whether growth has been in low-wage industries and occupations. Alternatively, if personal income is growing faster than employment, it may be caused by growth in high-wage industries and occupations and/or non-labor income sources.

Unemployment, Earnings, and Per Capita Income

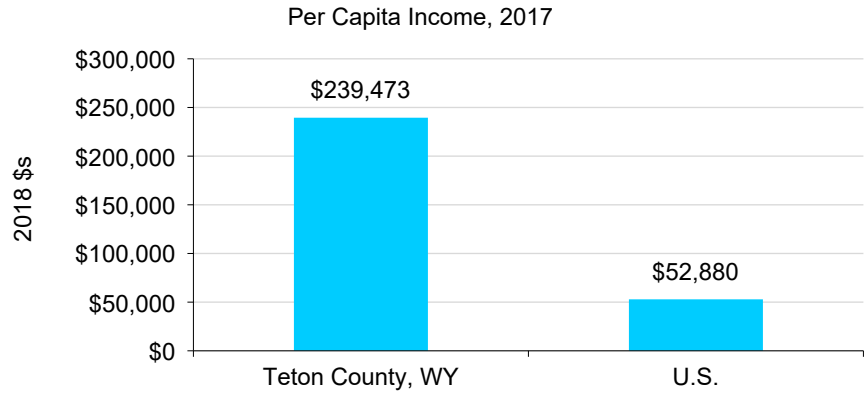
- In 2018, the U.S. had the highest unemployment rate (3.9%), and Teton County, WY had the lowest (3%).



- In 2017, the U.S. had the highest average earnings per job ($62,116), and Teton County, WY had the lowest ($48,948).



- In 2017, Teton County, WY had the highest per capita income ($239,473), and the U.S. had the lowest ($52,880).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.; U.S. Department of Labor. 2019. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.

Unemployment, Earnings, and Per Capita Income

What do we measure on this page?

This page describes three measures of individual prosperity: unemployment, average earnings per job, and per capita income.[1]

Unemployment Rate: The number of people who are jobless, looking for jobs, and available for work divided by the labor force.[3]

Average Earnings per Job: Total earnings divided by total employment. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included.

Per Capita Income: Total personal income (from labor and non-labor sources) divided by total population.

Why is it important?

Statistics presented on this page are important indicators of economic well-being.

The annual unemployment rate is the number of people actively seeking but not finding work as a percent of the labor force. This figure can go up during national recessions and/or when more localized economies are affected by area downturns. Seasonal variations in unemployment can be viewed in the EPS Socioeconomic Measures report at https://headwaterseconomics.org/eps.

Average earnings per job is an indicator of the quality of local employment. A higher average earning per job indicates relatively more high-wage occupations.[4] It can be useful to consider earnings against local cost of living indicators.

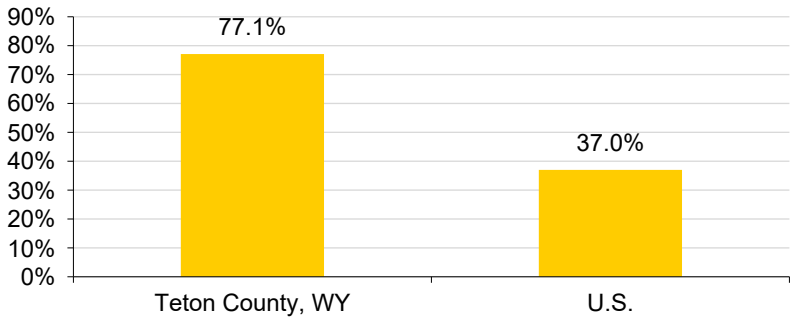
Per capita income is one of the most important measures of economic well-being. However, it can be misleading. Per capita income is total personal income divided by population. Because per capita income is calculated using total population and not the labor force, per capita income can be relatively low when a disproportionate number of children and/or elderly people are in the population. And because total personal income includes non-labor income sources, per capita income can be relatively high due to the presence of retirees and people with investment income. To investigate the impact of non-labor income sources on total personal income, create the EPS Non-Labor report at https://headwaterseconomics.org/eps.

To see how these measurements have changed over time, create an EPS Socioeconomic Measures report at https://headwaterseconomics.org/eps.

Non-Labor Income, Services, and Government

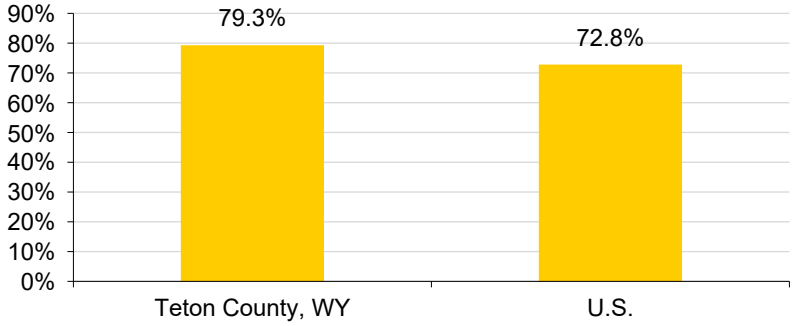
- In 2017, Teton County, WY had the largest percent of total personal income from non-labor income sources (77.1%), and the U.S. had the smallest (37%).

Non-Labor Income, Percent of Total Personal Income, 2017



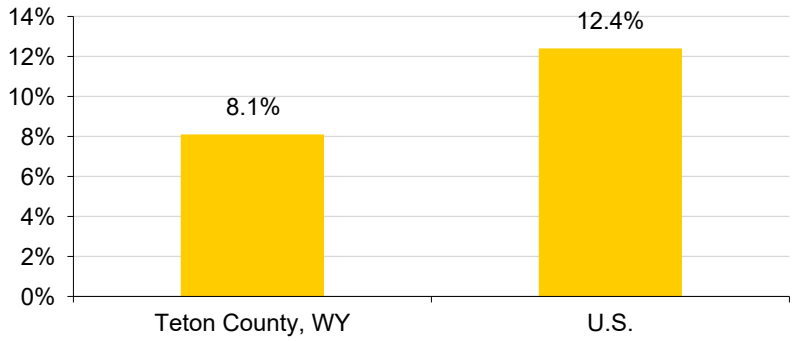
- In 2017, Teton County, WY had the largest percent of total jobs in services (79.3%), and the U.S. had the smallest (72.8%).

Services, Percent of Total Employment, 2017



- In 2017, the U.S. had the largest percent of total jobs in government (12.4%), and Teton County, WY had the smallest (8.1%).

Government, Percent of Total Employment, 2017



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Non-Labor Income, Services, and Government

What do we measure on this page?

This page describes non-labor income and employment in services and government.[1]

Non-Labor Income: Dividends, interest and rent (money earned from investments), and transfer payments (includes government retirement and disability insurance benefits, medical payments such as Medicare and Medicaid, income maintenance benefits, unemployment insurance benefits, etc.). Non-labor income is reported by place of residence.

Services: Employment in the following sectors: Utilities, Wholesale Trade, Retail Trade, Transportation & Warehousing, Information, Finance & Insurance, Real Estate & Rental & Leasing, Professional & Scientific & Tech., Management of Companies & Enterprises, Administrative & Support Services, Educational Services, Health Care & Social Assistance, Arts & Entertainment & Recreation, Accommodation & Food Services, and Other Services.

Government: Employment in federal, state, and local government agencies and government enterprises.

For more detailed information about the role of non-labor income, service industry employment, and government employment in the economy, create an EPS Non-Labor report, an EPS Services report, or an EPS Government report at https://headwaterseconomics.org/eps.

Why is it important?

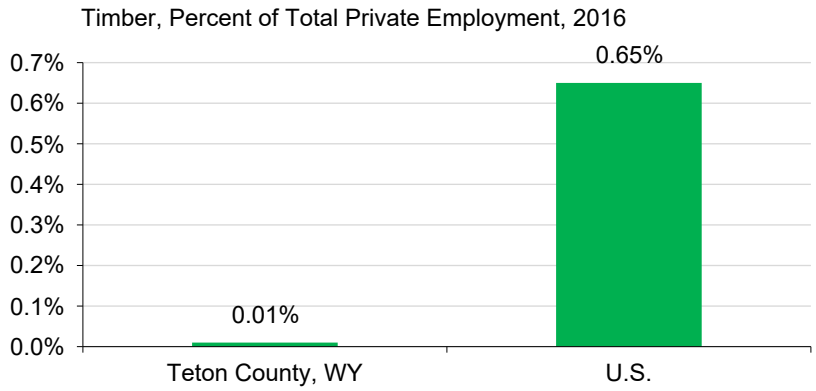
In many counties, non-labor income (for example, retirement and investment income, government transfer payments) can be more than a third of all personal income. As the Baby Boomer generation retires, this source of income will continue to grow. A high dependence on non-labor income can indicate a location with an aging population and/or attractiveness to people with investment income. In some cases, it can also signal hardship, such as when there is a high dependence on Medicaid and income maintenance payments.

Nationally, services account for more than 95 percent of the growth in new jobs since 2000. Despite the strong growth of employment in services, the term "services" is often misunderstood. Services consist of a wide mix of jobs including high-wage, high-skilled occupations (e.g., doctors, engineers, software developers) and low-wage, low-skilled occupations (e.g., restaurant workers, tour bus operators). The service sector typically provides services, such as banking and education, rather than creating tangible objects. However, many service sectors such as utilities, engineering, and architecture are closely associated with goods-producing sectors.

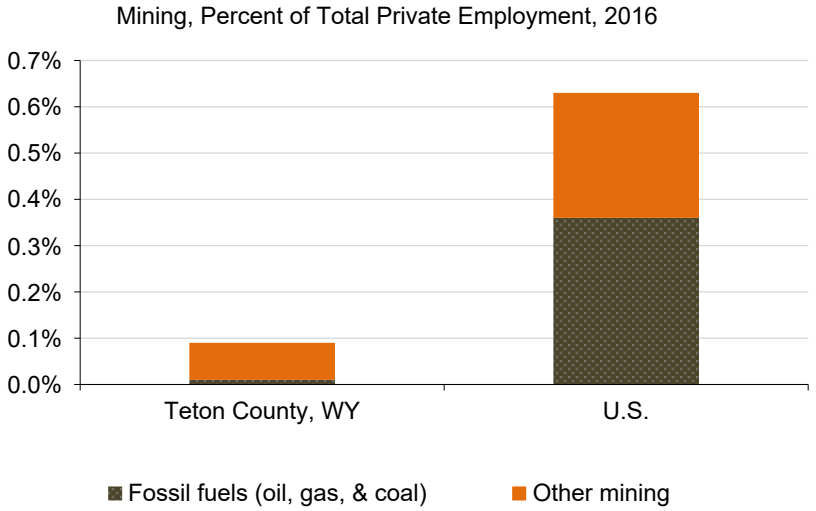
Government can be a major employer in some locations, particularly in rural areas and locations with significant government facilities such as federal land management offices, military bases, prisons, or research facilities. Changes in government employment tend to track population trends. Local government often accounts for much of job growth in the government sector as additional services are demanded by a growing population.

Employment in Commodity Sectors

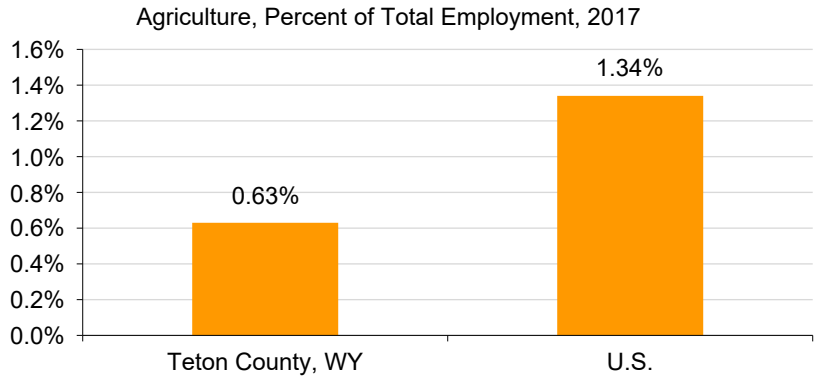
- In 2016, the U.S. had the largest percent of total jobs in timber (0.65%), and Teton County, WY had the smallest (0.01%).



- In 2016, the U.S. had the largest percent of total jobs in mining of fossil fuels (0.36%), and Teton County, WY had the smallest (0.01%).
- In 2016, the U.S. had the largest percent of total jobs in mining unrelated to fossil fuels (0.27%), and Teton County, WY had the smallest (0.08%).



- In 2017, the U.S. had the largest percent of total jobs in agriculture (1.34%), and Teton County, WY had the smallest (0.63%).



Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.; U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Employment in Commodity Sectors

What do we measure on this page?

This page describes employment[1] in three commodity sectors: timber, mining (minerals, oil, gas, and coal), and agriculture. These are sectors of the economy that extract commodities from land (for example, timber harvesting, energy development, and grazing).

Timber: Employment associated with growing and harvesting trees, employment at sawmills and paper mills, and wood products manufacturing.

Mining: Employment associated with oil and gas extraction, coal mining, metals mining, and nonmetallic minerals mining.

Agriculture: Employment associated with all forms of agriculture, including farming and ranching.

County Business Patterns (CBP)[5] are used in EPS reports as a data source for timber and mining because this data set has fewer data gaps compared to other sources.

The Bureau of Economic Analysis (BEA) is used as the data source for agriculture because CBP data do not include agriculture. However, the BEA data include proprietors, which are not included in CBP data. As a result, the data for agriculture are not strictly comparable to data for timber and mining. The latest year for each data source may vary due to different data release schedules.

For more detailed information about commodity sectors and for industry definitions, create an EPS Timber, Mining, or Agriculture report at https://headwaterseconomics.org/eps.

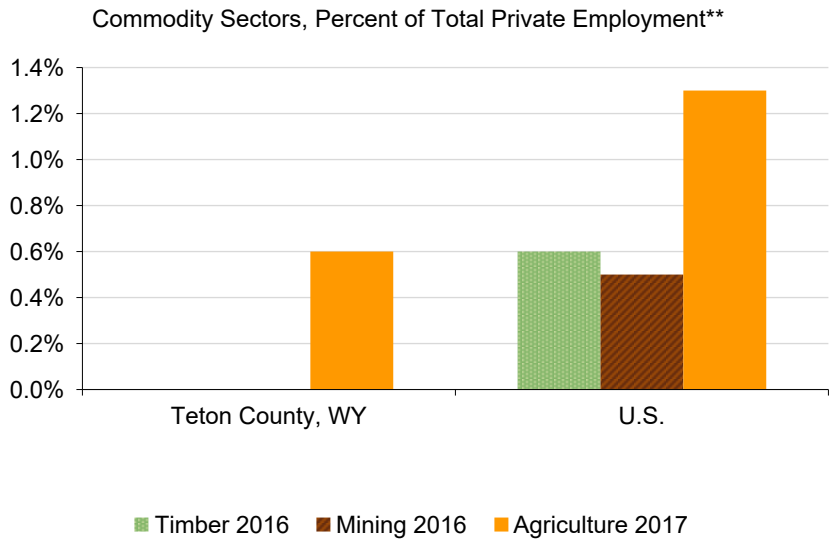
Why is it important?

Opportunities for commodity extraction can stimulate local employment.

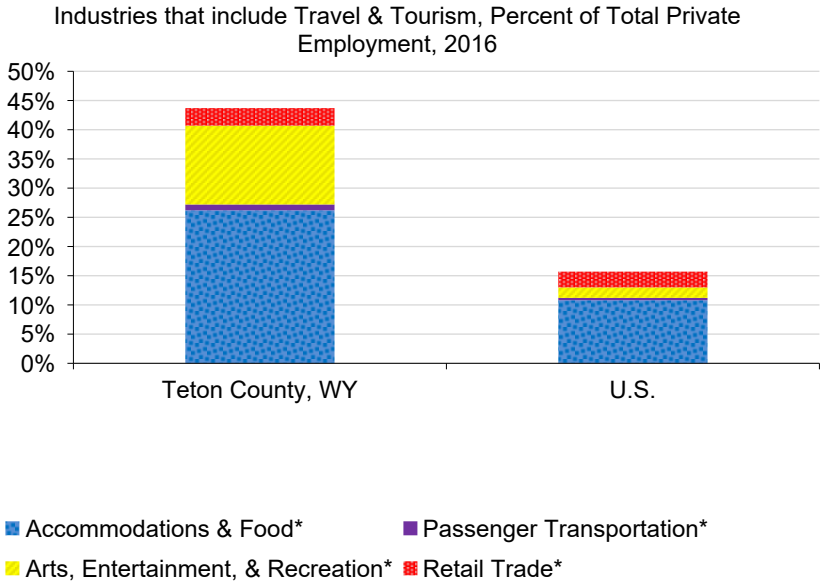
Timber industries, mining—including fossil fuel development (oil, natural gas, and coal)—and farming and ranching play important roles in some locations. Information on this page helps explain whether that is the case in the locations selected, and whether locations differ from one another.

Employment in Commodities, Travel & Tourism

- The U.S. had the largest percent of total jobs in commodity sectors (2.4%), and Teton County, WY had the smallest (0.6%).
- Agriculture was the largest component of commodity sector employment (0.6% of total jobs) in the Teton County, WY, and timber was the smallest component (0% of total jobs).



- In 2016, Teton County, WY had the largest percent of total jobs in industries that include travel and tourism (43.7%), and the U.S. had the smallest (15.7%).
- In 2016, accommodations & food* was the largest component of travel and tourism-related employment (26.2% of total jobs) in Teton County, WY, and passenger transportation* was the smallest (1% of total jobs).



* Charted values do not represent the entirety of these sectors, rather their components typically related to travel & tourism.

** Data for timber and mining are from County Business Patterns which excludes proprietors, government, agriculture, and railroad. Data for agriculture are from Bureau of Economic Analysis. The latest year for each data source may vary due to different data release schedules.

Data Sources: U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.; U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Employment in Commodities, Travel & Tourism

What do we measure on this page?

This page describes employment for commodity sectors and for industries that are associated with travel and tourism.

Commodity Sectors: Employment in timber, mining (including oil, gas, and coal), and agriculture.

Travel and Tourism: Employment in sectors that provide goods and services to visitors as well as to the local population. These industries are: Retail Trade, Passenger Transportation, Arts & Entertainment & Recreation, and Accommodation & Food Services. There is no single industrial classification for travel and tourism under the North American Industrial Classification System (NAICS). The exact proportion of jobs in these sectors attributable to expenditures by visitors, including business and pleasure travelers, is not known without additional research such as surveys.

County Business Patterns (CBP)[5] are used in EPS reports as a data source for timber and mining because this data set has fewer data gaps[1] compared to other sources.

The Bureau of Economic Analysis (BEA) is used as a data source for agriculture because CBP data do not include agriculture. However, the BEA data include proprietors, which are not included in CBP data. As a result, the data for agriculture are not strictly comparable to data for timber and mining. The latest year for each data source may vary due to different data release schedules.

For more detailed information about commodity sectors and for industry definitions, create an EPS Timber, Mining, or Agriculture report. For more information about the tourism-related components of the economy, create an EPS Tourism report at https://headwaterseconomics.org/eps.

Why is it important?

Commodity extraction can stimulate local employment. It is important to understand the relative size of sectors to put the commodity-related economy into perspective. For example, decisions that permit (or restrict) timber, mining, and grazing activities have a higher chance of impacting a county with a high percentage of its employment in the commodity sectors.

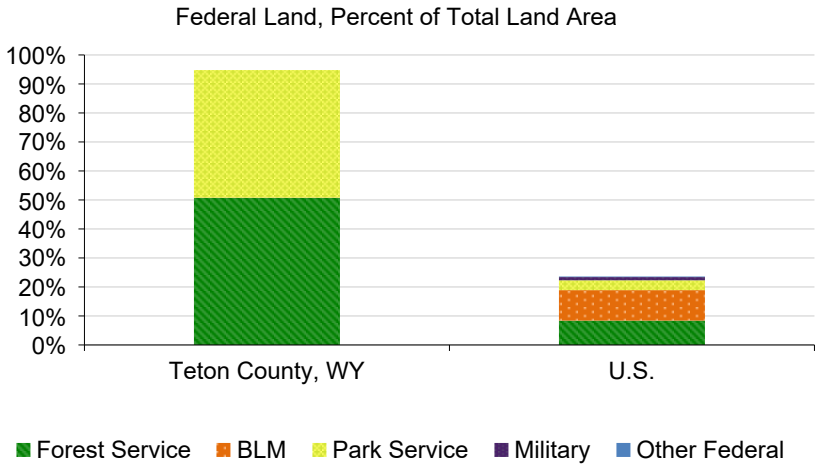
Tourism and recreation can stimulate local employment. Communities can benefit directly from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. Tourism can also help communities retain and attract capital and spur transitions to move diverse economies. This report can be used to understand whether travel-and tourism-related economic activity is present and whether there are differences between locations.

Summary

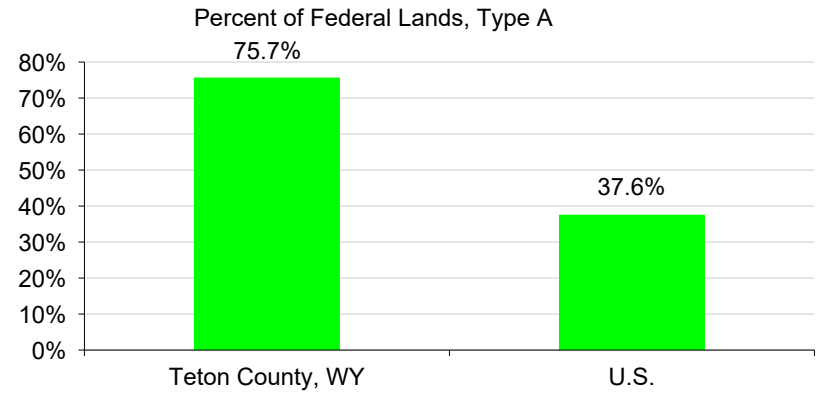
Teton County, WY

Federal Lands and Federal Land Payments

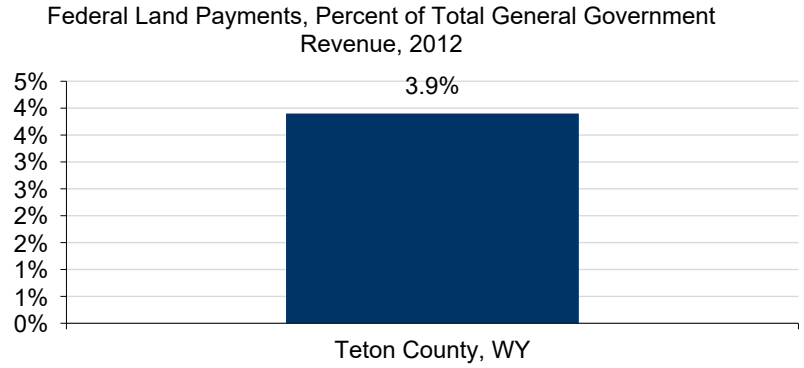
- Teton County, WY had the largest percent of total land area in federal ownership (94.8%), and the U.S. had the smallest (23.5%).
- Forest Service lands were the largest component of federal land ownership (50.7%) in Teton County, WY, and Military lands were the smallest (0%).



- Teton County, WY had the largest percent of federal lands in Type A (75.7%), and the U.S. had the smallest (37.6%).



- In FY 2012, Teton County, WY had the largest percent of total general government revenue from federal land payments (3.9%), and Teton County, WY had the smallest (3.9%).



Data Sources: NASA MODIS Land Cover Type Yearly L3 Global 1km MOD12Q1, 2006; U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0; U.S. Department of Commerce. 2014. Census Bureau, Governments Division, Washington, D.C.

Federal Lands and Federal Land Payments

What do we measure on this page?

This page describes differences in the percent of federal land ownership by agency; the share of federal lands managed primarily for natural, cultural, and recreational features; and the percent of county revenue derived from payments related to federal lands.

Type A Federal Lands: Federal public lands that are managed primarily for natural, cultural, and recreational features. There can be exceptions (for example, oil and gas development within a National Monument area), but generally Type A lands are less likely to be used for commodity production than other federal land types. Type A lands include National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS). These definitions of land classifications are not legal or agency-adopted classifications—they are only provided for comparative purposes.

NPS = National Park Service; FS = Forest Service; BLM = Bureau of Land Management; FWS = Fish & Wildlife Service.

For additional information about land ownership and development patterns, create an EPS Land Use report. The EPS Public Land Amenities report provides additional information about the role of environmental amenities in economic development; see https://headwaterseconomics.org/eps.

Federal Land Payments: Federal payments that compensate state and local governments for non-taxable federal lands within their borders. Payments are funded by federal appropriations (e.g., PILT), from receipts received by federal agencies from activities on federal public lands (e.g., timber, grazing, and minerals), and from other programs such as the Secure Rural Schools & Community Self-Determination Act.

For additional information about the importance of federal payments to counties, create an EPS Federal Land Payments report at https://headwaterseconomics.org/eps.

Why is it important?

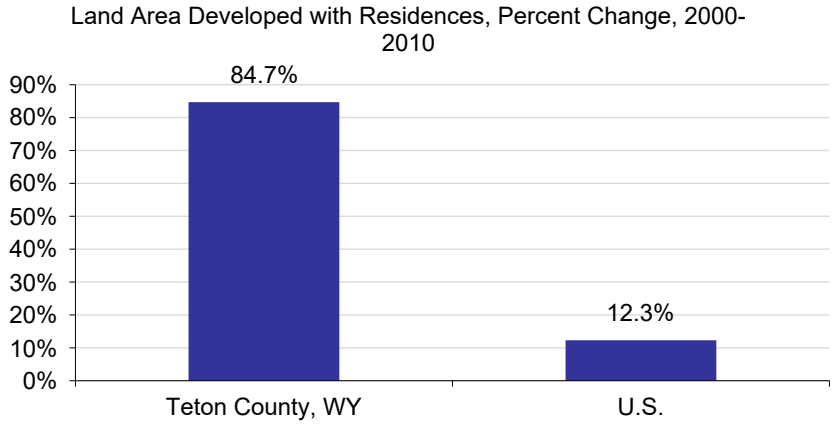
Understanding the composition of land ownership and management in an area is important because actions on federal lands may affect the local economy, particularly when federal lands are a large portion of the land base.

Some Type A federal public lands prohibit most forms of commercial use and development. These lands include national parks, wilderness areas, and national monuments. Because these lands are managed primarily for their non-commercial values (i.e., scenery, wildlife, recreation), they potentially play a different economic role than public lands more commonly associated with commodity sectors.[6, 7]

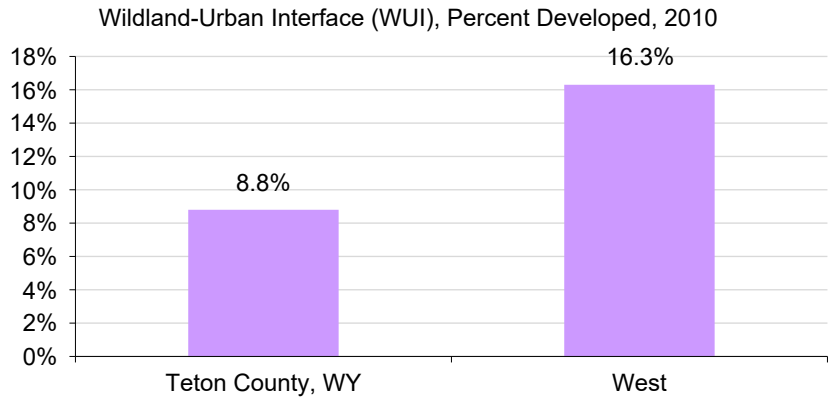
Locations with federal public lands receive government payments—for example, funding through Payments in Lieu of Taxes (PILT), the 25% Fund, or the Secure Rural Schools and Community Self-Determination Act. When these payments are a significant portion of the local county's budget, activities on public lands may affect the fiscal well-being of a county.[8]

Development and the Wildland-Urban Interface

- Between 2000 and 2010, Teton County, WY had the largest percent change in residential land area developed (84.7%), and the U.S. had the smallest (12.3%).



- In 2010, the west had the largest proportion of the wildland-urban interface that is developed (16.3%), and Teton County, WY had the smallest (8.8%).



Data Sources: Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University; Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

Development and the Wildland-Urban Interface

What do we measure on this page?

This page describes residential development on private lands, and the proportion of the wildland-urban interface (WUI) that is developed.[9] The EPS Land Use report provides additional information on land ownership, management, cover, and development: https://headwaterseconomics.org/eps.

This information is available only for the 11 western states and does not include Alaska and Hawaii.

Wildland-Urban Interface (WUI): Private forestlands that are within 500 meters of public forestlands. We use the threshold of 500 meters to identify the existing and potential WUI area because guidelines for the amount of defensible space necessary to protect homes from wildfire range from 40 to 500 meters around a home. We focus on adjacency to public forests because roughly 70 percent of western forests are publicly owned and because wildfire is a natural disturbance in many of these forests, creating a potential risk to adjacent private lands.[10]

Why is it important?

The conversion of open space and agricultural land to residential development has occurred at a rapid pace in many parts of the U.S. The popularity of exurban lot sizes in much of the country has exacerbated this trend. (Low-density development results in a larger area of land converted to residential development). The pattern of development can reflect a number of factors, including demographic trends, the increasingly "footloose" nature of economic activity, the availability and price of land, and preferences for homes on larger lots. Locations with a large percent change in the area of residential development often have experienced significant in-migration from more urbanized areas. Counties with a small percent change either experienced little growth or were already highly urbanized in 2000.

Development of homes adjacent to fire-prone federal public lands poses several challenges including the rising cost of protecting homes from wildfires; increased danger to wildland firefighters; and the consumption of funds that might otherwise be used for restoration, recreation, research, and other activities. When protecting homes is a priority, agencies are unable to allow otherwise beneficial fires to burn, even those that could reduce fuel loads.

Data Sources & Methods

This EPS Summary report uses national statistics from public government sources. All data used in EPS can be readily verified with the original sources:

- **County Business Patterns**
  Census Bureau, U.S. Department of Commerce
  https://www.census.gov/programs-surveys/cbp.html
  Contacts
  https://www.census.gov/about/contact-us.html

- **Regional Economic Information Data**
  Bureau of Economic Analysis, U.S. Department of Commerce
  https://www.bea.gov/iTable/index_regional.cfm
  Contacts
  https://www.bea.gov/contacts/search.htm

- **Local Area Unemployment Statistics**
  Bureau of Labor Statistics, U.S. Department of Labor
  https://www.bls.gov/lau/
  Contacts
  https://www.bls.gov/bls/contact.htm

The EPS Summary report also uses data derived from Geographic Information Systems (GIS) to show more accurate statistics for land ownership:

- **TIGER/Line County Boundaries**
  Bureau of the Census, U.S. Department of Commerce
  https://www.census.gov/geo/maps-data/data/tiger.html

- **Protected Areas Database**
  U.S. Geological Survey, Gap Analysis Program
  https://gapanalysis.usgs.gov/padus/

EPS core approaches
EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking – comparing smaller areas such as counties to larger regions, states, and the nation – to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Adjusting dollar figures for inflation
Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Data gaps and estimation
Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated with tildes (~) in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

Endnotes

1 - Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics estimates these data gaps. Estimates are indicated with tildes (~). Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

2 - For details on Bureau of Economic Analysis terms, see: https://bea.gov/regional/definitions.

3 - For more information on unemployment, see the Bureau of Labor Statistics resources on this topic at https://www.bls.gov/bls/unemployment.htm.

4 - The Monthly Labor Review Online, published by the Bureau of Labor statistics, addresses earnings and wages by industry, sex, and educational achievement. Search at https://www.bls.gov/mlr/.

5- Data from County Business Patterns includes both full- and part-time employment. However, CBP data do not include employment in government, agriculture, railroads, or the self-employed and, as a result, under-count the size of industry sectors. Also, CBP data are based on mid-March employment and do not take into account seasonal fluctuations. For these reasons, the data are most useful for showing long-term trends, displaying differences between locations, and showing relationships between sectors over time.

6 - For examples of literature on the economic role of environmental amenities, see: Booth DE. 1999. Spatial Patterns in the Economic Development of the Mountain West. Growth and Change 30(3):384-405; Duffy-Deno KT. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. Journal of Regional Science 38(1):109-136; Lorah P and Southwick R. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. Population and Environment 24(3):255-272; McGranahan DA. 1999. Natural Amenities Drive Rural Population Change. USDA Economic Research Service, Agricultural Economic Report No. 781. https://www.ers.usda.gov/webdocs/publications/41047/13201_aer781.pdf?v=42061; Rasker R. 2006. An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands. Society & Natural Resources 19(3):191-207; Rudzitis G, Johansen HE. 1991. How Important is Wilderness? Results from a United States Survey. Environmental Management 15(2):227-233.

7- A bibliography of studies documenting the economic role of public lands can be found here: https://headwaterseconomics.org/wp-content/uploads/Annotated_Bib_Value_Public_Lands.pdf.

8- An online data visualization and map showing the history of federal land payments to counties can be seen here: https://headwaterseconomics.org/dataviz/county-payments/

9- For resources related to the wildland-urban interface (WUI), including planning tools and related solutions, see https://headwaterseconomics.org/wildfire/.

10- For a description of the methods used to define and measure the wildland-urban interface, see: Gude P, Rasker R, and van den Noort J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205.

A Profile of Industries that Include Travel & Tourism

Selected Geographies:

Teton County, WY

Benchmark Geographies:

U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
https://headwaterseconomics.org/eps
August 1, 2019

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See https://headwaterseconomics.org/eps for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Travel & Tourism

Teton County, WY

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Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See https://headwaterseconomics.org/eps.

Travel & Tourism

Teton County, WY

Travel & Tourism Sectors

	Teton County, WY	U.S.
Total Private Employment, 2016	17,864	126,752,238
Travel & Tourism Related	~7,782	19,977,824
Retail Trade	529	3,466,865
Gasoline Stations	109	947,656
Clothing & Accessory Stores	222	1,738,095
Misc. Store Retailers	198	781,114
Passenger Transportation	~174	495,505
Air Transportation	173	466,440
Scenic & Sightseeing Transport	~1	29,065
Arts, Entertainment, & Recreation	2,406	2,311,437
Performing Arts & Spectator Sports	91	503,751
Museums, Parks, & Historic Sites	55	151,270
Amusement, Gambling, & Rec.	2,260	1,656,416
Accommodation & Food	4,673	13,704,017
Accommodation	2,556	2,067,377
Food Services & Drinking Places	2,117	11,636,640
Non-Travel & Tourism	~10,082	106,774,414
Percent of Total		
Travel & Tourism Related	~43.6%	15.8%
Retail Trade	3.0%	2.7%
Gasoline Stations	0.6%	0.7%
Clothing & Accessory Stores	1.2%	1.4%
Misc. Store Retailers	1.1%	0.6%
Passenger Transportation	~1.0%	0.4%
Air Transportation	1.0%	0.4%
Scenic & Sightseeing Transport	~0.0%	0.0%
Arts, Entertainment, & Recreation	13.5%	1.8%
Performing Arts & Spectator Sports	0.5%	0.4%
Museums, Parks, & Historic Sites	0.3%	0.1%
Amusement, Gambling, & Rec.	12.7%	1.3%
Accommodation & Food	26.2%	10.8%
Accommodation	14.3%	1.6%
Food Services & Drinking Places	11.9%	9.2%
Non-Travel & Tourism	~56.4%	84.2%

The major industry categories (retail trade; passenger transportation; arts, entertainment, and recreation; and accommodation and food) in the table above are the sum of the sub-categories underneath them and as shown here do not represent NAICS codes. The data does not include employment in government, agriculture, railroads, or the self-employed because these are not reported by County Business Patterns. Estimates for data that were not disclosed are indicated with tildes (~).

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Travel & Tourism Sectors

What do we measure on this page?

This page describes the number of jobs (full- and part-time) and the share of total jobs in industries that include travel and tourism.

Travel and Tourism: Sectors that provide goods and services to visitors as well as to the local population. These industries are Retail Trade, Passenger Transportation, Arts & Entertainment & Recreation, and Accommodation & Food Services.[1]

The exact proportion of jobs in these sectors attributable to expenditures by visitors, including business and pleasure travelers, is not known without additional research such as surveys. Some researchers refer to these sectors as “tourism-sensitive.” They could also be called “travel and tourism-potential sectors” because they have the potential of being influenced by expenditures by non-locals. In this report, they are referred to as "industries that include travel and tourism."

There is no single industrial classification for travel and tourism under the North American Industrial Classification System (NAICS). However, there are sectors that provide goods and services to visitors to a local economy. We reviewed the published literature to discern how others identified industries that are part of travel and tourism.[2] These industries (identified by 3-digit NAICS codes in parentheses[3]) include:

Retail Trade: Gasoline Stations (447), Clothing and Accessory Stores (448), Miscellaneous Store Retailers (453; includes Gift, Novelty, and Souvenir)

Passenger Transportation: Air Transportation (481), Scenic and Sightseeing Transportation (487)

Arts, Entertainment, and Recreation: Performing Arts and Spectator Sports (711); Museums, Parks, and Historical Sites (712; includes National Parks, Conservation Areas); Amusement, Gambling, and Recreation (713; includes Golf Courses, Alpine and Cross Country Skiing Facilities)

Accommodation and Food: Accommodation (721; includes ski resorts, hotels, casino hotels, campgrounds, guest ranches), Food Services and Drinking Places (722)

Data on this page were obtained from the U.S. Census Bureau’s County Business Patterns (CBP) series. Compared to other sources, CBP has fewer data gaps (instances when the federal government will not release data to protect confidentiality of individual businesses). It also includes both full- and part-time employment. However, CBP data do not include employment in government, agriculture, railroads, or the self-employed. Also, CBP data are based on mid-March employment and do not account for seasonal fluctuations. For these reasons, the data are most useful for showing long-term trends, displaying differences between places, and showing relationships between sectors over time.

Why is it important?

The information on this page is useful for explaining whether sectors that are likely to be associated with travel or tourism exist within the selected location. Travel and tourism related sectors are often a larger component of overall employment in locations where visitors spend money on hotels, restaurants, ski resorts, gift shops, and other expenses associated with recreation.[4, 5]

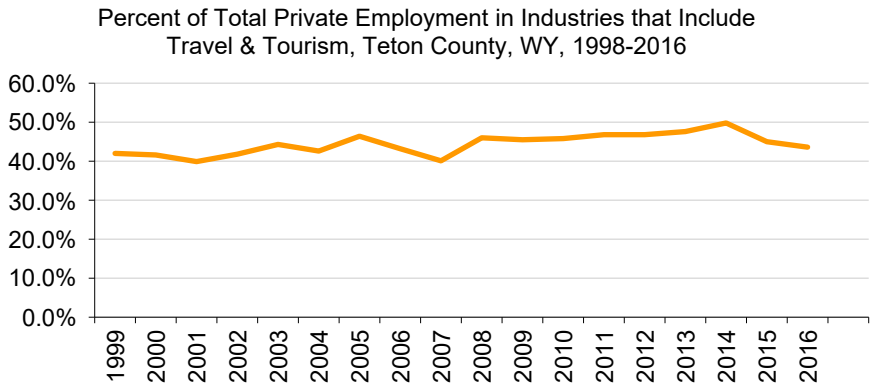
While the information in this report is not an exact measure of the size of the travel and tourism sectors, it can be used to understand whether travel and tourism-related economic activity is present, how it has changed over time, and whether there are differences between locations.

Travel & Tourism

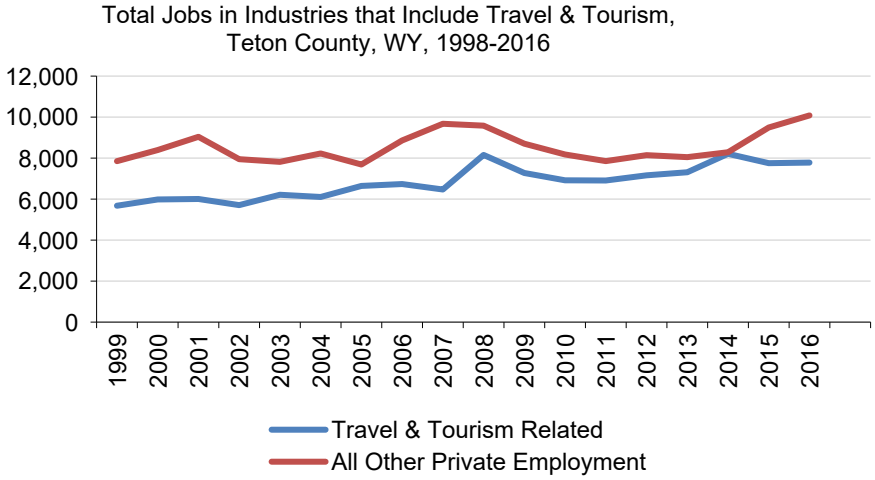
Teton County, WY

Travel & Tourism Employment Trends

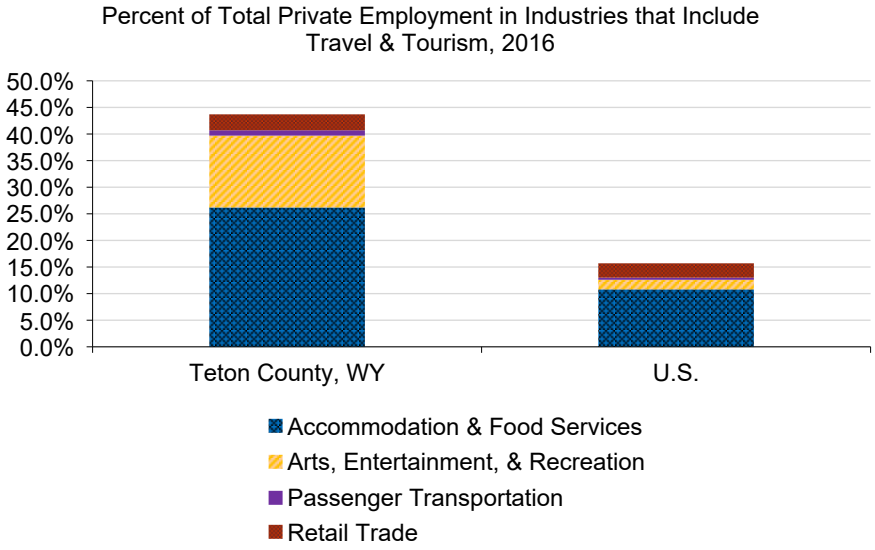
- In 1998, travel & tourism represented 40% of total employment. By 2016, travel & tourism represented 44% of total employment.



- From 1998 to 2016, travel & tourism employment grew from 5,326 to 7,782 jobs, a 46.1% increase.
- From 1998 to 2016, non-travel & tourism employment grew from 7,965 to 10,082 jobs, a 26.6% increase.



- In 2016, Teton County, WY had the largest percent of total travel & tourism employment (43.6%), and U.S. had the smallest (15.8%).



Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Travel & Tourism Employment Trends

What do we measure on this page?

This page describes trends in industries that include travel and tourism as a percent of all jobs and compares industries containing travel and tourism to the rest of the economy. It also shows jobs in industries that include travel and tourism as a percent of total employment.

Importantly, the charts on this page show the size of sectors that generally contain travel and tourism as components. The share of the sectors that corresponds to travel and tourism activities will vary among locations.

It may be useful to supplement the information in this report with surveys and data from: 1) state tourism offices, which sometimes track indicators such as tourism employment, hotel receipts, bed taxes, etc.; 2) local Chambers of Commerce and tourism promotion groups; and 3) visitor information from land management agencies including the U.S. Forest Service,[6] Bureau of Land Management, Fish & Wildlife Service, and National Park Service offices. In addition, it may be useful to supplement published statistics with computer models such as IMPLAN.[7]

The top two charts on this page start in 1998 because that is the year the U.S. Census Bureau and County Business Patterns shifted to using the new North American Industrial Classification System (NAICS). The major industry categories (Retail Trade; Passenger Transportation; Arts, Entertainment, & Recreation; and Accommodation & Food Services) in the bottom chart are the sum of the sub-categories from the initial page of this report and as shown here do not represent NAICS codes.

Why is it important?

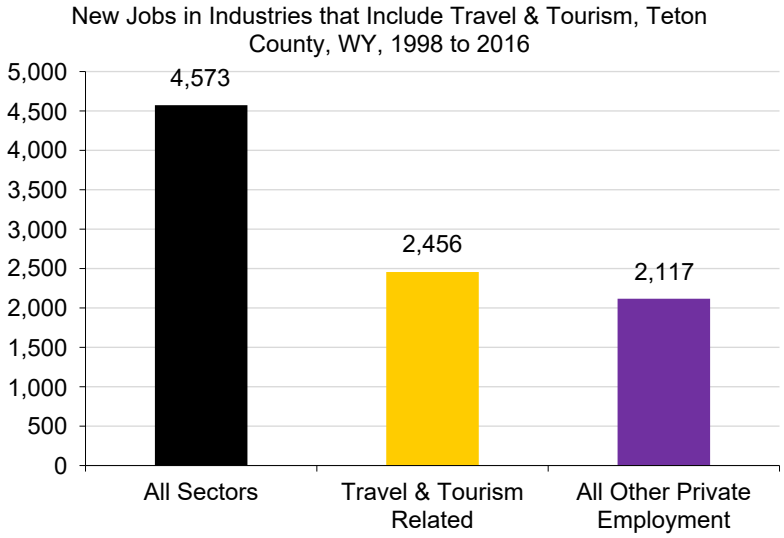
This information is useful to understand whether sectors that are likely to be associated with travel and tourism are growing or declining. It is less useful as a measure of the absolute size of employment in travel and tourism. A detailed knowledge, obtained through surveys and other means, is required to determine the proportion of a sector's employment that is due to local expenditures versus expenditures from visitors.[8, 9]

In some locations, travel and tourism are significant drivers of the economy. This can be true for "resort" economies but also for areas that have abundant natural and social amenities, and offer recreational opportunities.[10] In some of these places, travel and tourism-related employment is growing faster than overall employment.[4] While pleasure travel and recreation are important economic activities in and of themselves, they also stimulate other forms of economic development when people move families and businesses to communities they first visited as tourists.

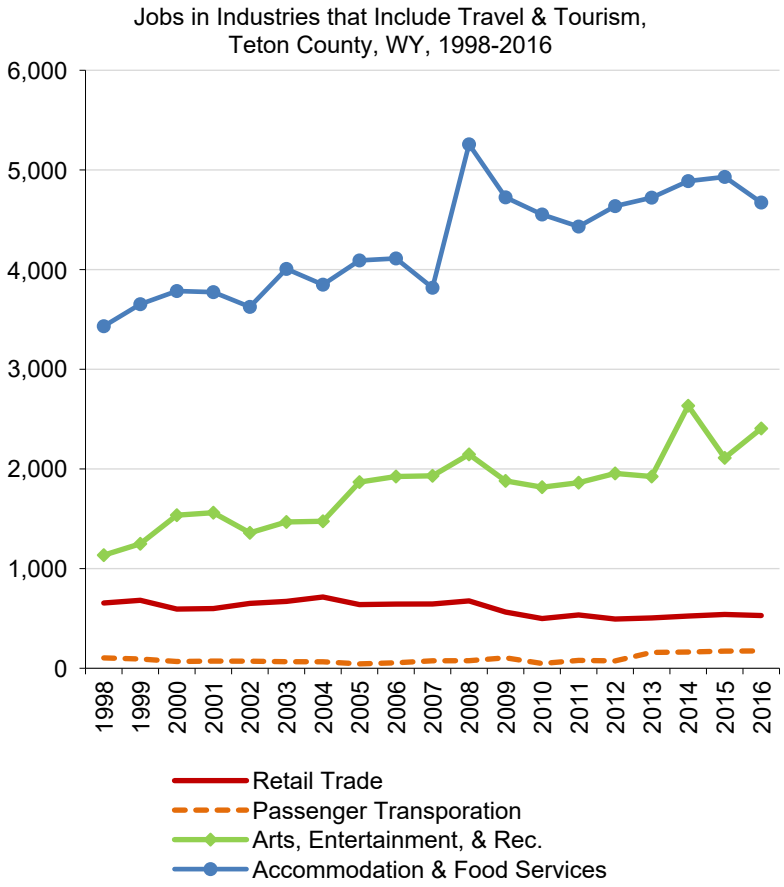
The EPS Public Land Amenities report provides additional information about amenity-led migration: https://headwaterseconomics.org/eps.

Travel & Tourism Employment Trends (cont.)

- From 1998 to 2016, travel & tourism employment grew by 2,456 jobs.
- From 1998 to 2016, non-travel & tourism employment grew by 2,117 jobs.



- From 1998 to 2016, retail trade shrank from 655 to 529 jobs, a 19.2% decrease.
- From 1998 to 2016, passenger transportation grew from 104 to 174 jobs, a 67.3% increase.
- From 1998 to 2016, arts, entertainment, and recreation grew from 1,135 to 2,406 jobs, a 112% increase.
- From 1998 to 2016, accommodation and food services grew from 3,432 to 4,673 jobs, a 36.2% increase.



Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Travel & Tourism Employment Trends (cont.)

What do we measure on this page?

This page compares employment in sectors that include travel and tourism to other sectors and compares how the various industries that include travel and tourism have changed over time.

The charts on this page start in 1998 because that is the year the U.S. Census Bureau and County Business Patterns shifted to using the new North American Industrial Classification System (NAICS). The major industry categories (Retail Trade; Passenger Transportation; Arts, Entertainment, & Recreation; and Accommodation & Food Services) in the bottom chart are the sum of the sub-categories from the initial page of this report and as shown here do not represent NAICS codes.

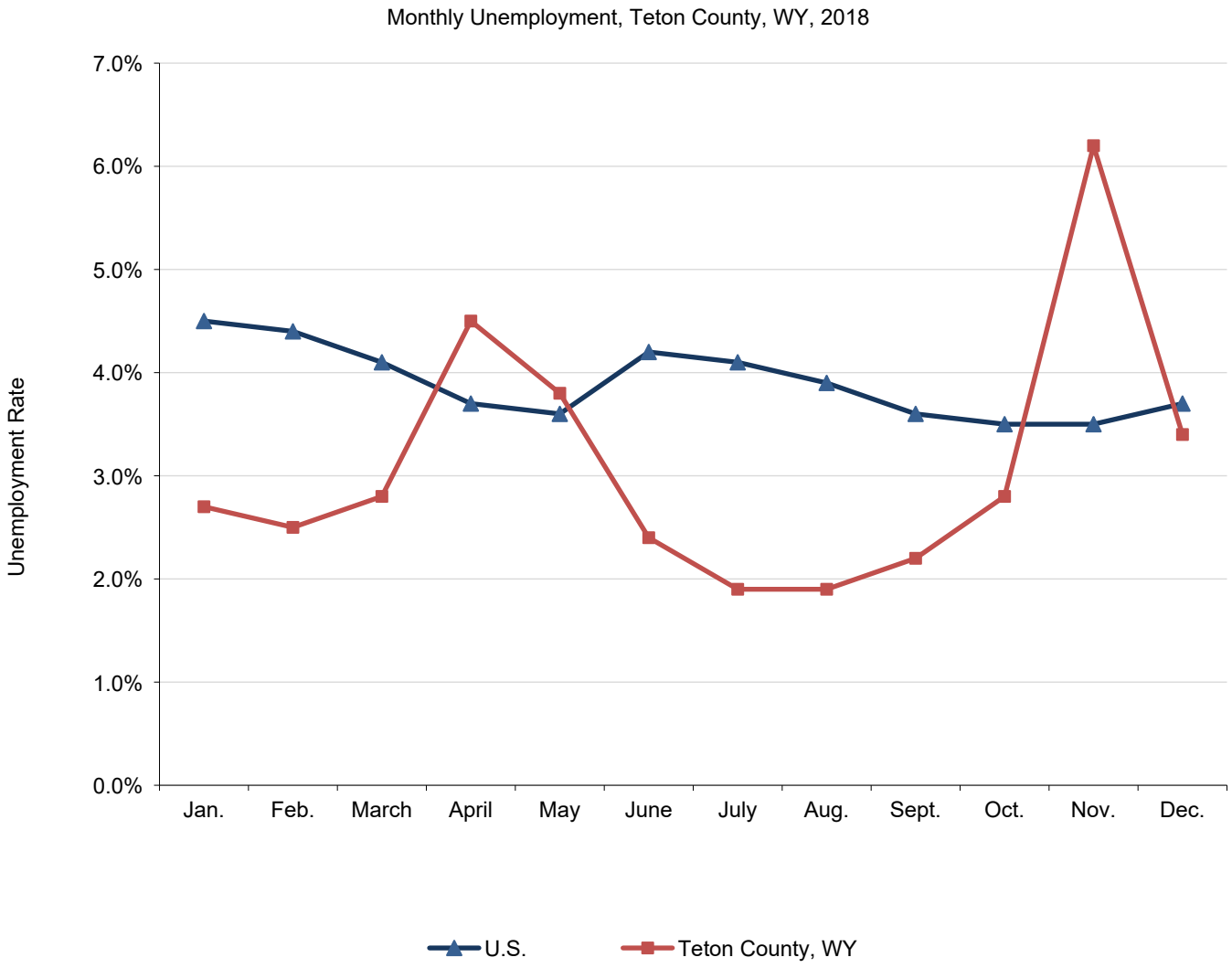
Why is it important?

This information is useful to understand whether sectors that are likely to be associated with travel and tourism are growing or declining. It is less useful as a measure of the absolute size of employment in travel and tourism. A detailed knowledge, obtained through surveys and other means, is required to determine the proportion of a sector's employment that is due to local expenditures versus expenditures from visitors.[8, 9]

In some locations, travel and tourism are significant drivers of the economy. This can be true for "resort" economies but also for areas that have abundant natural and social amenities, and offer recreational opportunities.[10, 11] In some of these places, travel and tourism-related employment is growing faster than overall employment. While pleasure travel and recreation are important economic activities in and of themselves, they also stimulate other forms of economic development when people move families and businesses to communities they first visited as tourists.

The EPS Public Land Amenities report provides additional information about amenity-led migration: https://headwaterseconomics.org/eps.

Seasonality of Unemployment



- In 2018, Teton County, WY had the most change in unemployment (biggest absolute value of difference between min and max), and U.S. had the least (smallest absolute value of difference between min and max).

Data Sources: U.S. Department of Labor. 2019. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.

Seasonality of Unemployment

What do we measure on this page?

This page describes differences in the seasonality of unemployment, which occurs when people are unemployed at times of the year when demand for labor is lower than usual. Tourism is often associated with seasonal unemployment since work is only available for part(s) of the year when visitation is high.

This page uses data from the Bureau of Labor Statistics to show the change in month-to-month unemployment.[12]

Unemployed people are those who are jobless, available for work, and looking for jobs.

People with full- or part-time jobs are considered employed, and those people who are neither employed nor unemployed are not considered to be in the labor force.

Note: If many locations are selected, it may be difficult to read the figure on this page.

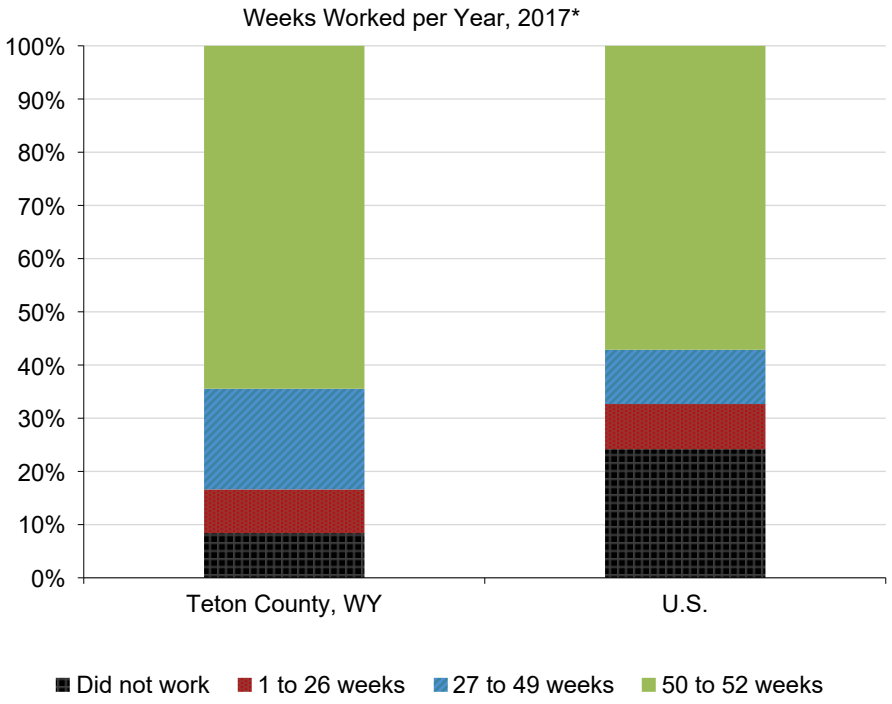
Why is it important?

Unemployment rate fluctuations reflect the hiring and layoff patterns that can accompany tourism due to visitation changes in winter holidays and summer vacations. It is possible that some seasonal workers may not live in the location selected and therefore are not accounted in the unemployment figures. Seasonal unemployment also occurs in places that have a relatively high concentration in construction, fishing, and agriculture sectors.

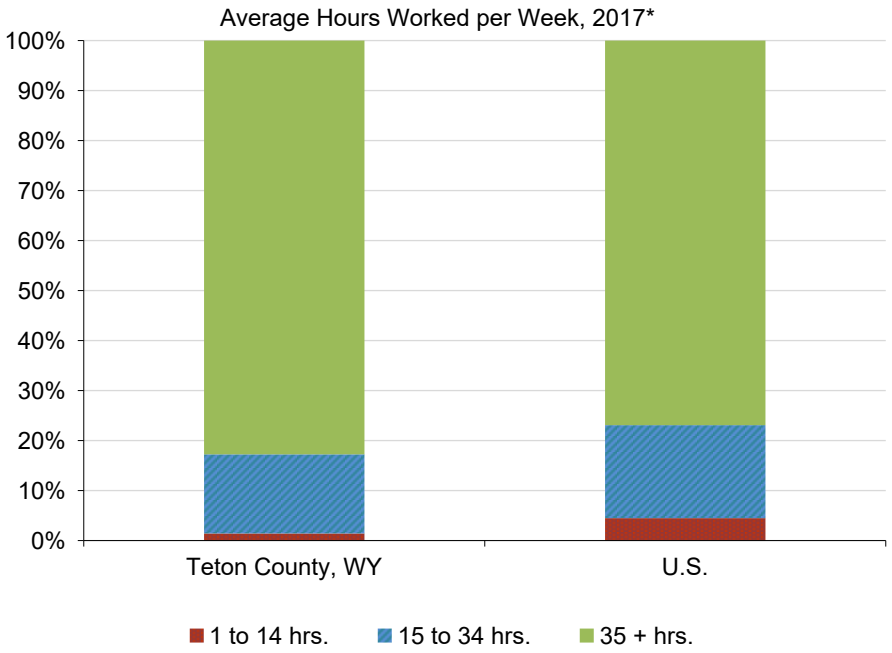
The EPS Socioeconomic Measures report provides further analysis of long-term trends in unemployment: https://headwaterseconomics.org/eps.

Part-Time Employment

- In 2017, 16.6 percent of workers in Teton County, WY worked less than 40 weeks over the course of the year, compared to 32.7 percent for the U.S..



- In 2017, 15.8 percent of workers in Teton County, WY worked less than 35 hours per week on average, compared to 17.5 percent for the the U.S..



* ACS 5-year estimates used. 2017 represents average characteristics from 2013-2017.

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, American Community Survey Office, Washington, D.C.

Part-Time Employment

What do we measure on this page?

This page describes part-time work, which can be more common in tourism-related industries.

The U.S. Census Bureau provides two standard measures of part-time work: weeks worked per year and average hours worked per week. The Census reports these data for the population of age 16 to 64.

Why is it important?

Places that rely economically on tourism can have higher rates of part-time workers. While part-time work along is not a measure of tourism, it can be used to complement other data in this report and from elsewhere to evaluate the nature and extent of tourism activities in the selected locations.[7]

Wages and Employment

	Teton County, WY	U.S.
All Sectors, 2017 (2018 $s)	$46,737	$56,719
Private	$44,955	$56,666
Travel & Tourism	$31,381	$25,376
Retail Trade	$37,198	$23,531
Gasoline Stations	$38,629	$22,033
Clothing & Accessories	$34,901	$22,428
Misc. Store Retailers	$38,812	$27,045
Passenger Transportation	$0	$85,641
Air Transportation	na	$89,142
Scenic & Sightseeing	na	$34,131
Arts, Entertainment, & Rec.	$33,811	$38,665
Performing Arts & Spectator Sports	$36,800	$93,368
Museums, Parks, & Historic Sites	$51,432	$35,630
Amusement, Gambling, & Rec.	$31,781	$22,921
Accommodations & Food	$30,632	$21,229
Accommodation	$32,437	$31,827
Food Services & Drinking Places	$26,390	$19,419
Non-Travel & Tourism	$57,001	$62,621
Government	$59,852	$57,022

This table shows wage data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits; the major industry categories (retail trade, passenger transportation; arts, entertainment, and recreation; and accommodation and food) are the sum of the sub-categories underneath them and as shown here do not represent NAICS codes.

Percent of Total Employment

	Teton County, WY	U.S.
Private, 2017	88.0%	85.1%
Travel & Tourism	41.7%	13.6%
Retail Trade	2.6%	2.2%
Gasoline Stations	0.5%	0.6%
Clothing & Accessories	1.1%	1.0%
Misc. Store Retailers	1.1%	0.6%
Passenger Transportation	0.0%	0.4%
Air Transportation	na	0.3%
Scenic & Sightseeing	na	0.0%
Arts, Entertainment, & Rec.	4.5%	1.6%
Performing Arts & Spectator Sports	0.8%	0.3%
Museums, Parks, & Historic Sites	0.3%	0.1%
Amusement, Gambling, & Rec.	3.4%	1.1%
Accommodations & Food	34.7%	9.5%
Accommodation	24.3%	1.4%
Food Services & Drinking Places	10.4%	8.1%
Non-Travel & Tourism	44.5%	71.5%
Government, 2017	12.0%	14.9%

Data Sources: U.S. Department of Labor. 2018. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Wages and Employment

What do we measure on this page?

This page describes wages (in real terms) from employment in industries that include travel and tourism, including sub-sectors, compared to wages from employment in all non-travel-and-tourism sectors combined. It also describes the percent of jobs in each category. These are shown together to illustrate the relative wage levels in industries that include travel and tourism, and how many people are employed in each sub-sector.

The primary purpose of this page is to compare the average annual wages between sectors and to investigate the relative number of people employed in high- and low-wage sectors.

Travel and Tourism: Sectors that provide goods and services to visitors as well as to the local population. These industries are Retail Trade, Passenger Transportation, Arts & Entertainment & Recreation, and Accommodation & Food Services. The exact proportion of jobs in these sectors attributable to expenditures by visitors, including business and pleasure travelers, is not known without additional research such as surveys. Some researchers refer to these sectors as “travel and tourism-potential sectors” because they have the potential of being influenced by expenditures by non-locals. In this report, they are referred to as “industries that include travel and tourism.”

The tables use wage and employment data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.[13, 14]

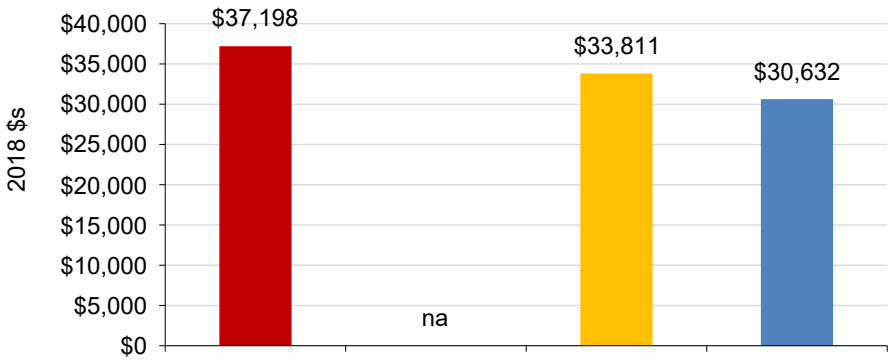
Why is it important?

Industries that contain travel and tourism often pay relatively low wages, though this varies by industry sub-sector and by location. Some important issues to consider are how travel and tourism related industry wages compare to wages in other sectors, whether some components of travel- and tourism-related industries pay higher wages than others, and whether there are significant wage differences between locations.[15, 16] When comparing wage levels, it is also useful to remember that many travel and tourism related jobs are seasonal and/or part-time.

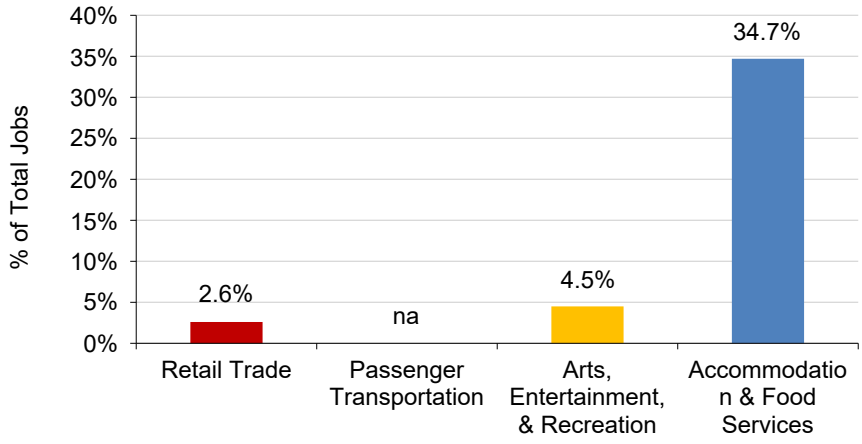
Wages and Employment (cont.)

- In 2017, travel & tourism sector average wages, from highest to lowest, were: retail trade ($37,198); arts, entertainment, & recreation ($33,811); accommodation & food services ($30,632); and passenger transportation ($0).

Avg. Annual Wages and Percent of Total Jobs in Industries that Include Travel & Tourism, Teton County, WY, 2017

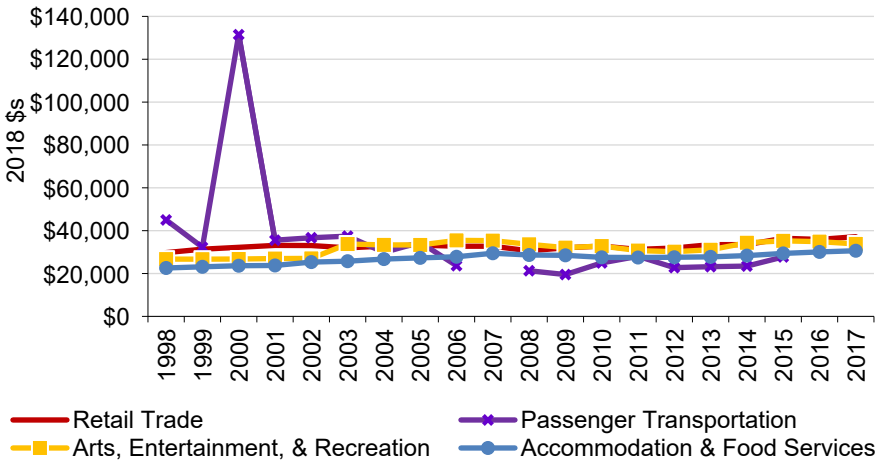


- In 2017, travel & tourism sector percent of total employment, from highest to lowest, were: accommodation & food services (34.7%); arts, entertainment, & recreation (4.5%); retail trade (2.6%); and passenger transportation (0%).



- From 1998 to 2017, the three industry sectors that include travel & tourism with the greatest change in average wages (in real terms) were: Accommodation & Food Services ($22,584 to $30,632, a 36% increase), Retail Trade ($29,759 to $37,198, a 25% increase), and Arts, Entertainment, & Recreation ($26,739 to $33,811, a 26% increase).

Avg. Annual Wages in Industries that Include Travel & Tourism, Teton County, WY, 1998-2017



Data Sources: U.S. Department of Labor. 2018. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Wages and Employment (cont.)

What do we measure on this page?

This page describes average wages (in real terms) and employment levels in industries that include travel and tourism. It also shows average wage trends (in real terms) for industries that include travel and tourism.

The chart *Avg. Annual Wages and Percent of Total Jobs in Industries that Include Travel & Tourism* describes how many people are working in relatively high- and low-wage travel and tourism related industries. The chart *Avg. Annual Wages in Industries that Include Travel & Tourism* is useful for comparing wage trends by sector.

The charts use wage and employment data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.[13, 14] As a result, the percent-of-employment values may not exactly match values derived from County Business Patterns that are reported on previous pages. The bottom chart on this page starts in 1998 to be consistent with the start date of figures on earlier pages of this report.

The major industry categories (Retail Trade; Passenger Transportation; Arts, Entertainment, and Recreation; and Accommodation and Food Services) are the sum of the sub-categories from the previous page of this report and as shown here do not represent NAICS codes.

If your report results in significant undisclosed data, other sources for travel and tourism wage data include the state-level Bureau of Labor Statistics' Quarterly Census of Employment and Wages https://www.bls.gov/cew/; the Bureau of Labor Statistics' Occupational Outlook Handbook, which has detailed industry earnings and wages data at the national level https://www.bls.gov/ooh/; and the County Business Patterns database, which reports industry-level employment and payroll and can be used to estimate earnings https://www.census.gov/programs-surveys/cbp.html.

Why is it important?

While industries that include travel and tourism often pay relatively low wages, wages and the number of people employed can vary greatly among travel and tourism related industries.

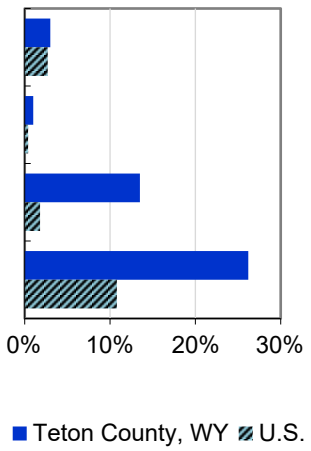
The trend data on this page can be useful for understanding whether wages in sectors that are likely to be associated with travel and tourism have changed over time.

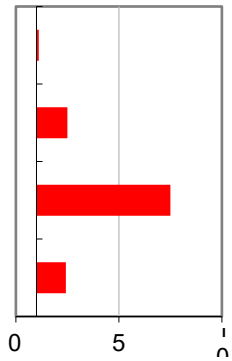
Travel & Tourism

Teton County, WY

Comparisons

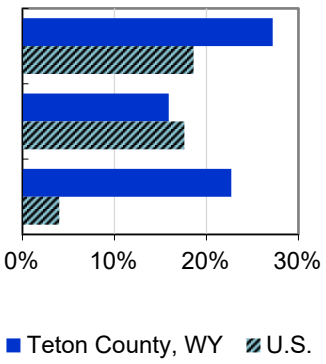
	Employment Share		Location Quotient	Employment Share	Location Quotient
Industries Including Travel and Tourism, 2016	Teton County, WY	U.S.		Teton County, WY vs. U.S.	Teton County, WY vs. U.S.
Retail Trade	3.0%	2.7%	1.1		
Passenger Transportation	1.0%	0.4%	2.5		
Arts, Entertainment, & Recreation	13.5%	1.8%	7.5		
Accommodation & Food	26.2%	10.8%	2.4		

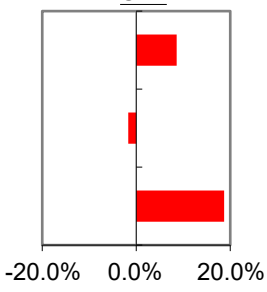




Other Possible Measures of the Presence of Travel and Tourism

Indicators of Seasonal Work and Housing , 2017*	Teton County, WY	U.S.	Diff.	Teton County, WY vs. U.S.	Difference in Percent, Teton County, WY vs. U.S.
Part-Time Work (less than 50 weeks per year)	27.2%	18.6%	8.6%		
Part-Time Work (less than 35 hours per week)	15.9%	17.6%	-1.7%		
Second Homes	22.7%	4.0%	18.7%		





* ACS 5-year estimates used. 2017 represents average characteristics from 2013-2017.

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.; U.S. Department of Commerce. 2018. Census Bureau, American Community Survey Office, Washington, D.C.

Travel & Tourism

Teton County, WY

Comparisons

What do we measure on this page?

This page describes whether the region is specialized in travel and tourism related employment. The chart illustrates the difference between the selected location(s) and the selected benchmark area.[17] (If no custom benchmark area was selected, EPS defaults to benchmarking against the U.S.)

Location Quotient[18]: A ratio that compares an industry's share of total employment in a region to the benchmark. More precisely, it is the percent of local employment in a sector divided by the percent employment in the same sector in the benchmark area. In other words, it is a ratio that measures specialization using the benchmark area for comparison. A location quotient of more than 1.0 means the local area is more specialized in that sector relative to the benchmark area. A location quotient of less than 1.0 means it is less specialized.[19]

Another way to think about location quotients is as a measure of whether a place produces enough goods or services from an industry to satisfy local demand for those goods or services. Results above or below the 1.0 standard indicate the degree to which a place may import or export a good or service. Although there is no precise cutoff, location quotients above 2.0 indicate a strong industry concentration (and that an area is likely exporting goods or services) and those less than 0.5 indicate a weak industry concentration (and that an area is likely importing goods or services).

Second Homes: The number of second homes is not available as a single variable from the U.S. Census Bureau. We have calculated second homes as a percent of total homes as follows: seasonally occupied homes (Census SF1 H005005) are added to other vacant homes (Census SF1 H005007) and then divided by total homes. By this definition, second homes do not include homes that are vacant because they are for rent or sale.

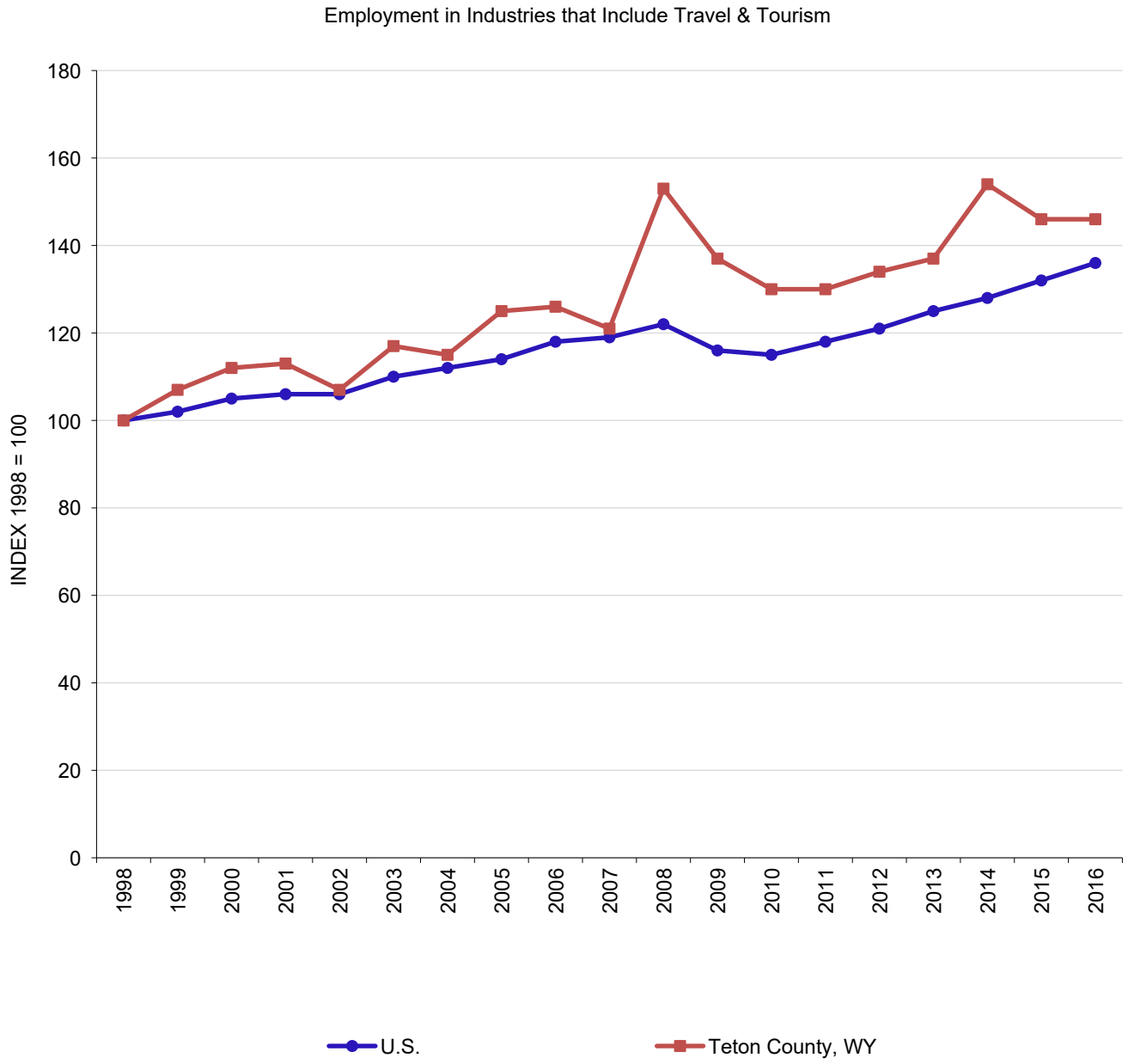
Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses data from the U.S. Department of Commerce to estimate these data gaps.[20]

Why is it important?

Locations with economies that focus on travel and tourism may have a competitive advantages,[21, 22] but can also be sensitive to business cycles and other changes (for example, a rise in fuel costs) that affect pleasure travel and recreation spending. Natural amenities such as public lands can increase travel and tourism activities, benefiting local communities and in some cases diversify rural economies that have historically been tied to commodity production.[5, 23, 24] The growth of travel and tourism activities is also associated with in-migration that can lead to business relocation and new business development across a range of business sectors.[25]

A few caveats: (1) A large location quotient for a particular sector does not necessarily mean that sector is a significant contributor to the economy. (2) LQs greater than 1.0 only suggest potential export capacity when compared to the benchmark area and do not take into account local demand. Local demand may be greater than average, and therefore all goods and services may be consumed locally (i.e., not exported). (3) LQs can change from year to year. (4) LQs can vary when one uses income or wage data rather than employment.

Comparisons Over Time



- From 1998 to 2016, Teton County, WY had the fastest rate of change in travel & tourism employment, and Teton County, WY had the slowest.

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, County Business Patterns, Washington, D.C.

Comparisons Over Time

What do we measure on this page?

This page describes the change in travel and tourism employment for all selected locations and the benchmark area.[17] The information is indexed (1998=100) so that data from locations with different-sized economies can be compared. Indexing makes it easier to understand the relative rate of growth or decline of mining employment over time.

Index: Indexed numbers are compared with a base value. In the line chart, employment in 1998 is the base value and is set to 100. The employment values for subsequent years are expressed as 100 times the ratio to the base value. The indexing used in the line chart enables easier comparisons between locations over time. (If many locations are selected, it may be difficult to read the figure on this page.)

The chart begins in 1998 because that is the year the Census Bureau and County Business Patterns shifted to using the new North American Industrial Classification System (NAICS).

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses data from the U.S. Department of Commerce to estimate these data gaps.[20]

Why is it important?

This information is useful to understand whether sectors likely to be associated with travel and tourism are growing or declining. These data do not measure the absolute size of employment in travel and tourism. Detailed knowledge, obtained through surveys and other means, is required to determine the proportion of a sector's employment that is due to local expenditures versus expenditures from visitors.

Not all locations have attracted or lost travel- and tourism-related employment at the same rate.[26] An index makes it clear where the rate of travel-and-tourism-related growth or decline has been the fastest. Lines above 100 indicate positive absolute growth while those below 100 show absolute decline. The steeper the curve, the faster the rate of change.

It may be helpful to look for large year-to-year rises or dips to identify rapid employment changes. If the reasons behind these fluctuations are not evident, it may be helpful to talk with regional experts or local residents to learn more about what caused abrupt changes.

Locations with economies that focus on travel and tourism may have competitive advantages,[21, 22] but can also be sensitive to business cycles and other changes (for example, a rise in fuel costs) that affect pleasure travel and recreation spending. Natural amenities such as public lands can increase travel and tourism activities, benefiting local communities and in some cases diversify rural economies that have historically been tied to commodity production.[5, 23, 24] The growth of travel and tourism activities is also associated with in-migration that can lead to business relocation and new business development across a range of business sectors.[25]

Travel & Tourism

Teton County, WY

Data Sources & Methods

The EPS Travel & Tourism report uses national statistics from public government sources. All data used in EPS can be readily verified with original sources:

- **County Business Patterns**
  Census Bureau, U.S. Department of Commerce
  https://www.census.gov/programs-surveys/cbp.html
  Contacts
  https://www.census.gov/about/contact-us.html

- **Quarterly Census of Employment and Wages**
  Bureau of Labor Statistics, U.S. Department of Labor
  https://www.bls.gov/cew
  Contacts
  https://www.bls.gov/bls/contact.htm

- **American Community Survey**
  U.S. Census Bureau, U.S. Department of Commerce
  https://www.census.gov/programs-surveys/acs/
  https://www.census.gov/acs/www/data/data-tables-and-tools/index.php
  Contacts
  https://www.census.gov/about/contact-us.html

- **Local Area Unemployment Statistics**
  Bureau of Labor Statistics, U.S. Department of Labor
  https://www.bls.gov/lau/
  Contacts
  https://www.bls.gov/bls/contact.htm

EPS core approaches
EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking—comparing smaller areas such as counties to larger regions, states, and the nation—to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Data Limitations
Much of the data in this report were obtained from the U.S. Census Bureau's County Business Patterns (CBP) series. Compared to other sources, CBP has fewer data gaps (instances when the federal government will not release data to protect confidentiality of individual businesses). It also includes both full- and part-time employment.

However, CBP data do not include employment in government, agriculture, railroads, or the self-employed. Also, CBP data are based on mid-March employment and do not account for seasonal fluctuations. Since March is a "shoulder" season for several tourism activities, CBP may underrepresent employment in industries associated with tourism. Despite these limitations, the data are most useful for showing long-term trends, displaying differences between places, and showing relationships between sectors over time.

Adjusting dollar figures for inflation
Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Data gaps and estimation
Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated in italics in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

Endnotes

1 - In 2018 the Dept. of Commerce for the first time developed statistics illustrating the economic impact of outdoor recreation in the United States. See the Bureau of Economic Analysis's Outdoor Recreation Satellite Account at https://www.bea.gov/data/special-topics/outdoor-recreation.

2 - The Federal Reserve Bank of Kansas City has defined travel and tourism as consisting of hotels, air travel, and amusement and recreation services. See Wilkerson CR. 2003. Travel and Tourism: An Overlooked Industry in the U.S. and Tenth District. Economic Review. QIII(2003):45-71. https://www.kansascityfed.org/publicat/econrev/PDF/3q03wilk.pdf Wilkerson points out that travel- and tourism-related sectors outperformed the nation, including during recessions.

3 - The list of NAICS codes associated with travel and tourism were obtained from Marcouiller DW and Xia X. 2008. Distribution of Income from Tourism-Sensitive Employment. Tourism Economics 14(3):545-565. http://journals.sagepub.com/doi/abs/10.5367/000000008785633622?journalCode=teua. For a similar definition of travel and tourism, see Wilkerson C. 2003. Travel and Tourism: An Overlooked Industry in the U.S. and Tenth District. Federal Reserve Bank of Kansas City Economic Review. QIII(2003):45-71. https://www.kansascityfed.org/publicat/econrev/PDF/3q03wilk.pdf.

4 - It is estimated that outdoor recreation alone generates $887 billion in consumer spending annually and 7.6 million jobs. Outdoor Industry Association. 2018. Advocacy: Outdoor Recreation Economy. https://outdoorindustry.org/advocacy/.

5 - Allen T, D Kary, and R Southwick. 2017. The Economic Contributions of Outdoor Recreation. Boulder, CO: Outdoor Industry Association. https://outdoorindustry.org/wp-content/uploads/2015/03/OIA_Recreation_Economy_Contributions_Technical_Report_2017-08-24.pdf.

6 - The Forest Service collects information on visitor satisfaction and use. Annual summary reports and individual forest and grassland reports are available from https://www.fs.fed.us/recreation/programs/nvum.

7 - Stynes DJ and White EM. 2006. Reflections on Measuring Recreation and Travel Spending. Journal of Travel Research. 45:8-16. See http://journals.sagepub.com/doi/10.1177/0047287506288873.

8 - The U.S. Census Bureau conducts an Economic Census every five years for selected industries. Users can search the Economic Census for information on the number of establishments, sales, employees, and payroll, for selected industries. https://www.census.gov/programs-surveys/economic-census.html.

9 - The U.S. Department of Commerce developed the U.S. Travel and Tourism Satellite Accounts to estimate the proportion of every sector in the economy that is attributable to travel and tourism at the national level. This information is useful for detecting sectors that have a higher potential to serve the needs of visitors. The resulting ratios should not be applied to local economies. https://www.bea.gov/data/special-topics/travel-and-tourism.

Endnotes

10 - Outdoor recreation accounted for 2 percent ($373.3 billion) of GDP in 2016. The outdoor recreation economy grew 3.8 percent in 2016, compared to 2.8 percent in the overall economy. https://www.bea.gov/news/2018/outdoor-recreation-satellite-account-prototype-estimates-2012-2016.

11 - Almost half the U.S. population participated in an outdoor activity at least once in 2017. Outdoor Foundation. 2018. Outdoor Participation Report 2018. Washington, DC: Outdoor Foundation. https://outdoorindustry.org/resource/2018-outdoor-participation-report/.

12 - For detailed information on how the government measures unemployment, see https://www.bls.gov/cps/.

13 - For an overview of how the Bureau of Labor Statistics treats employment, see https://www.bls.gov/bls/employment.htm.

14 - For an overview of how the Bureau of Labor Statistics treats pay and benefits, see https://www.bls.gov/bls/wages.htm.

15 - Employment and wage estimates are also available from the Bureau of Labor Statistics for more than 800 occupations. Looking at travel and tourism by occupation, rather than by sector or industry, is helpful because wages can vary dramatically across occupations. For more information, see https://www.bls.gov/oes/.

16 - The EPS Socioeconomic Measures report provides additional information about wages in non-travel-and-tourism industries. https://headwaterseconomics.org/eps.

17 - The term "benchmark" in this report should not be construed as having the same meaning as in the National Forest Management Act (NFMA).

18 - LQ = (ei/e) divided by (Ei/E)
Where: ei = Local employment in industry i; e = Total local employment; Ei = U.S. employment in industry i; E = Total U.S. employment.

19 - A succinct definition of a location quotient is offered by Indiana Business Research Center at IU's Kelley School of Business. http://www.incontext.indiana.edu/2006/march/1.asp.

20 - Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at https://headwaterseconomics.org/eps.

21 - Reeder RJ and Brown DM. 2005. Recreation, Tourism, and Rural Well-Being. USDA Economic Research Service Economic Research Report No. 7. https://www.ers.usda.gov/webdocs/publications/46126/15112_err7_1_.pdf?v=41056

Endnotes

22 - English DBK, Marcouiller DW, and Cordell HK. 2000. Tourism Dependence in Rural America: Estimates and Effects. Society and Natural Resources 13(3):185-202. https://www.srs.fs.usda.gov/pubs/ja/ja_english004.pdf The study found that counties relatively dependent on tourism have higher growth in per capita income in comparison to non-dependent counties; less economic diversity; fewer manufacturing jobs, in particular in wood products sectors; more expensive housing; faster population growth; and higher levels of education. They also found that average household income in tourism-dependent counties was about the same as in non-dependent counties.

23 - For a review of literature on economic diversity, see Sterling A. 1998. On the Economics and Analysis of Diversity. Electronic Working Papers Series, No. 28. University of Sussex, Brighton, UK. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.144.8865&rep=rep1&type=pdf.

24 - A useful book on the evolving competitive environment for rural areas is Galston WA and Baehler KJ. 1995. Rural Development in the United States: Connecting Theory, Practice, and Possibilities. Washington, DC: Island Press.

25 - Snepenger D, Johnson J, and Rasker R. 1994. Travel Stimulated Entrepreneurial Migration. Journal of Travel Research 34(1):40-44. http://journals.sagepub.com/doi/abs/10.1177/004728759503400105 Snepenger et al. found that tourism can stimulate permanent migration of entrepreneurs.

26 - The Economic Research Service of the U.S. Dept. of Agriculture has developed a widely-used classification system for identifying non-metropolitan recreation counties. See Johnson KM and Beale CL. 2002. Non-Metro Recreation Counties: Their Identification and Rapid Growth. Rural America 17(4):2-19. https://www.ers.usda.gov/webdocs/publications/46984/19347_ra174b_1_.pdf?v=41056.

A Profile of Development and the Wildland-Urban Interface (WUI)

Selected Geographies:

Teton County, WY

Benchmark Geographies:

West

Produced by
Economic Profile System
EPS
August 1, 2019

About the Economic Profile System (EPS)

EPS is a free, easy-to-use software application that produces detailed socioeconomic reports of counties, states, and regions, including custom aggregations.

EPS uses published statistics from federal data sources, including Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; and Bureau of Labor Statistics, U.S. Department of Labor.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See headwaterseconomics.org/EPS for more information about the other tools and capabilities of EPS.

For technical questions, contact Patty Gude at eps@headwaterseconomics.org, or 406-599-7425.

HEADWATERS ECONOMICS

headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions in the West.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of the Interior, administers 249.8 million acres of America's public lands, located primarily in 12 Western States. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

FOREST SERVICE
US
DEPARTMENT OF AGRICULTURE

www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to achieve quality land management under the "sustainable multiple-use management concept" to meet the diverse needs of people while protecting the resource. Significant intellectual, conceptual, and content contributions were provided by the following individuals: Dr. Pat Reed, Dr. Jessica Montag, Doug Smith, M.S., Fred Clark, M.S., Dr. Susan A. Winter, and Dr. Ashley Goldhor-Wilcock.

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Note to Users:

This is one of fourteen reports that can be created and downloaded from EPS Web. You may want to run another EPS report for either a different geography or topic. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. Throughout the reports, references to online resources are indicated in parentheses. These resources are provided as hyperlinks on each report's final page. The EPS reports are downloadable as Excel, PDF, and Word documents. For further information and to download reports, go to:

headwaterseconomics.org/eps

How much of the WUI has been developed, and how much has not yet been developed?

This page evaluates the wildland-urban interface (WUI) for the eleven western continental states, showing both square miles and the proportion of the WUI that has been developed and how much remains to be developed.

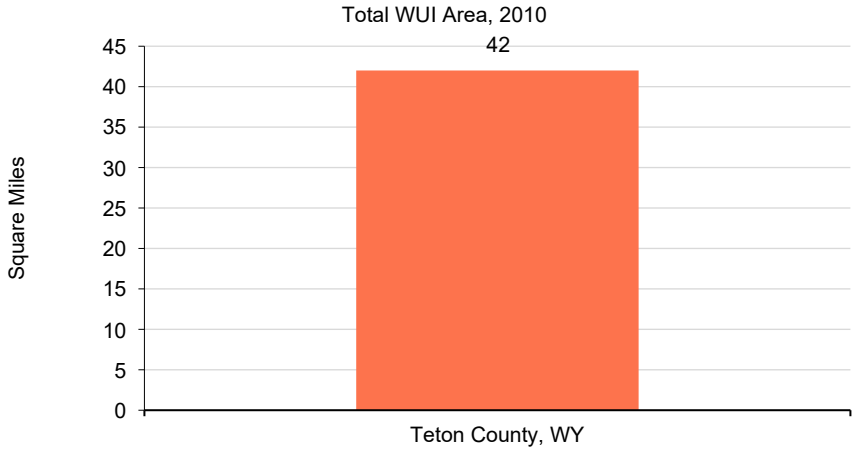
Wildland-Urban Interface (Square Miles), 2010

	Teton County, WY	West
Total WUI Area	42	23,596
WUI Area with Homes	4	3,837
WUI Area without Homes	39	19,759

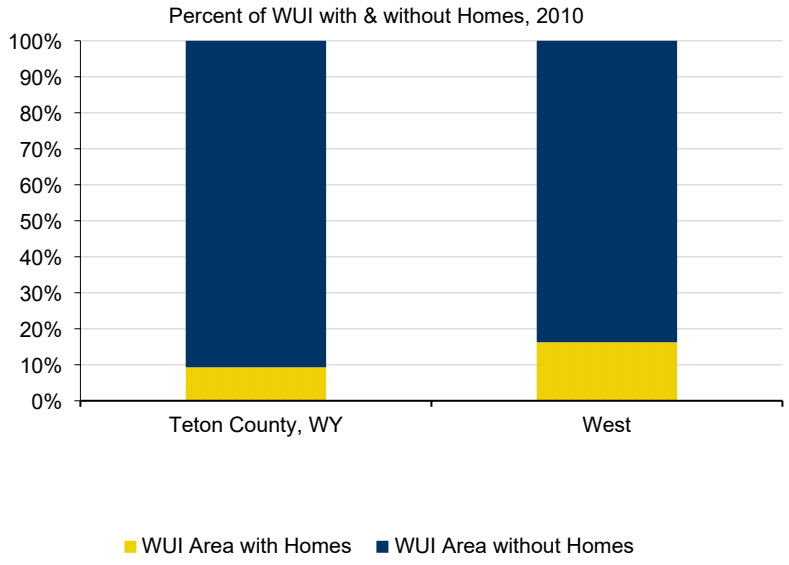
Percent of Total

WUI Area with Homes	9.5%	16.3%
WUI Area without Homes	92.9%	83.7%

- In 2010, Teton County, WY had the largest total WUI area (42 square miles), and Teton County, WY had the smallest (County Region square miles).



- In 2010, The West had the largest percent of the WUI with homes (16.3%), and Teton County, WY had the smallest (9.5%).



Data Sources: Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

Study Guide and Supplemental Information

How much of the WUI has been developed, and how much has not yet been developed?

What do we measure on this page?

This page evaluates the wildland-urban interface (WUI) for the 11 western continental states, showing both square miles and the proportion of the WUI that has been developed and how much remains to be developed.

Wildland-Urban Interface (WUI): This report defines WUI as private forestlands that are within 500 meters of public forestlands. (See Methods section on final page for discussion of this threshold.) We focus on adjacency to public forests since roughly 70% of western forests are publicly-owned and since wildfire is a natural disturbance in these forests, creating a potential risk to adjacent private lands. In this report, the term "wildland-urban interface" (WUI) is sometimes used interchangeably with "fire-prone lands."
WUI Area with Homes: the square miles of private forest lands within 500 meters of public forestlands that are occupied by homes.
WUI Area without Homes: the square miles of private forest lands within 500 meters of public forestlands without homes. These lands have the potential to be developed.

Why is it important?

Wildfire directly impacts safety, private and public costs, and landscape health. Today, the rising expense of wildland firefighting that takes place both on public and private lands costs the federal government more than $3 billion per year. A principal reason for the escalating cost of wildland firefighting is the growing number of homes built in the WUI. Many studies have delineated the rising costs of forest and other wildland fires, and all point to the expanding pattern of residential development adjacent to public lands as a significant contributing factor. The costs of fire suppression will continue to grow if residential development trends continue.

Fire plays an important part in most wildland ecosystems. However, many years of fire suppression, much of it undertaken to protect private property, has resulted in fuel buildup, which in turn increases the probability of a large, expensive fire. Warmer temperatures, less snowpack, and drier forests also result in longer and more intense fire seasons across the West. Other factors, such as bug infestations, can exacerbate fire intensities.

Data on this page can be used to quanify whether the selected geographies have significant acreage in the WUI, whether this acreage is currently developed. If there is extensive WUI acreage that is currently undeveloped, it is important to ask whether public land managers and local and state officials are planning for potential development in the WUI and its associated costs.

Methods

The information in this report is based on a study conducted by Headwaters Economics (see Data Sources and Additional Resources) on the 11 contiguous western states. The original study utilized data from the 2000 Census. The study has since been replicated using 2010 Census data. Additional, detailed descriptions of methods are found on the last page of this report. For references on defensible space, see Gude et al, (2008), Data Sources, page 199.

As defined in the National Fire Plan, the WUI includes areas "where structures and other human development meet or intermingle with undeveloped wildland." Other federal documents define the WUI as areas "where humans and their development meet or intermix with wildland fuel" or "the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." In general, the WUI is an area rich in natural amenities, where both population and new housing are on the rise.

Additional Resources

A number of alternative definitions exist for the WUI. For example, the University of Wisconsin's SILVIS lab's definition is not focused on public forests. For more information, see: silvis.forest.wisc.edu/library/WUIDefinitions2.asp *(1)*.
For more discussion of fire policy in general, see: headwaterseconomics.org/wildfire.php *(2)*. This page has a variety of useful links including studies on controlling wildfire costs, the cost of protecting residences from wildland fire, and development in the WUI.
For a White Paper on methods to control future fire suppression costs in the WUI, a literature review of recent reports, and public policy options, see: headwaterseconomics.org/wildfire/HeadwatersFireCosts.pdf *(3)*.
The following report has a useful overview of costs, WUI, and related issues: U.S. Department of Agriculture, Office of Inspector General, Nov. 2006. Audit Report: Forest Service Large Fire Suppression Costs. Report No. 08601-44-SF.
Berry, Alison H., Geoffrey Donovan, and Hayley Hesseln. 2006. The Economic Effects of the Wildland-Urban Interface on Forest Service and BLM Prescribed Burning Costs in the Pacific Northwest. Western Journal of Applied Forestry, 21(2):72-78.
Healthy Forests Restoration Act of 2003, fs.fed.us/biology/wildecology/HFRA.pdf *(4)*.

Data Sources

Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205;
U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

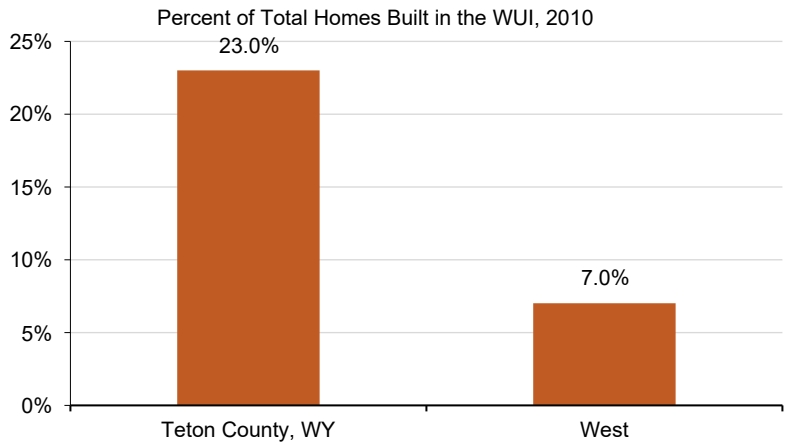
How many homes are in the WUI, and what proportion are permanently versus seasonally occupied?

This page measures the total number of homes compared to the subset of homes in the WUI and how many of those homes are permanent or second homes.

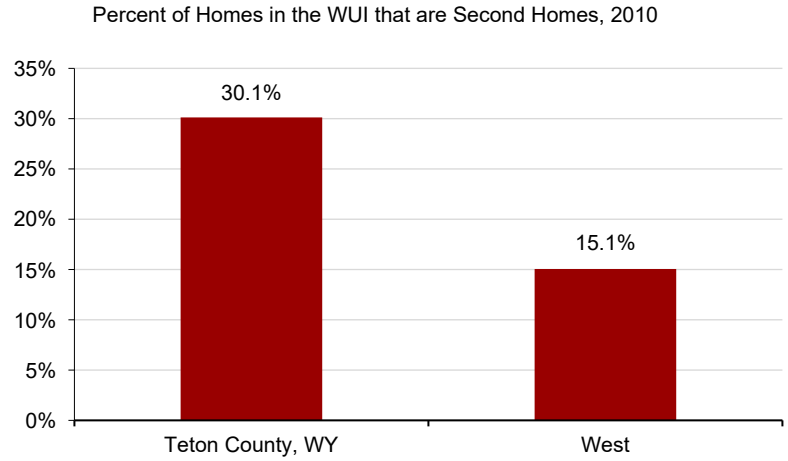
Total Homes and Wildland-Urban Interface Homes, 2010

	Teton County, WY	West
Total Number of Homes	12,813	27,766,144
WUI Homes	2,948	1,947,927
Second Homes in WUI	888	293,196
Percent of Total		
WUI Homes as % of Total Homes	23.0%	7.0%
Second Homes as % of WUI Homes	30.1%	15.1%

- In 2010, Teton County, WY had the largest percent of total homes (23%) built inside the WUI, and the West had the smallest (7%).



- In 2010, Teton County, WY has the largest share of second homes in the WUI (30.1%), and the West has the smallest (15.1%).



Data Sources: Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

How many homes are in the WUI, and what proportion are permanently versus seasonally occupied?

What do we measure on this page?

This page measures the total number of homes compared to the subset of homes in the WUI and how many of those homes are permanent or second homes.

Second Homes: These are residences used only in certain seasons, for weekends, or other occasional uses throughout the year.

Why is it important?

This page focuses on housing that borders federally managed public forestlands in the West. Roughly 70 percent of western forests are publicly owned. Because wildfire is a natural disturbance in many of these forests, this creates a potential risk to adjacent private lands.

Homes built near forested public lands are much more likely to be second homes compared to homes built on other private western lands. One in five homes near public forests in the West is a second home, compared to one in twenty-five homes on other western private lands. Understanding how many of the homes are second homes is important because it puts the cost and danger of protecting homes into a context: are lives being risked, and billions of dollars being spent, to protect people's vacation homes?

Across the West, only 14 percent of private land adjacent to forests has homes on it. But this relatively small percentage is tremendously expensive. When combining local, state, and federal efforts, the cost to protect homes from forest fires exceeds $1 billion per year. If 50 percent of the forested private lands were developed, firefighting costs could exceed $4 billion.

Methods

The data were calculated using Geographic Information System (GIS) tools. A buffer of 500 meters surrounding forested public lands, including federal, state, and locally managed forests, was mapped, and residential areas that fell within this buffer were identified. The Protected Areas Database was used to map public lands in California, Colorado, Idaho, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming, and state data sources were used to map public land boundaries in Montana and Arizona.

To identify where housing has occurred adjacent to forested wildlands in the West, maps of housing density were created at the scale of 2010 Census blocks. The threshold of 40-acre lot sizes was used to identify residential development because at this home density, areas are generally considered to be more populated than working agricultural lands, although some high-value agricultural operations, including orchards, can be profitable at this lot size.

Detailed descriptions of methods are provided on the last page of this report and in the references cited under Additional resources.

Additional Resources

For an overview and statistical analysis of WUI development for the eleven western states and their counties, see: headwaterseconomics.org/wildfire *(2)*.

For a peer-reviewed journal article, see: Gude, P.H., R. Rasker, J. van den Noort. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4): 198-205. Available at headwaterseconomics.org/wildfire/PGude_2008_Forestry.pdf *(5)*.

For a discussion of improving firefighter and homeowner safety, see:
Cohen, J.D. 2000. Preventing Disaster: Home Ignitability in the Wildland-Urban Interface. J. Forestry. 98(3):15-21.

Butler, B.W., and J.D. Cohen. 1998. Firefighter Safety Zones: A Theoretical Model Based on Radiative Heating. Int. J. Wildland Fire. 8(2):73-77.

Nowicki, B. 2002. The Community Protection Zone: Defending Houses and Communities from the Threat of Forest Fire. Available at: biologicaldiversity.org/swcbd/programs/fire/wui1.pdf *(6)*.

Data Sources

Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

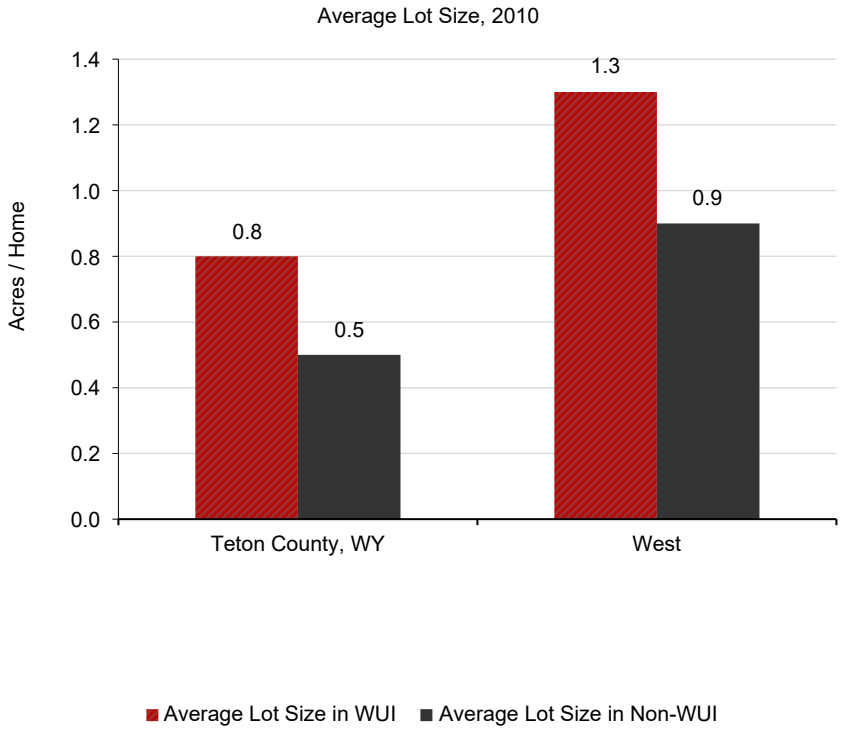
How much land is used inside and outside of the WUI?

This page provides both the total number of residences (homes) as well as the subsets of homes in and outside the WUI. It also shows the average lot size (in acres) of homes within the WUI compared to homes outside of the WUI.

Average Lot Sizes (Acres/Home), 2010

	Teton County, WY	West
Average Lot Size	0.5	0.9
Total Number of Homes	12,813	27,766,144
Total Residential Acres	6,979	24,584,252
Average Lot Size in WUI	0.8	1.3
WUI Homes	2,948	1,947,927
WUI Residential Acres	2,380	2,455,779
Average Lot Size in Non-WUI	0.5	0.9
Non-WUI Homes	9,865	25,818,217
Non-WUI Residential Acres	4,599	22,128,473

- In 2010, the largest difference in lot sizes in and outside the WUI occurred in the West. In the WUI, the average lot size was 1.3 acres and outside the WUI the average lot size was 0.9 acres.



Data Sources: Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

How much land is used inside and outside of the WUI?

What do we measure on this page?

This page provides both the total number of residences (homes) as well as the subsets of homes in and outside the WUI. It also shows the average lot size (in acres) of homes within the WUI compared to homes outside of the WUI.

Why is it important?

Residential lots built in the WUI are much more likely to take up more space than homes built in the non-WUI. This is an important characteristic of the WUI because low-density housing is more costly to protect. In other words, what matters when calculating the costs of protecting homes from wildfires is not just the number of homes, but the per acre use of land per home.

Residential lots near wildlands also take up more than twice the space of homes built in other places. On average across the West, housing near forested land covers 2.3 acres per residence compared to 1.1 acres per residence on other western private lands. This is important because sprawled housing costs more to protect from wildfire.

On behalf of the Montana State Legislature, Headwaters Economics conducted a more detailed analysis of the costs of protecting homes from wildfire in the state of Montana. Headwaters Economics analyzed daily fire suppression costs across 30 large fires that burned in Montana during 2006 and 2007, extracting the portion of total fire suppression costs directly associated with housing. The study discovered that in Montana firefighting costs are highly correlated with the number of homes threatened by a fire.

More importantly, the pattern of development is a significant factor, with dispersed development (i.e. larger lot sizes) contributing more to the cost of fighting fires. For example, one dense subdivision is less costly to protect than the same number of homes spread across a large area of land. This discrepancy in cost between dense vs. sprawled development is important since, in the western U.S., residential lots in the WUI usually take up more space than homes built in other places. Headwaters Economics is replicating the study for California and New Mexico.

Methods

The data were calculated using Geographic Information System (GIS) tools. A buffer of 500 meters surrounding forested public lands, including federal, state, and locally managed forests, was mapped, and residential areas that fell within this buffer were identified. The Protected Areas Database was used to map public lands in California, Colorado, Idaho, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming, and state data sources were used to map public land boundaries in Montana and Arizona.

To identify where housing has occurred adjacent to forested wildlands in the West, maps of housing density were created at the scale of 2010 Census blocks. The threshold of 40-acre lot sizes was used to identify residential development because at this home density, areas are generally considered to be more populated than working agricultural lands, although some high-value agricultural operations, including orchards, can be profitable at this lot size.

Detailed descriptions of methods are provided on the last page of this report, and in the references cited under Additional Resources.

Additional Resources

Headwaters Economics. August 2008. Montana Wildfire Cost Study, available at: headwaterseconomics.org/wildfire/HeadwatersEconomics_FireCostStudy_TechnicalReport.pdf *(7)*.

For a peer reviewed report, see: Gude, P.H., R. Rasker, J. van den Noort. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4): 198-205. Available at: headwaterseconomics.org/wildfire/PGude_2008_Forestry.pdf *(5)*.

Two National Academy of Public Administration reports that may be helpful are:

Wildland Fire Costs: Enhancing Hazard Mitigation Capacity. January 2004. See: napawash.org/Pubs/WildfireJan04.htm *(8)*.

Wildfire Suppression: Strategies for Containing Costs. September 2002. See: napawash.org/Pubs/Wildfire9_30_02.pdf *(9)*.

Data Sources

Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

Existing and Potential Risk

What is the wildfire risk to development?

This page measures the risk of wildfire for lands already developed in the WUI and the potential risk of wildfire should homes be build on undeveloped land in the WUI. The geographies are ordered within the eleven western states in both absolute and percentile rankings.

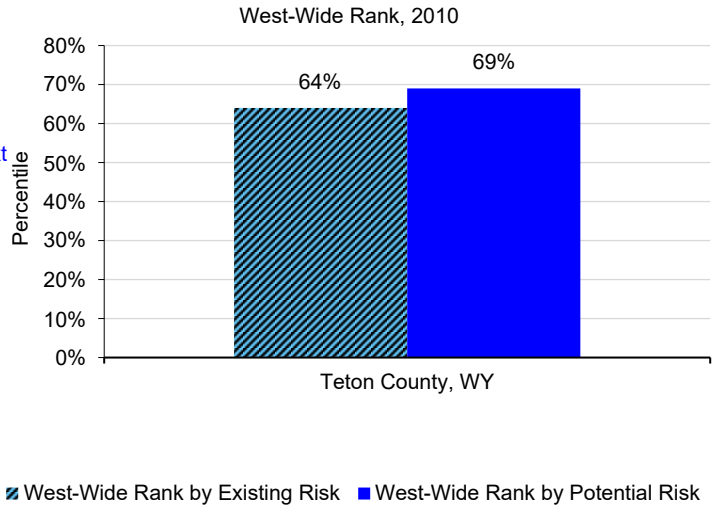
West-Wide and State-Wide County Rankings, 2010

	Teton County, WY	West
West-Wide Rank by Existing Risk	151 of 414	na
West-Wide Rank by Potential Risk	129 of 414	na
State-Wide Rank by Existing Risk	1 of 23	na
State-Wide Rank by Potential Risk	3 of 23	na

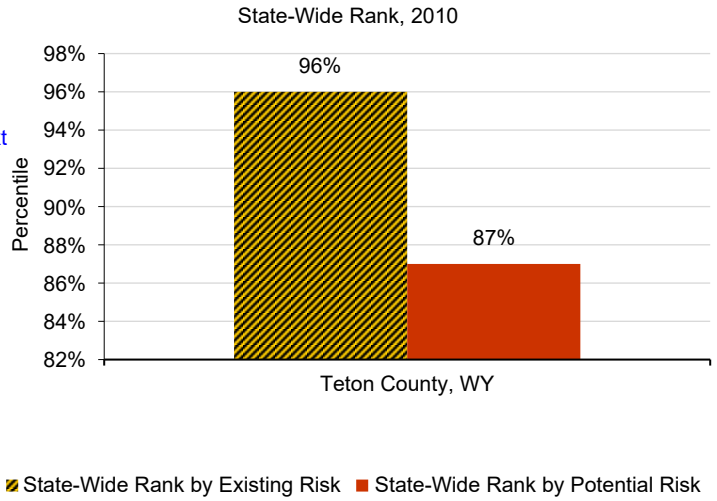
Percentile

West-Wide Rank by Existing Risk	64%	na
West-Wide Rank by Potential Risk	69%	na
State-Wide Rank by Existing Risk	96%	na
State-Wide Rank by Potential Risk	87%	na

- In 2010, Teton County, WY was in the 64 percentile in the West when ranked by existing risk (the amount of forested land where homes have already been built next to public lands).
- In 2010, Teton County, WY was in the 69 percentile in the West when ranked by future potential risk (the area of undeveloped, forested private land bordering fire-prone public lands).



- In 2010, Teton County, WY was in the 96 percentile in the state when ranked by existing risk (the amount of forested land where homes have already been built next to public lands).
- In 2010, Teton County, WY was in the 87 percentile in the state when ranked by future potential risk (the area of undeveloped, forested private land bordering fire-prone public lands).



Data Sources: Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

Study Guide and Supplemental Information

What is the wildfire risk to development?

What do we measure on this page?

This page measures the risk of wildfire for lands already developed in the WUI and the potential risk of wildfire should homes be built on undeveloped land in the WUI. The geographies are ordered within the eleven western states in both absolute and percentile rankings.

Existing Risk: Counties are ranked by the number of acres of forested land where homes have already been built next to public lands. For example, the west-wide rank may show that a county ranks 1st among the 413 western counties. This would indicate that the county has the highest "existing risk" (i.e., the 100th percentile). The state-wide rank for another county may show that it ranks 45th among the 50 counties within its state. This would indicate that the county has a low "potential risk" (i.e., the 10th percentile) relative to other counties in the same state.
Potential Risk: Counties are ranked by the number of acres of undeveloped, forested private land bordering fire-prone public lands.

Why is it important?

Defending homes from the risk of wildland fire is a major cost for public land agencies. The National Academy of Public Administration estimates that in the United States 2.2 million homes are expected to exist in the WUI by the year 2030 -- a 40 percent increase over 2001 levels.

While home construction is not the only contributor to the rising cost of fighting fires, it is an important factor and one that is expected to rise with continued development, particularly in the absence of well thought-out land use planning. A warming climate will exacerbate the costs even further.

Data on this page raise important questions about whether the selected geographies have significant acreage in the WUI that is not yet developed, and whether public land managers and local and state officials are planning for this potential development and its associated costs and risks.

Methods

See the last page of this report as well the article by Gude et al. (2008) cited in the data sources for definitions and methods.

Additional Resources

For a study of how an increase in temperatures could impact fire suppression costs, see: Gude, P.H., J.A. Cookson, M.C. Greenwood, M. Haggerty. 2009. Homes in Wildfire-Prone Areas: An Empirical Analysis of Wildfire Suppression Costs and Climate Change. In preparation for submission to journal. Available at headwaterseconomics.org/wildfire/Gude_Manuscript_4-24-09_Color.pdf [(10)].

Schoennagel T., C.R. Nelson, D.M. Theobald, G.C. Carnwald, and T.B. Chapman. 2009. Implementation of National Fire Plan Treatments Near the Wildland-Urban Interface in the Western United States. Proceedings of the National Academy of Sciences. 106 (23): 10706-10711. This article can be found at: pnas.org/content/early/2009/06/05/0900991106.abstract [(11)].

Menakis, J.P., J. Cohen, and L. Bradshaw. 2003. Mapping wildland fire risk to flammable structures for the conterminous United States. Pages 41-49 in K.E.M. Galeey, R.C. Klinger, and N.G. Sugihara (eds.).

Theobald. T.D. and W.H. Romme. 2007. Expansion of the U.S. Wildland-Urban Interface. Landscape and Urban Planning. 83: 340-354.

Data Sources

Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; U.S. Department of Commerce. 2011. TIGER/Line 2010 Census Blocks and 2010 Summary File 1, Washington, D.C.

Data Sources

The EPS-HDT Development and the Wildland-Urban Interface (WUI) report uses a set of specific West-wide data sources to quantify measures of fire risk related to residential development. In an effort to report more accurate statistics for land ownership, a compilation of state level data was used. All of the spatial data in this report were the result of calculations made in Geographic Information Systems (GIS). The contact information for these databases is:

- **Protected Areas Database 1.3 2012**
  US Geological Survey, Gap Analysis Program (GAP)
  http://gapanalysis.usgs.gov/padus/

- **2010 Decennial Census**
  Census Bureau, U.S. Department of Commerce
  http://wwwcensus.gov
  Tel 303-969-7750

- **MODIS Land Cover Type 2006**
  National Aeronautics and Space Administration
  http://modis-land.gsfc.nasa.gov/landcover.htm

Methods

In this report, we focus on housing that borders federal public forestlands in the West. Roughly 70 percent of western forests are publicly owned. Since wildfire is a natural disturbance in many of these forests, this creates a potential risk to adjacent private lands. Fire risk is extremely difficult to quantify. Since most western forests burn at some point and residential areas are rarely abandoned, for the purpose of this report, all forested public lands were considered susceptible to wildfire.

A buffer of 500 meters surrounding forested public lands, including federal, state, and locally managed forests, was mapped, and residential areas that fell within this buffer were identified. The forested public lands were identified based on the following classes from satellite classified land cover maps: evergreen needleleaf forest, evergreen broadleaf forest, deciduous needleleaf forest, deciduous broadleaf forest, mixed forests, closed shrublands. Although open shrublands and grasslands are also prone to wildfire, defending homes in these habitats tends to be less dangerous and less expensive. Since guidelines for the amount of defensible space necessary to protect homes range from 40 to 500 meters, the threshold of 500 meters was used to identify where residential development occurs adjacent to fire-prone public lands. This is a conservative estimate of the WUI and the associated risk of fire, since it is unknown how many home owners within this zone have followed defensible space guidelines.

In order to identify where housing has occurred adjacent to forested wildlands in the West, maps of housing density were created at the scale of 2000 Census blocks. Forested areas where residential development (census blocks with mean lot sizes less than 40 acre) occurred within 500 meters (0.31 miles) of public lands were identified. The threshold of 40 acre lot sizes was used to identify residential development because at this home density, areas are generally considered to be more populated than working agricultural lands. The mean lot size per Census block was calculated by dividing the number of housing units by the area of private land (public lands and any water bodies were excluded).

For each western state and for the West as a whole, the area of forested wildland interface containing homes, i.e., the WUI, was compared to the area of undeveloped forested wildland interface. Per state, the number of homes in the wildland interface was calculated, as well as the percent of these homes that are second homes. The number of second homes within the WUI was calculated by adding the number of “seasonally occupied” homes, as specified in by the Census SF1 H005005 field, to the number of “other vacant” homes, as specified in the Census SF1 H005007 field. These counts do not include homes that are vacant because they are for rent or sale.

Two measures were used to identify counties with high existing and high potential risk of wildland fire to homes. Existing risk was measured in terms of the total area of WUI per county, and potential risk was represented by the area of undeveloped forested wildland interface, where home construction could occur in the future.

For additional information about methods used to generate metrics in this report, see: Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205.

Links to Additional Resources

For more information about EPS see:

headwaterseconomics.org/EPS

Web pages listed under Additional Resources include:

Throughout this report, references to on-line resources are indicated with italicized numbers in parentheses. These resources are provided as hyperlinks here.

1 www.silvis.forest.wisc.edu/library/WUIDefinitions2.asp
2 headwaterseconomics.org/wildfire.php
3 headwaterseconomics.org/wildfire/HeadwatersFireCosts.pdf
4 www.fs.fed.us/biology/wildecology/HFRA.pdf
5 headwaterseconomics.org/wildfire/PGude_2008_Forestry.pdf
6 www.biologicaldiversity.org/swcbd/programs/fire/wui1.pdf
7 headwaterseconomics.org/wildfire/HeadwatersEconomics_FireCostStudy_TechnicalReport.pdf
8 www.napawash.org/Pubs/WildfireJan04.htm
9 www.napawash.org/Pubs/Wildfire9_30_02.pdf
10 headwaterseconomics.org/wildfire/Gude_Manuscript_4-24-09_Color.pdf
11 www.pnas.org/content/early/2009/06/05/0900991106.abstract

ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
TOTALS				
Total Population	10,413		21	
Total Households	3,799		374	
Total Housing Units	4,684		336	
POPULATION AGE 3+ YEARS BY SCHOOL ENROLLMENT				
Total	9,971	100.0%	213	
Enrolled in school	1,986	19.9%	397	
Enrolled in nursery school, preschool	169	1.7%	107	
Public school	75	0.8%	76	
Private school	94	0.9%	75	
Enrolled in kindergarten	62	0.6%	66	
Public school	62	0.6%	66	
Private school	0	0.0%	19	
Enrolled in grade 1 to grade 4	736	7.4%	314	
Public school	706	7.1%	318	
Private school	30	0.3%	33	
Enrolled in grade 5 to grade 8	332	3.3%	211	
Public school	252	2.5%	201	
Private school	80	0.8%	75	
Enrolled in grade 9 to grade 12	162	1.6%	102	
Public school	78	0.8%	55	
Private school	84	0.8%	82	
Enrolled in college undergraduate years	346	3.5%	171	
Public school	318	3.2%	173	
Private school	28	0.3%	26	
Enrolled in graduate or professional school	179	1.8%	110	
Public school	126	1.3%	91	
Private school	53	0.5%	64	
Not enrolled in school	7,985	80.1%	499	
POPULATION AGE 65+ BY RELATIONSHIP AND HOUSEHOLD TYPE				
Total	678	100.0%	195	
Living in Households	646	95.3%	189	
Living in Family Households	317	46.8%	125	
Householder	185	27.3%	85	
Spouse	132	19.5%	69	
Parent	0	0.0%	19	
Parent-in-law	0	0.0%	19	
Other Relative	0	0.0%	19	
Nonrelative	0	0.0%	19	
Living in Nonfamily Households	329	48.5%	126	
Householder	329	48.5%	126	
Nonrelative	0	0.0%	19	
Living in Group Quarters	32	4.7%	41	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

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Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
HOUSEHOLDS BY TYPE AND SIZE				
Family Households	1,906	50.2%	268	
2-Person	780	20.5%	233	
3-Person	493	13.0%	160	
4-Person	382	10.1%	186	
5-Person	189	5.0%	121	
6-Person	62	1.6%	68	
7+ Person	0	0.0%	19	
Nonfamily Households	1,893	49.8%	322	
1-Person	1,167	30.7%	280	
2-Person	325	8.6%	128	
3-Person	224	5.9%	118	
4-Person	177	4.7%	120	
5-Person	0	0.0%	19	
6-Person	0	0.0%	19	
7+ Person	0	0.0%	19	
HOUSEHOLDS BY PRESENCE OF PEOPLE UNDER 18 YEARS BY HOUSEHOLD TYPE				
Households with one or more people under 18 years	906	23.8%	237	
Family households	906	23.8%	237	
Married-couple family	673	17.7%	207	
Male householder, no wife present	63	1.7%	106	
Female householder, no husband present	170	4.5%	120	
Nonfamily households	0	0.0%	19	
Households with no people under 18 years	2,893	76.2%	414	
Married-couple family	749	19.7%	215	
Other family	251	6.6%	150	
Nonfamily households	1,893	49.8%	322	
HOUSEHOLDS BY PRESENCE OF PEOPLE 65 YEARS AND OVER, HOUSEHOLD SIZE AND HOUSEHOLD TYPE				
Households with Pop 65+	542	14.3%	160	
1-Person	321	8.4%	120	
2+ Person Family	213	5.6%	87	
2+ Person Nonfamily	8	0.2%	16	
Households with No Pop 65+	3,257	85.7%	358	
1-Person	846	22.3%	268	
2+ Person Family	1,693	44.6%	260	
2+ Person Nonfamily	718	18.9%	214	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
POPULATION AGE 5+ YEARS BY LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH				
Total	9,660	100.0%	407	high
5 to 17 years				
Speak only English	598	6.2%	165	medium
Speak Spanish	763	7.9%	367	medium
Speak English "very well" or "well"	763	7.9%	369	medium
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak other Indo-European languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak Asian and Pacific Island languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak other languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
18 to 64 years				
Speak only English	5,799	60.0%	491	high
Speak Spanish	1,595	16.5%	316	medium
Speak English "very well" or "well"	886	9.2%	326	medium
Speak English "not well"	623	6.4%	252	medium
Speak English "not at all"	86	0.9%	137	low
Speak other Indo-European languages	184	1.9%	166	low
Speak English "very well" or "well"	184	1.9%	162	low
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak Asian and Pacific Island languages	43	0.4%	80	low
Speak English "very well" or "well"	43	0.4%	80	low
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak other languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
65 years and over				
Speak only English	667	6.9%	193	medium
Speak Spanish	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak other Indo-European languages	11	0.1%	18	low
Speak English "very well" or "well"	11	0.1%	18	low
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak Asian and Pacific Island languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	
Speak other languages	0	0.0%	19	
Speak English "very well" or "well"	0	0.0%	19	
Speak English "not well"	0	0.0%	19	
Speak English "not at all"	0	0.0%	19	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
WORKERS AGE 16+ YEARS BY PLACE OF WORK				
Total	6,679	100.0%	426	
Worked in state and in county of residence	6,579	98.5%	446	
Worked in state and outside county of residence	31	0.5%	39	
Worked outside state of residence	69	1.0%	58	
SEX BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER				
Total:	6,879	100.0%	402	
Male:	4,171	60.6%	349	
Employee of private company	3,430	49.9%	386	
Self-employed in own incorporated business	205	3.0%	108	
Private not-for-profit wage and salary workers	223	3.2%	132	
Local government workers	68	1.0%	61	
State government workers	38	0.6%	43	
Federal government workers	18	0.3%	23	
Self-employed in own not incorporated business workers	189	2.7%	103	
Unpaid family workers	0	0.0%	19	
Female:	2,708	39.4%	291	
Employee of private company	1,586	23.1%	261	
Self-employed in own incorporated business	131	1.9%	87	
Private not-for-profit wage and salary workers	428	6.2%	184	
Local government workers	306	4.4%	167	
State government workers	60	0.9%	56	
Federal government workers	35	0.5%	42	
Self-employed in own not incorporated business workers	162	2.4%	96	
Unpaid family workers	0	0.0%	19	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
WORKERS AGE 16+ YEARS BY MEANS OF TRANSPORTATION TO WORK				
Total	6,679	100.0%	426	
Drove alone	4,435	66.4%	452	
Carpooled	368	5.5%	149	
Public transportation (excluding taxicab)	496	7.4%	194	
Bus or trolley bus	496	7.4%	194	
Streetcar or trolley car	0	0.0%	19	
Subway or elevated	0	0.0%	19	
Railroad	0	0.0%	19	
Ferryboat	0	0.0%	19	
Taxicab	0	0.0%	19	
Motorcycle	0	0.0%	19	
Bicycle	201	3.0%	98	
Walked	887	13.3%	282	
Other means	15	0.2%	26	
Worked at home	277	4.1%	144	
WORKERS AGE 16+ YEARS (WHO DID NOT WORK FROM HOME) BY TRAVEL TIME TO WORK				
Total	6,402	100.0%	462	
Less than 5 minutes	758	11.8%	257	
5 to 9 minutes	1,715	26.8%	387	
10 to 14 minutes	1,517	23.7%	361	
15 to 19 minutes	920	14.4%	305	
20 to 24 minutes	488	7.6%	171	
25 to 29 minutes	253	4.0%	150	
30 to 34 minutes	489	7.6%	230	
35 to 39 minutes	63	1.0%	104	
40 to 44 minutes	141	2.2%	130	
45 to 59 minutes	13	0.2%	14	
60 to 89 minutes	45	0.7%	51	
90 or more minutes	0	0.0%	19	
Average Travel Time to Work (in minutes)	N/A		N/A	
FEMALES AGE 20-64 YEARS BY AGE OF OWN CHILDREN AND EMPLOYMENT STATUS				
Total	3,043	100.0%	266	
Own children under 6 years only	330	10.8%	152	
In labor force	299	9.8%	137	
Not in labor force	31	1.0%	49	
Own children under 6 years and 6 to 17 years	142	4.7%	109	
In labor force	57	1.9%	73	
Not in labor force	85	2.8%	76	
Own children 6 to 17 years only	394	12.9%	167	
In labor force	344	11.3%	164	
Not in labor force	50	1.6%	57	
No own children under 18 years	2,177	71.5%	361	
In labor force	1,908	62.7%	354	
Not in labor force	269	8.8%	154	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
CIVILIAN NONINSTITUTIONALIZED POPULATION BY AGE & TYPES OF HEALTH INSURANCE COVERAGE				
Total	10,365	100.0%	45	
Under 19 years:	2,128	20.5%	285	
One Type of Health Insurance:	1,876	18.1%	489	
Employer-Based Health Ins Only	927	8.9%	288	
Direct-Purchase Health Ins Only	549	5.3%	412	
Medicare Coverage Only	0	0.0%	19	
Medicaid Coverage Only	384	3.7%	295	
TRICARE/Military Hlth Cov Only	16	0.2%	24	
VA Health Care Only	0	0.0%	19	
2+ Types of Health Insurance	19	0.2%	23	
No Health Insurance Coverage	233	2.2%	370	
19 to 34 years:	3,850	37.1%	374	
One Type of Health Insurance:	2,790	26.9%	427	
Employer-Based Health Ins Only	1,620	15.6%	301	
Direct-Purchase Health Ins Only	1,077	10.4%	333	
Medicare Coverage Only	0	0.0%	19	
Medicaid Coverage Only	93	0.9%	88	
TRICARE/Military Hlth Cov Only	0	0.0%	19	
VA Health Care Only	0	0.0%	19	
2+ Types of Health Insurance	29	0.3%	45	
No Health Insurance Coverage	1,031	9.9%	269	
35 to 64 years:	3,736	36.0%	366	
One Type of Health Insurance:	2,623	25.3%	394	
Employer-Based Health Ins Only	1,907	18.4%	416	
Direct-Purchase Health Ins Only	568	5.5%	181	
Medicare Coverage Only	57	0.5%	62	
Medicaid Coverage Only	0	0.0%	19	
TRICARE/Military Hlth Cov Only	15	0.1%	26	
VA Health Care Only	76	0.7%	86	
2+ Types of Health Insurance	174	1.7%	120	
No Health Insurance Coverage	939	9.1%	374	
65+ years:	651	6.3%	190	
One Type of Health Insurance:	101	1.0%	57	
Employer-Based Health Ins Only	0	0.0%	19	
Direct-Purchase Health Ins Only	0	0.0%	19	
Medicare Coverage Only	101	1.0%	57	
TRICARE/Military Hlth Cov Only	0	0.0%	19	
VA Health Care Only	0	0.0%	19	
2+ Types of Health Insurance:	524	5.1%	170	
Employer-Based & Direct-Purchase Health Insurance	0	0.0%	19	
Employer-Based Health & Medicare Insurance	246	2.4%	116	
Direct-Purchase Health & Medicare Insurance	123	1.2%	72	
Medicare & Medicaid Coverage	85	0.8%	73	
Other Private Health Insurance Combos	0	0.0%	19	
Other Public Health Insurance Combos	30	0.3%	40	
Other Health Insurance Combinations	40	0.4%	31	
No Health Insurance Coverage	26	0.3%	35	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
POPULATION BY RATIO OF INCOME TO POVERTY LEVEL				
Total	10,365	100.0%	45	high
Under .50	160	1.5%	129	low
.50 to .99	697	6.7%	329	medium
1.00 to 1.24	561	5.4%	458	low
1.25 to 1.49	887	8.6%	665	low
1.50 to 1.84	268	2.6%	137	medium
1.85 to 1.99	214	2.1%	191	low
2.00 and over	7,578	73.1%	621	high
CIVILIAN POPULATION AGE 18 OR OLDER BY VETERAN STATUS				
Total	8,299	100.0%	283	high
Veteran	524	6.3%	212	medium
Nonveteran	7,775	93.7%	314	high
Male	4,844	58.4%	334	high
Veteran	453	5.5%	205	medium
Nonveteran	4,391	52.9%	335	high
Female	3,455	41.6%	274	high
Veteran	71	0.9%	80	low
Nonveteran	3,384	40.8%	263	high
CIVILIAN VETERANS AGE 18 OR OLDER BY PERIOD OF MILITARY SERVICE				
Total	524	100.0%	212	medium
Gulf War (9/01 or later), no Gulf War (8/90 to 8/01), no Vietnam Era	78	14.9%	79	low
Gulf War (9/01 or later) and Gulf War (8/90 to 8/01), no Vietnam Era	102	19.5%	117	low
Gulf War (9/01 or later), and Gulf War (8/90 to 8/01), and Vietnam Era	0	0.0%	19	
Gulf War (8/90 to 8/01), no Vietnam Era	21	4.0%	33	low
Gulf War (8/90 to 8/01) and Vietnam Era	0	0.0%	19	
Vietnam Era, no Korean War, no World War II	162	30.9%	117	low
Vietnam Era and Korean War, no World War II	0	0.0%	19	
Vietnam Era and Korean War and World War II	0	0.0%	19	
Korean War, no Vietnam Era, no World War II	26	5.0%	26	low
Korean War and World War II, no Vietnam Era	0	0.0%	19	
World War II, no Korean War, no Vietnam Era	14	2.7%	17	low
Between Gulf War and Vietnam Era only	83	15.8%	73	low
Between Vietnam Era and Korean War only	38	7.3%	45	low
Between Korean War and World War II only	0	0.0%	19	
Pre-World War II only	0	0.0%	19	
HOUSEHOLDS BY POVERTY STATUS				
Total	3,799	100.0%	374	high
Income in the past 12 months below poverty level	170	4.5%	107	medium
Married-couple family	0	0.0%	19	
Other family - male householder (no wife present)	0	0.0%	19	
Other family - female householder (no husband present)	13	0.3%	22	low
Nonfamily household - male householder	34	0.9%	37	low
Nonfamily household - female householder	123	3.2%	108	low
Income in the past 12 months at or above poverty level	3,629	95.5%	371	high
Married-couple family	1,422	37.4%	230	high
Other family - male householder (no wife present)	281	7.4%	165	medium
Other family - female householder (no husband present)	190	5.0%	131	low
Nonfamily household - male householder	921	24.2%	272	medium
Nonfamily household - female householder	815	21.5%	239	medium

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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ACS Population Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
HOUSEHOLDS BY OTHER INCOME				
Social Security Income	614	16.2%	169	
No Social Security Income	3,185	83.8%	361	
Retirement Income	371	9.8%	166	
No Retirement Income	3,428	90.2%	354	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN THE PAST 12 MONTHS				
<10% of Income	166	6.9%	107	
10-14.9% of Income	197	8.2%	111	
15-19.9% of Income	176	7.4%	119	
20-24.9% of Income	461	19.3%	173	
25-29.9% of Income	441	18.5%	201	
30-34.9% of Income	261	10.9%	140	
35-39.9% of Income	167	7.0%	123	
40-49.9% of Income	267	11.2%	136	
50+% of Income	183	7.7%	128	
Gross Rent % Inc Not Computed	70	2.9%	56	
HOUSEHOLDS BY PUBLIC ASSISTANCE INCOME IN THE PAST 12 MONTHS				
Total	3,799	100.0%	374	
With public assistance income	29	0.8%	37	
No public assistance income	3,770	99.2%	368	
HOUSEHOLDS BY FOOD STAMPS/SNAP STATUS				
Total	3,799	100.0%	374	
With Food Stamps/SNAP	112	2.9%	110	
With No Food Stamps/SNAP	3,687	97.1%	372	
HOUSEHOLDS BY DISABILITY STATUS				
Total	3,799	100.0%	374	
With 1+ Persons w/Disability	537	14.1%	207	
With No Person w/Disability	3,262	85.9%	373	

Data Note: N/A means not available. Population by Ratio of Income to Poverty Level represents persons for whom poverty status is determined. Household income represents income in 2015, adjusted for inflation.

2013-2017 ACS Estimate: The American Community Survey (ACS) replaces census sample data. Esri is releasing the 2013-2017 ACS estimates, five-year period data collected monthly from January 1, 2011 through December 31, 2015. Although the ACS includes many of the subjects previously covered by the decennial census sample, there are significant differences between the two surveys including fundamental differences in survey design and residency rules.

Margin of error (MOE): The MOE is a measure of the variability of the estimate due to sampling error. MOEs enable the data user to measure the range of uncertainty for each estimate with 90 percent confidence. The range of uncertainty is called the confidence interval, and it is calculated by taking the estimate +/- the MOE. For example, if the ACS reports an estimate of 100 with an MOE of +/- 20, then you can be 90 percent certain the value for the whole population falls between 80 and 120.

Reliability: These symbols represent threshold values that Esri has established from the Coefficients of Variation (CV) to designate the usability of the estimates. The CV measures the amount of sampling error relative to the size of the estimate, expressed as a percentage.

- High Reliability: Small CVs (less than or equal to 12 percent) are flagged green to indicate that the sampling error is small relative to the estimate and the estimate is reasonably reliable.
- Medium Reliability: Estimates with CVs between 12 and 40 are flagged yellow-use with caution.
- Low Reliability: Large CVs (over 40 percent) are flagged red to indicate that the sampling error is large relative to the estimate. The estimate is considered very unreliable.

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

August 01, 2019

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AT RISK POPULATION

Jackson Town, WY

Geography: Place

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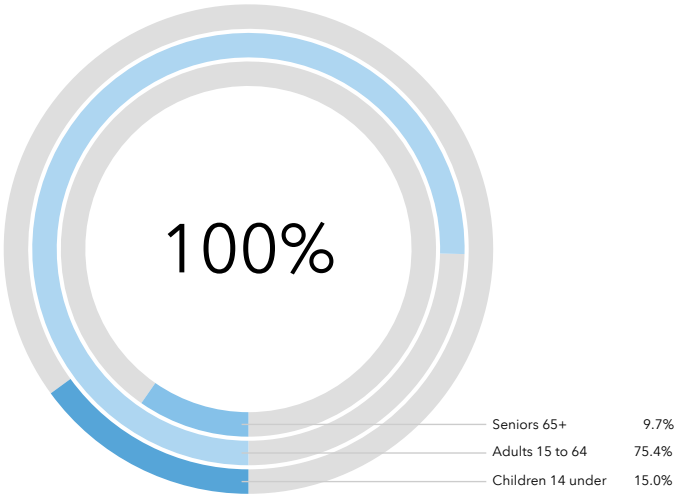
KEY FACTS

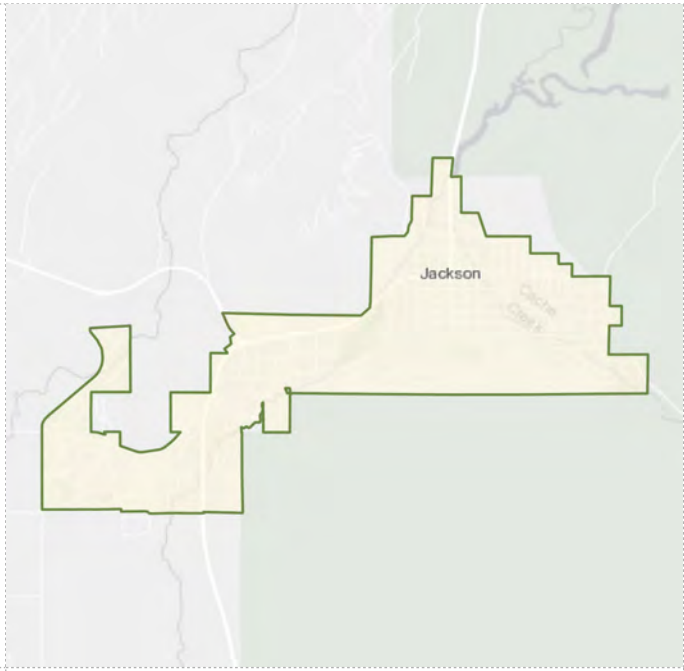
9,650
Population

34.7
Median Age

2.4
Average Household Size

$73,143
Median Household Income





BUSINESS

1,388
Total Businesses

13,059
Total Employees

AT RISK

537
Households With Disability

0
Pop 65+ Speak Spanish & No English

11
Households Without Vehicle

2013-2017 Population by Language Spoken at Home (ACS)	Total	Percent
Pop 18-64 speak Asian-Pacific Isl & No English	0	0.0%
Pop 18-64 speak Indo-European & No English	0	0.0%
Pop 18-64 speak Spanish & No English	86	0.9%
Pop 18-64 speak Other Language & No English	0	0.0%
Pop 65+ speak Asian-Pacific Isl & No English	0	0.0%
Pop 65+ speak Indo-European & No English	0	0.0%
Pop 65+ speak Spanish & No English	0	0.0%
Pop 65+ speak Oth Language & No English	0	0.0%

Business Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

Data for all businesses in area	Jackson town,...
Total Businesses:	1,388
Total Employees:	13,059
Total Residential Population:	9,650
Employee/Residential Population Ratio (per 100 Residents)	135

	Businesses		Employees	
by SIC Codes	**Number**	**Percent**	**Number**	**Percent**
Agriculture & Mining	20	1.4%	123	0.9%
Construction	69	5.0%	488	3.7%
Manufacturing	24	1.7%	191	1.5%
Transportation	42	3.0%	430	3.3%
Communication	9	0.6%	56	0.4%
Utility	5	0.4%	151	1.2%
Wholesale Trade	29	2.1%	133	1.0%
Retail Trade Summary	306	22.0%	3,650	28.0%
Home Improvement	20	1.4%	195	1.5%
General Merchandise Stores	4	0.3%	146	1.1%
Food Stores	24	1.7%	542	4.2%
Auto Dealers, Gas Stations, Auto Aftermarket	19	1.4%	265	2.0%
Apparel & Accessory Stores	21	1.5%	124	0.9%
Furniture & Home Furnishings	29	2.1%	90	0.7%
Eating & Drinking Places	77	5.5%	1,746	13.4%
Miscellaneous Retail	112	8.1%	542	4.2%
Finance, Insurance, Real Estate Summary	130	9.4%	1,195	9.2%
Banks, Savings & Lending Institutions	19	1.4%	361	2.8%
Securities Brokers	23	1.7%	41	0.3%
Insurance Carriers & Agents	14	1.0%	68	0.5%
Real Estate, Holding, Other Investment Offices	74	5.3%	725	5.6%
Services Summary	636	45.8%	5,820	44.6%
Hotels & Lodging	53	3.8%	1,163	8.9%
Automotive Services	29	2.1%	177	1.4%
Motion Pictures & Amusements	73	5.3%	765	5.9%
Health Services	77	5.5%	1,033	7.9%
Legal Services	45	3.2%	186	1.4%
Education Institutions & Libraries	22	1.6%	299	2.3%
Other Services	337	24.3%	2,197	16.8%
Government	61	4.4%	794	6.1%
Unclassified Establishments	57	4.1%	28	0.2%
Totals	1,388	100.0%	13,059	100.0%

Source: Copyright 2019 Infogroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2019.
Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

August 01, 2019

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Business Summary

Jackson Town, WY
Jackson Town, WY (5640120)
Geography: Place

Prepared by Esri

by NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing & Hunting	6	0.4%	24	0.2%
Mining	0	0.0%	0	0.0%
Utilities	3	0.2%	111	0.8%
Construction	79	5.7%	571	4.4%
Manufacturing	27	1.9%	162	1.2%
Wholesale Trade	29	2.1%	133	1.0%
Retail Trade	217	15.6%	1,845	14.1%
Motor Vehicle & Parts Dealers	13	0.9%	223	1.7%
Furniture & Home Furnishings Stores	15	1.1%	42	0.3%
Electronics & Appliance Stores	10	0.7%	45	0.3%
Bldg Material & Garden Equipment & Supplies Dealers	20	1.4%	195	1.5%
Food & Beverage Stores	19	1.4%	530	4.1%
Health & Personal Care Stores	11	0.8%	37	0.3%
Gasoline Stations	6	0.4%	42	0.3%
Clothing & Clothing Accessories Stores	31	2.2%	159	1.2%
Sport Goods, Hobby, Book, & Music Stores	16	1.2%	104	0.8%
General Merchandise Stores	4	0.3%	146	1.1%
Miscellaneous Store Retailers	69	5.0%	296	2.3%
Nonstore Retailers	3	0.2%	26	0.2%
Transportation & Warehousing	32	2.3%	361	2.8%
Information	34	2.4%	322	2.5%
Finance & Insurance	57	4.1%	471	3.6%
Central Bank/Credit Intermediation & Related Activities	17	1.2%	353	2.7%
Securities, Commodity Contracts & Other Financial	26	1.9%	50	0.4%
Insurance Carriers & Related Activities; Funds, Trusts &	14	1.0%	68	0.5%
Real Estate, Rental & Leasing	91	6.6%	880	6.7%
Professional, Scientific & Tech Services	184	13.3%	1,106	8.5%
Legal Services	48	3.5%	209	1.6%
Management of Companies & Enterprises	3	0.2%	6	0.0%
Administrative & Support & Waste Management & Remediation	50	3.6%	322	2.5%
Educational Services	28	2.0%	316	2.4%
Health Care & Social Assistance	105	7.6%	1,396	10.7%
Arts, Entertainment & Recreation	56	4.0%	595	4.6%
Accommodation & Food Services	131	9.4%	2,916	22.3%
Accommodation	53	3.8%	1,163	8.9%
Food Services & Drinking Places	78	5.6%	1,753	13.4%
Other Services (except Public Administration)	138	9.9%	700	5.4%
Automotive Repair & Maintenance	15	1.1%	65	0.5%
Public Administration	61	4.4%	794	6.1%
Unclassified Establishments	57	4.1%	28	0.2%
Total	1,388	100.0%	13,059	100.0%

Source: Copyright 2019 Infogroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2019.
Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

August 01, 2019

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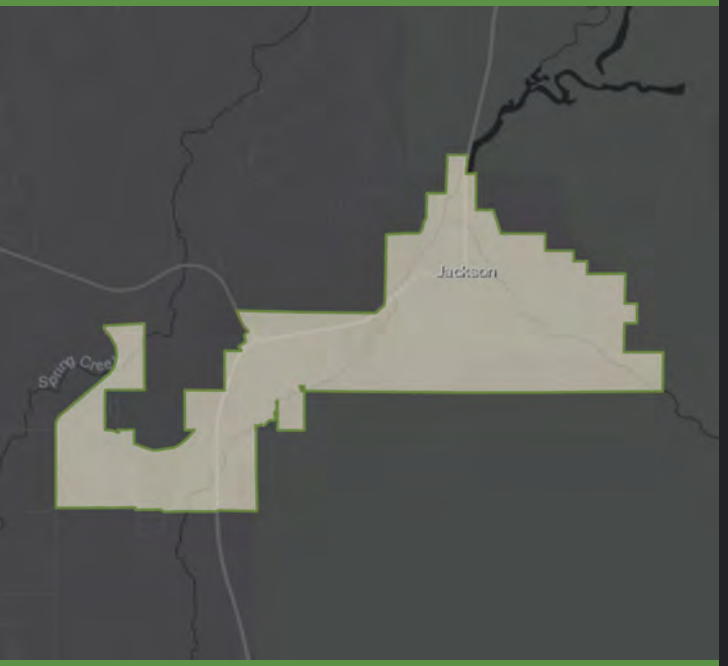
DEMOGRAPHIC PROFILE

Town of Jackson

Geography: Place



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EDUCATION

No High School Diploma	High School Graduate	Some College	Bachelor's/Grad /Prof Degree
9%	16%	24%	51%

EMPLOYMENT

White Collar	51%
Blue Collar	21%
Services	28%

1.6%
Unemployment Rate

KEY FACTS

9,650	34.7
Population	Median Age
3,964	$60,639
Households	Median Disposable Income

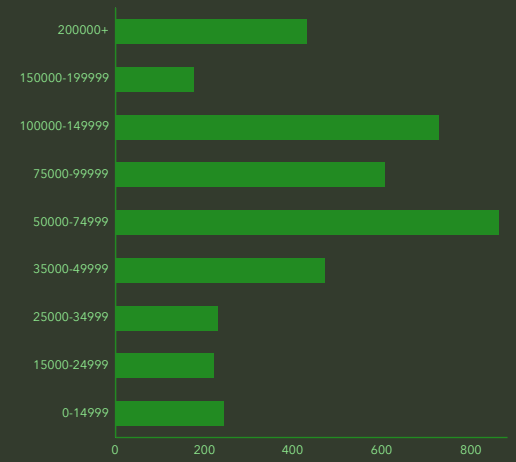
INCOME

$73,143
Median Household Income

$41,911
Per Capita Income

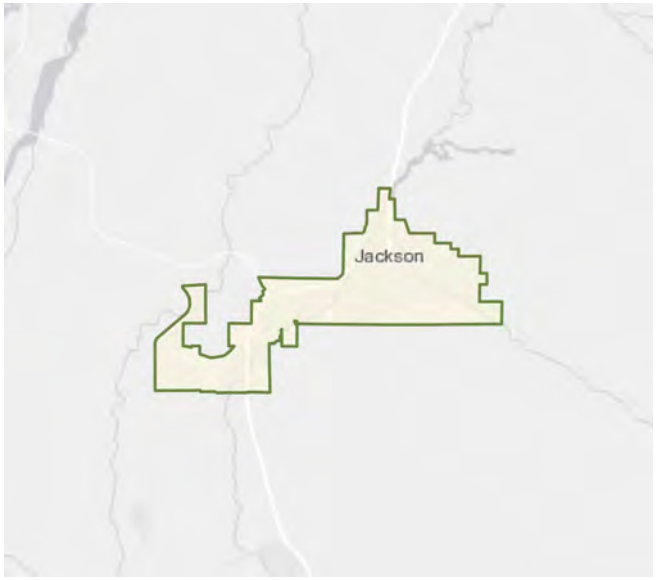
$56,535
Median Net Worth

HOUSEHOLD INCOME ($)



POPULATION TRENDS AND KEY INDICATORS

Town of Jackson



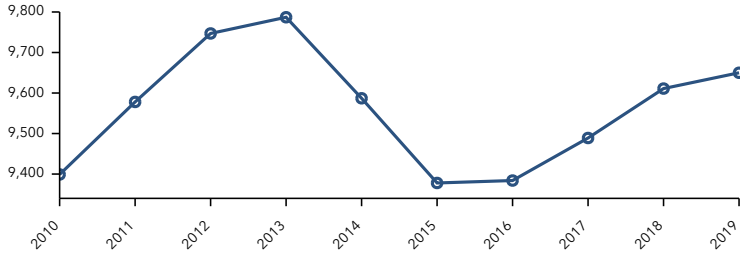
9,650	3,964	2.40	34.7	$73,143	$711,473	82	54	62
Population	Households	Avg Size Household	Median Age	Median Household Income	Median Home Value	Wealth Index	Housing Affordability	Diversity Index

MORTGAGE INDICATORS

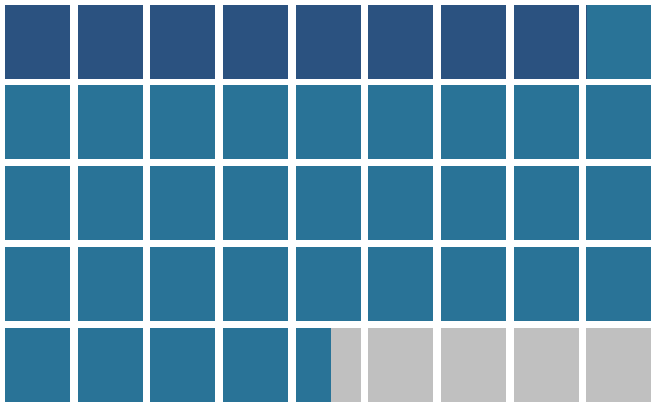
$9,951
Avg Spent on Mortgage & Basics

47.6%
Percent of Income for Mortgage

Historical Trends: Population



POPULATION BY AGE



POPULATION BY GENERATION

3.8%
Greatest Gen: Born 1945/Earlier

16.1%
Baby Boomer: Born 1946 to 1964

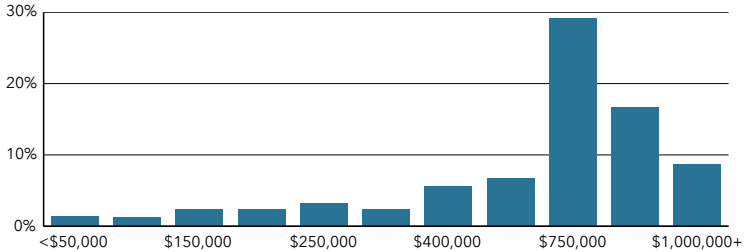
21.2%
Generation X: Born 1965 to 1980

38.9%
Millennial: Born 1981 to 1998

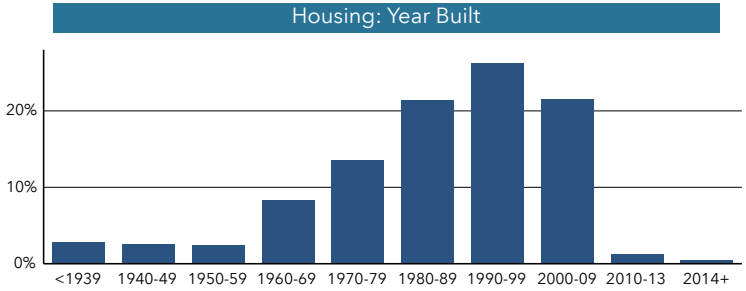
16.5%
Generation Z: Born 1999 to 2016

3.5%
Alpha: Born 2017 to Present

Home Value



Housing: Year Built



U.S. Census Bureau, Esri forecasts for 2019 and 2024, Esri Vintage 2019 Time Series

Source: This infographic contains data provided by American Community Survey (ACS), Esri, Esri and Bureau of Labor Statistics. The vintage of the data is 2013-2017, 2019, 2024.

ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
TOTALS				
Total Population	22,923		0	
Total Households	8,795		435	
Total Housing Units	13,508		102	
POPULATION AGE 3+ YEARS BY SCHOOL ENROLLMENT				
Total	22,198	100.0%	202	
Enrolled in school	4,752	21.4%	559	
Enrolled in nursery school, preschool	305	1.4%	120	
Public school	174	0.8%	116	
Private school	131	0.6%	90	
Enrolled in kindergarten	129	0.6%	90	
Public school	129	0.6%	90	
Private school	0	0.0%	22	
Enrolled in grade 1 to grade 4	1,388	6.3%	370	
Public school	1,358	6.1%	372	
Private school	30	0.1%	33	
Enrolled in grade 5 to grade 8	1,047	4.7%	341	
Public school	824	3.7%	273	
Private school	223	1.0%	210	
Enrolled in grade 9 to grade 12	657	3.0%	195	
Public school	457	2.1%	180	
Private school	200	0.9%	123	
Enrolled in college undergraduate years	713	3.2%	247	
Public school	538	2.4%	221	
Private school	175	0.8%	112	
Enrolled in graduate or professional school	513	2.3%	190	
Public school	326	1.5%	152	
Private school	187	0.8%	114	
Not enrolled in school	17,446	78.6%	543	
POPULATION AGE 65+ BY RELATIONSHIP AND HOUSEHOLD TYPE				
Total	2,911	100.0%	62	
Living in Households	2,826	97.1%	114	
Living in Family Households	1,746	60.0%	209	
Householder	973	33.4%	134	
Spouse	744	25.6%	128	
Parent	0	0.0%	22	
Parent-in-law	0	0.0%	22	
Other Relative	29	1.0%	48	
Nonrelative	0	0.0%	22	
Living in Nonfamily Households	1,080	37.1%	227	
Householder	1,022	35.1%	222	
Nonrelative	58	2.0%	50	
Living in Group Quarters	85	2.9%	93	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
HOUSEHOLDS BY TYPE AND SIZE				
Family Households	5,231	59.5%	423	
2-Person	2,708	30.8%	327	
3-Person	1,183	13.5%	247	
4-Person	870	9.9%	278	
5-Person	338	3.8%	156	
6-Person	132	1.5%	90	
7+ Person	0	0.0%	22	
Nonfamily Households	3,564	40.5%	458	
1-Person	2,515	28.6%	449	
2-Person	574	6.5%	205	
3-Person	298	3.4%	131	
4-Person	177	2.0%	120	
5-Person	0	0.0%	22	
6-Person	0	0.0%	22	
7+ Person	0	0.0%	22	
HOUSEHOLDS BY PRESENCE OF PEOPLE UNDER 18 YEARS BY HOUSEHOLD TYPE				
Households with one or more people under 18 years	2,185	24.8%	361	
Family households	2,185	24.8%	361	
Married-couple family	1,596	18.1%	305	
Male householder, no wife present	160	1.8%	153	
Female householder, no husband present	429	4.9%	201	
Nonfamily households	0	0.0%	22	
Households with no people under 18 years	6,610	75.2%	466	
Married-couple family	2,795	31.8%	285	
Other family	251	2.9%	150	
Nonfamily households	3,564	40.5%	458	
HOUSEHOLDS BY PRESENCE OF PEOPLE 65 YEARS AND OVER, HOUSEHOLD SIZE AND HOUSEHOLD TYPE				
Households with Pop 65+	2,147	24.4%	162	
1-Person	886	10.1%	218	
2+ Person Family	1,099	12.5%	155	
2+ Person Nonfamily	162	1.8%	102	
Households with No Pop 65+	6,648	75.6%	448	
1-Person	1,629	18.5%	425	
2+ Person Family	4,132	47.0%	394	
2+ Person Nonfamily	887	10.1%	266	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
POPULATION AGE 5+ YEARS BY LANGUAGE SPOKEN AT HOME AND ABILITY TO SPEAK ENGLISH				
Total	21,697	100.0%	351	high
5 to 17 years				
Speak only English	2,274	10.5%	277	high
Speak Spanish	935	4.3%	360	medium
Speak English "very well" or "well"	903	4.2%	369	medium
Speak English "not well"	32	0.1%	55	low
Speak English "not at all"	0	0.0%	22	
Speak other Indo-European languages	0	0.0%	22	
Speak English "very well" or "well"	0	0.0%	22	
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
Speak Asian and Pacific Island languages	0	0.0%	22	
Speak English "very well" or "well"	0	0.0%	22	
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
Speak other languages	0	0.0%	22	
Speak English "very well" or "well"	0	0.0%	22	
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
18 to 64 years				
Speak only English	12,878	59.4%	510	high
Speak Spanish	2,145	9.9%	305	high
Speak English "very well" or "well"	1,339	6.2%	391	medium
Speak English "not well"	720	3.3%	267	medium
Speak English "not at all"	86	0.4%	137	low
Speak other Indo-European languages	439	2.0%	219	medium
Speak English "very well" or "well"	432	2.0%	216	medium
Speak English "not well"	7	0.0%	16	low
Speak English "not at all"	0	0.0%	22	
Speak Asian and Pacific Island languages	111	0.5%	116	low
Speak English "very well" or "well"	79	0.4%	88	low
Speak English "not well"	32	0.1%	38	low
Speak English "not at all"	0	0.0%	22	
Speak other languages	4	0.0%	9	low
Speak English "very well" or "well"	4	0.0%	9	low
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
65 years and over				
Speak only English	2,845	13.1%	88	high
Speak Spanish	54	0.2%	61	low
Speak English "very well" or "well"	54	0.2%	61	low
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
Speak other Indo-European languages	12	0.1%	19	low
Speak English "very well" or "well"	12	0.1%	19	low
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
Speak Asian and Pacific Island languages	0	0.0%	22	
Speak English "very well" or "well"	0	0.0%	22	
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	
Speak other languages	0	0.0%	22	
Speak English "very well" or "well"	0	0.0%	22	
Speak English "not well"	0	0.0%	22	
Speak English "not at all"	0	0.0%	22	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
WORKERS AGE 16+ YEARS BY PLACE OF WORK				
Total	14,152	100.0%	429	
Worked in state and in county of residence	13,399	94.7%	528	
Worked in state and outside county of residence	330	2.3%	162	
Worked outside state of residence	423	3.0%	209	
SEX BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER				
Total:	14,492	100.0%	418	
Male:	8,078	55.7%	287	
Employee of private company	5,958	41.1%	447	
Self-employed in own incorporated business	572	3.9%	185	
Private not-for-profit wage and salary workers	542	3.7%	250	
Local government workers	211	1.5%	143	
State government workers	101	0.7%	86	
Federal government workers	230	1.6%	130	
Self-employed in own not incorporated business workers	464	3.2%	173	
Unpaid family workers	0	0.0%	22	
Female:	6,414	44.3%	291	
Employee of private company	3,394	23.4%	371	
Self-employed in own incorporated business	314	2.2%	138	
Private not-for-profit wage and salary workers	1,117	7.7%	288	
Local government workers	659	4.5%	264	
State government workers	285	2.0%	137	
Federal government workers	168	1.2%	92	
Self-employed in own not incorporated business workers	477	3.3%	178	
Unpaid family workers	0	0.0%	22	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
WORKERS AGE 16+ YEARS BY MEANS OF TRANSPORTATION TO WORK				
Total	14,152	100.0%	429	
Drove alone	9,659	68.3%	562	
Carpooled	950	6.7%	328	
Public transportation (excluding taxicab)	541	3.8%	197	
Bus or trolley bus	504	3.6%	190	
Streetcar or trolley car	0	0.0%	22	
Subway or elevated	37	0.3%	62	
Railroad	0	0.0%	22	
Ferryboat	0	0.0%	22	
Taxicab	0	0.0%	22	
Motorcycle	0	0.0%	22	
Bicycle	329	2.3%	152	
Walked	1,655	11.7%	389	
Other means	207	1.5%	165	
Worked at home	811	5.7%	301	
WORKERS AGE 16+ YEARS (WHO DID NOT WORK FROM HOME) BY TRAVEL TIME TO WORK				
Total	13,341	100.0%	543	
Less than 5 minutes	1,646	12.3%	382	
5 to 9 minutes	2,518	18.9%	442	
10 to 14 minutes	3,290	24.7%	555	
15 to 19 minutes	2,286	17.1%	458	
20 to 24 minutes	1,251	9.4%	284	
25 to 29 minutes	489	3.7%	219	
30 to 34 minutes	1,249	9.4%	334	
35 to 39 minutes	83	0.6%	111	
40 to 44 minutes	209	1.6%	153	
45 to 59 minutes	177	1.3%	112	
60 to 89 minutes	89	0.7%	70	
90 or more minutes	54	0.4%	58	
Average Travel Time to Work (in minutes)	14.3		1.2	
FEMALES AGE 20-64 YEARS BY AGE OF OWN CHILDREN AND EMPLOYMENT STATUS				
Total	6,760	100.0%	193	
Own children under 6 years only	670	9.9%	202	
In labor force	612	9.1%	192	
Not in labor force	58	0.9%	60	
Own children under 6 years and 6 to 17 years	266	3.9%	143	
In labor force	145	2.1%	106	
Not in labor force	121	1.8%	88	
Own children 6 to 17 years only	1,309	19.4%	312	
In labor force	1,163	17.2%	291	
Not in labor force	146	2.2%	95	
No own children under 18 years	4,515	66.8%	365	
In labor force	3,769	55.8%	379	
Not in labor force	746	11.0%	220	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
CIVILIAN NONINSTITUTIONALIZED POPULATION BY AGE & TYPES OF HEALTH INSURANCE COVERAGE				
Total	22,865	100.0%	44	
Under 19 years:	4,532	19.8%	243	
One Type of Health Insurance:	4,037	17.7%	430	
Employer-Based Health Ins Only	2,510	11.0%	407	
Direct-Purchase Health Ins Only	980	4.3%	431	
Medicare Coverage Only	0	0.0%	22	
Medicaid Coverage Only	475	2.1%	307	
TRICARE/Military Hlth Cov Only	72	0.3%	114	
VA Health Care Only	0	0.0%	22	
2+ Types of Health Insurance	260	1.1%	225	
No Health Insurance Coverage	235	1.0%	370	
19 to 34 years:	5,747	25.1%	267	
One Type of Health Insurance:	4,474	19.6%	392	
Employer-Based Health Ins Only	2,876	12.6%	301	
Direct-Purchase Health Ins Only	1,461	6.4%	392	
Medicare Coverage Only	0	0.0%	22	
Medicaid Coverage Only	127	0.6%	97	
TRICARE/Military Hlth Cov Only	0	0.0%	22	
VA Health Care Only	10	0.0%	20	
2+ Types of Health Insurance	132	0.6%	92	
No Health Insurance Coverage	1,141	5.0%	275	
35 to 64 years:	9,702	42.4%	152	
One Type of Health Insurance:	7,792	34.1%	513	
Employer-Based Health Ins Only	5,352	23.4%	619	
Direct-Purchase Health Ins Only	2,227	9.7%	374	
Medicare Coverage Only	67	0.3%	63	
Medicaid Coverage Only	4	0.0%	9	
TRICARE/Military Hlth Cov Only	51	0.2%	62	
VA Health Care Only	91	0.4%	86	
2+ Types of Health Insurance	638	2.8%	350	
No Health Insurance Coverage	1,272	5.6%	418	
65+ years:	2,884	12.6%	75	
One Type of Health Insurance:	753	3.3%	169	
Employer-Based Health Ins Only	51	0.2%	64	
Direct-Purchase Health Ins Only	35	0.2%	55	
Medicare Coverage Only	667	2.9%	157	
TRICARE/Military Hlth Cov Only	0	0.0%	22	
VA Health Care Only	0	0.0%	22	
2+ Types of Health Insurance:	2,105	9.2%	170	
Employer-Based & Direct-Purchase Health Insurance	0	0.0%	22	
Employer-Based Health & Medicare Insurance	745	3.3%	231	
Direct-Purchase Health & Medicare Insurance	894	3.9%	263	
Medicare & Medicaid Coverage	148	0.6%	99	
Other Private Health Insurance Combos	0	0.0%	22	
Other Public Health Insurance Combos	30	0.1%	40	
Other Health Insurance Combinations	288	1.3%	124	
No Health Insurance Coverage	26	0.1%	35	

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
POPULATION BY RATIO OF INCOME TO POVERTY LEVEL				
Total	22,825	100.0%	48	high
Under .50	468	2.1%	245	medium
.50 to .99	1,093	4.8%	388	medium
1.00 to 1.24	799	3.5%	450	medium
1.25 to 1.49	1,108	4.9%	670	medium
1.50 to 1.84	970	4.2%	398	medium
1.85 to 1.99	440	1.9%	248	medium
2.00 and over	17,947	78.6%	742	high
CIVILIAN POPULATION AGE 18 OR OLDER BY VETERAN STATUS				
Total	18,488	100.0%	234	high
Veteran	1,209	6.5%	289	medium
Nonveteran	17,279	93.5%	381	high
Male	9,735	52.7%	261	high
Veteran	1,074	5.8%	284	medium
Nonveteran	8,661	46.8%	405	high
Female	8,753	47.3%	126	high
Veteran	135	0.7%	106	low
Nonveteran	8,618	46.6%	163	high
CIVILIAN VETERANS AGE 18 OR OLDER BY PERIOD OF MILITARY SERVICE				
Total	1,209	100.0%	289	medium
Gulf War (9/01 or later), no Gulf War (8/90 to 8/01), no Vietnam Era	141	11.7%	98	low
Gulf War (9/01 or later) and Gulf War (8/90 to 8/01), no Vietnam Era	102	8.4%	117	low
Gulf War (9/01 or later), and Gulf War (8/90 to 8/01), and Vietnam Era	0	0.0%	22	
Gulf War (8/90 to 8/01), no Vietnam Era	77	6.4%	84	low
Gulf War (8/90 to 8/01) and Vietnam Era	22	1.8%	28	low
Vietnam Era, no Korean War, no World War II	404	33.4%	160	medium
Vietnam Era and Korean War, no World War II	0	0.0%	22	
Vietnam Era and Korean War and World War II	0	0.0%	22	
Korean War, no Vietnam Era, no World War II	45	3.7%	38	low
Korean War and World War II, no Vietnam Era	0	0.0%	22	
World War II, no Korean War, no Vietnam Era	84	6.9%	80	low
Between Gulf War and Vietnam Era only	266	22.0%	134	medium
Between Vietnam Era and Korean War only	68	5.6%	61	low
Between Korean War and World War II only	0	0.0%	22	
Pre-World War II only	0	0.0%	22	
HOUSEHOLDS BY POVERTY STATUS				
Total	8,795	100.0%	435	high
Income in the past 12 months below poverty level	355	4.0%	151	medium
Married-couple family	44	0.5%	55	low
Other family - male householder (no wife present)	0	0.0%	22	
Other family - female householder (no husband present)	51	0.6%	65	low
Nonfamily household - male householder	56	0.6%	50	low
Nonfamily household - female householder	204	2.3%	144	low
Income in the past 12 months at or above poverty level	8,440	96.0%	430	high
Married-couple family	4,347	49.4%	399	high
Other family - male householder (no wife present)	378	4.3%	193	medium
Other family - female householder (no husband present)	411	4.7%	196	medium
Nonfamily household - male householder	1,681	19.1%	338	medium
Nonfamily household - female householder	1,623	18.5%	322	medium

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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ACS Population Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

	2013 - 2017 ACS Estimate	Percent	MOE(±)	Reliability
HOUSEHOLDS BY OTHER INCOME				
Social Security Income	2,073	23.6%	174	
No Social Security Income	6,722	76.4%	473	
Retirement Income	1,154	13.1%	234	
No Retirement Income	7,641	86.9%	500	
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN THE PAST 12 MONTHS				
<10% of Income	416	11.4%	157	
10-14.9% of Income	275	7.5%	117	
15-19.9% of Income	284	7.8%	144	
20-24.9% of Income	643	17.6%	221	
25-29.9% of Income	556	15.2%	244	
30-34.9% of Income	350	9.6%	177	
35-39.9% of Income	216	5.9%	142	
40-49.9% of Income	397	10.9%	194	
50+% of Income	335	9.2%	165	
Gross Rent % Inc Not Computed	181	5.0%	90	
HOUSEHOLDS BY PUBLIC ASSISTANCE INCOME IN THE PAST 12 MONTHS				
Total	8,795	100.0%	435	
With public assistance income	67	0.8%	71	
No public assistance income	8,728	99.2%	412	
HOUSEHOLDS BY FOOD STAMPS/SNAP STATUS				
Total	8,795	100.0%	435	
With Food Stamps/SNAP	200	2.3%	124	
With No Food Stamps/SNAP	8,595	97.7%	415	
HOUSEHOLDS BY DISABILITY STATUS				
Total	8,795	100.0%	435	
With 1+ Persons w/Disability	1,187	13.5%	279	
With No Person w/Disability	7,608	86.5%	496	

Data Note: N/A means not available. Population by Ratio of Income to Poverty Level represents persons for whom poverty status is determined. Household income represents income in 2015, adjusted for inflation.

2013-2017 ACS Estimate: The American Community Survey (ACS) replaces census sample data. Esri is releasing the 2013-2017 ACS estimates, five-year period data collected monthly from January 1, 2011 through December 31, 2015. Although the ACS includes many of the subjects previously covered by the decennial census sample, there are significant differences between the two surveys including fundamental differences in survey design and residency rules.

Margin of error (MOE): The MOE is a measure of the variability of the estimate due to sampling error. MOEs enable the data user to measure the range of uncertainty for each estimate with 90 percent confidence. The range of uncertainty is called the confidence interval, and it is calculated by taking the estimate +/- the MOE. For example, if the ACS reports an estimate of 100 with an MOE of +/- 20, then you can be 90 percent certain the value for the whole population falls between 80 and 120.

Reliability: These symbols represent threshold values that Esri has established from the Coefficients of Variation (CV) to designate the usability of the estimates. The CV measures the amount of sampling error relative to the size of the estimate, expressed as a percentage.

- High Reliability: Small CVs (less than or equal to 12 percent) are flagged green to indicate that the sampling error is small relative to the estimate and the estimate is reasonably reliable.
- Medium Reliability: Estimates with CVs between 12 and 40 are flagged yellow-use with caution.
- Low Reliability: Large CVs (over 40 percent) are flagged red to indicate that the sampling error is large relative to the estimate. The estimate is considered very unreliable.

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Reliability: high medium low

July 31, 2019

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At Risk Population

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

AT RISK POPULATION

Teton County, WY

Geography: County

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THE SCIENCE OF WHERE

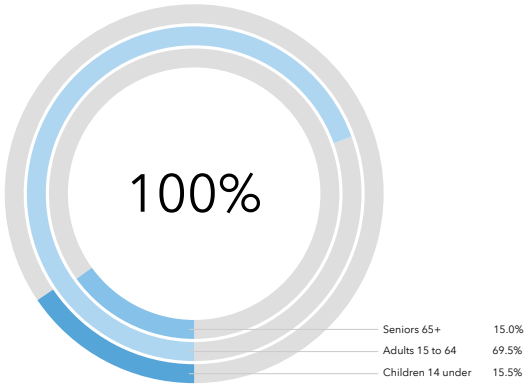
KEY FACTS

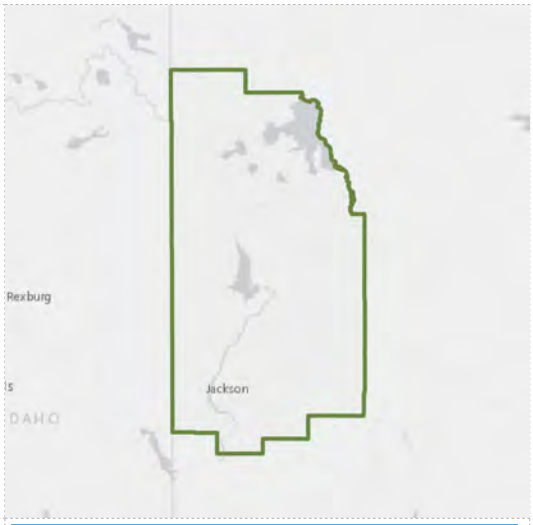
23,566
Population

39.3
Median Age

2.4
Average Household Size

$82,163
Median Household Income





BUSINESS

2,054
Total Businesses

23,788
Total Employees

AT RISK

1,187
Households With Disability

0
Pop 65+ Speak Spanish & No English

11
Households Without Vehicle

2013-2017 Population by Language Spoken at Home (ACS)	Total	Percent
Pop 18-64 speak Asian-Pacific Isl & No English	0	0.0%
Pop 18-64 speak Indo-European & No English	0	0.0%
Pop 18-64 speak Spanish & No English	86	0.4%
Pop 18-64 speak Other Language & No English	0	0.0%
Pop 65+ speak Asian-Pacific Isl & No English	0	0.0%
Pop 65+ speak Indo-European & No English	0	0.0%
Pop 65+ speak Spanish & No English	0	0.0%
Pop 65+ speak Oth Language & No English	0	0.0%

Source: This infographic contains data provided by American Community Survey (ACS), Esri, Esri and Infogroup. The vintage of the data is 2013-2017, 2019.

Business Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

Data for all businesses in area	Teton County,...
Total Businesses:	2,054
Total Employees:	23,788
Total Residential Population:	23,566
Employee/Residential Population Ratio (per 100 Residents)	101

	Businesses		Employees	
by SIC Codes	**Number**	**Percent**	**Number**	**Percent**
Agriculture & Mining	49	2.4%	292	1.2%
Construction	143	7.0%	1,178	5.0%
Manufacturing	44	2.1%	295	1.2%
Transportation	61	3.0%	702	3.0%
Communication	16	0.8%	127	0.5%
Utility	9	0.4%	251	1.1%
Wholesale Trade	40	1.9%	180	0.8%
Retail Trade Summary	416	20.3%	4,967	20.9%
Home Improvement	29	1.4%	240	1.0%
General Merchandise Stores	6	0.3%	151	0.6%
Food Stores	36	1.8%	622	2.6%
Auto Dealers, Gas Stations, Auto Aftermarket	37	1.8%	412	1.7%
Apparel & Accessory Stores	26	1.3%	143	0.6%
Furniture & Home Furnishings	33	1.6%	100	0.4%
Eating & Drinking Places	115	5.6%	2,681	11.3%
Miscellaneous Retail	134	6.5%	618	2.6%
Finance, Insurance, Real Estate Summary	177	8.6%	1,578	6.6%
Banks, Savings & Lending Institutions	23	1.1%	371	1.6%
Securities Brokers	28	1.4%	47	0.2%
Insurance Carriers & Agents	18	0.9%	77	0.3%
Real Estate, Holding, Other Investment Offices	108	5.3%	1,083	4.6%
Services Summary	919	44.7%	13,232	55.6%
Hotels & Lodging	120	5.8%	6,526	27.4%
Automotive Services	50	2.4%	285	1.2%
Motion Pictures & Amusements	120	5.8%	1,349	5.7%
Health Services	93	4.5%	1,126	4.7%
Legal Services	52	2.5%	205	0.9%
Education Institutions & Libraries	42	2.0%	1,001	4.2%
Other Services	442	21.5%	2,740	11.5%
Government	84	4.1%	927	3.9%
Unclassified Establishments	96	4.7%	59	0.2%
Totals	2,054	100.0%	23,788	100.0%

Source: Copyright 2019 Infogroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2019.
Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

August 01, 2019

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Business Summary

Teton County, WY
Teton County, WY (56039)
Geography: County

Prepared by Esri

by NAICS Codes	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture, Forestry, Fishing & Hunting	24	1.2%	100	0.4%
Mining	1	0.0%	4	0.0%
Utilities	6	0.3%	203	0.9%
Construction	156	7.6%	1,270	5.3%
Manufacturing	51	2.5%	284	1.2%
Wholesale Trade	40	1.9%	180	0.8%
Retail Trade	282	13.7%	2,191	9.2%
Motor Vehicle & Parts Dealers	19	0.9%	312	1.3%
Furniture & Home Furnishings Stores	17	0.8%	48	0.2%
Electronics & Appliance Stores	10	0.5%	45	0.2%
Bldg Material & Garden Equipment & Supplies Dealers	29	1.4%	240	1.0%
Food & Beverage Stores	28	1.4%	592	2.5%
Health & Personal Care Stores	11	0.5%	37	0.2%
Gasoline Stations	18	0.9%	100	0.4%
Clothing & Clothing Accessories Stores	36	1.8%	178	0.7%
Sport Goods, Hobby, Book, & Music Stores	22	1.1%	128	0.5%
General Merchandise Stores	6	0.3%	151	0.6%
Miscellaneous Store Retailers	81	3.9%	330	1.4%
Nonstore Retailers	5	0.2%	30	0.1%
Transportation & Warehousing	54	2.6%	617	2.6%
Information	49	2.4%	443	1.9%
Finance & Insurance	73	3.6%	502	2.1%
Central Bank/Credit Intermediation & Related Activities	20	1.0%	361	1.5%
Securities, Commodity Contracts & Other Financial	35	1.7%	64	0.3%
Insurance Carriers & Related Activities; Funds, Trusts &	18	0.9%	77	0.3%
Real Estate, Rental & Leasing	138	6.7%	1,416	6.0%
Professional, Scientific & Tech Services	233	11.3%	1,291	5.4%
Legal Services	55	2.7%	228	1.0%
Management of Companies & Enterprises	5	0.2%	13	0.1%
Administrative & Support & Waste Management & Remediation	69	3.4%	490	2.1%
Educational Services	48	2.3%	1,021	4.3%
Health Care & Social Assistance	129	6.3%	1,592	6.7%
Arts, Entertainment & Recreation	95	4.6%	1,081	4.5%
Accommodation & Food Services	238	11.6%	9,230	38.8%
Accommodation	120	5.8%	6,526	27.4%
Food Services & Drinking Places	118	5.7%	2,704	11.4%
Other Services (except Public Administration)	183	8.9%	874	3.7%
Automotive Repair & Maintenance	26	1.3%	93	0.4%
Public Administration	84	4.1%	927	3.9%
Unclassified Establishments	96	4.7%	59	0.2%
Total	2,054	100.0%	23,788	100.0%

Source: Copyright 2019 Infogroup, Inc. All rights reserved. Esri Total Residential Population forecasts for 2019.
Date Note: Data on the Business Summary report is calculated using **Esri's Data allocation method** which uses census block groups to allocate business summary data to custom areas.

August 01, 2019

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DEMOGRAPHIC PROFILE

Teton County, WY

Geography: County

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EDUCATION

No High School Diploma	High School Graduate	Some College	Bachelor's/Grad /Prof Degree
5%	13%	26%	56%

EMPLOYMENT

White Collar	57%
Blue Collar	19%
Services	24%

0.8%
Unemployment Rate

KEY FACTS

Population	Median Age
23,566	39.3

Households	Median Disposable Income
9,887	$67,642

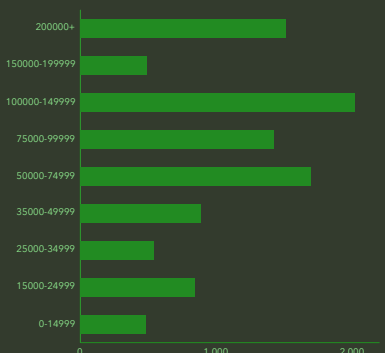
INCOME

$82,163
Median Household Income

$49,742
Per Capita Income

$120,105
Median Net Worth

HOUSEHOLD INCOME ($)



Source: This infographic contains data provided by Esri. The vintage of the data is 2019.

POPULATION TRENDS AND KEY INDICATORS

Teton County, WY

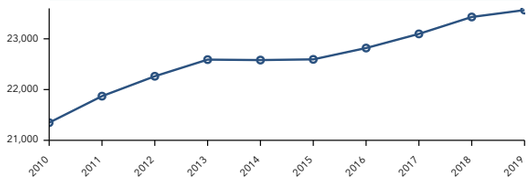
23,566	9,887	2.36	39.3	$82,163	$873,554	142	49	43
Population	Households	Avg Size Household	Median Age	Median Household Income	Median Home Value	Wealth Index	Housing Affordability	Diversity Index

MORTGAGE INDICATORS

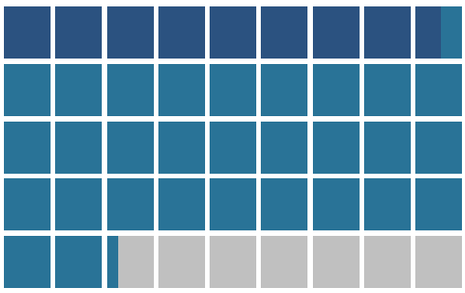
$13,163
Avg Spent on Mortgage & Basics

52.0%
Percent of Income for Mortgage

Historical Trends: Population



POPULATION BY AGE



Under 18 (19%) Ages 18 to 64 (66%) Aged 65+ (15%)

POPULATION BY GENERATION

5.6%
Greatest Gen: Born 1945/Earlier

23.0%
Baby Boomer: Born 1946 to 1964

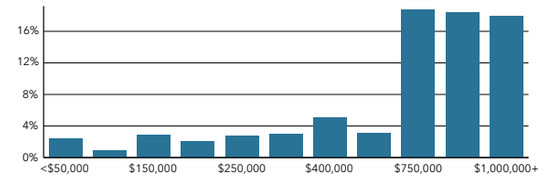
21.8%
Generation X: Born 1965 to 1980

28.6%
Millennial: Born 1981 to 1998

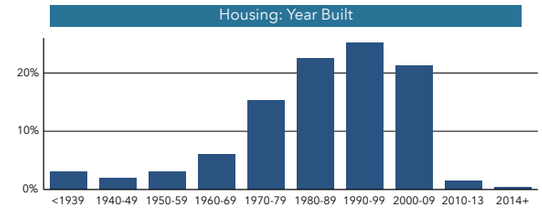
17.8%
Generation Z: Born 1999 to 2016

3.2%
Alpha: Born 2017 to Present

Home Value



Housing: Year Built



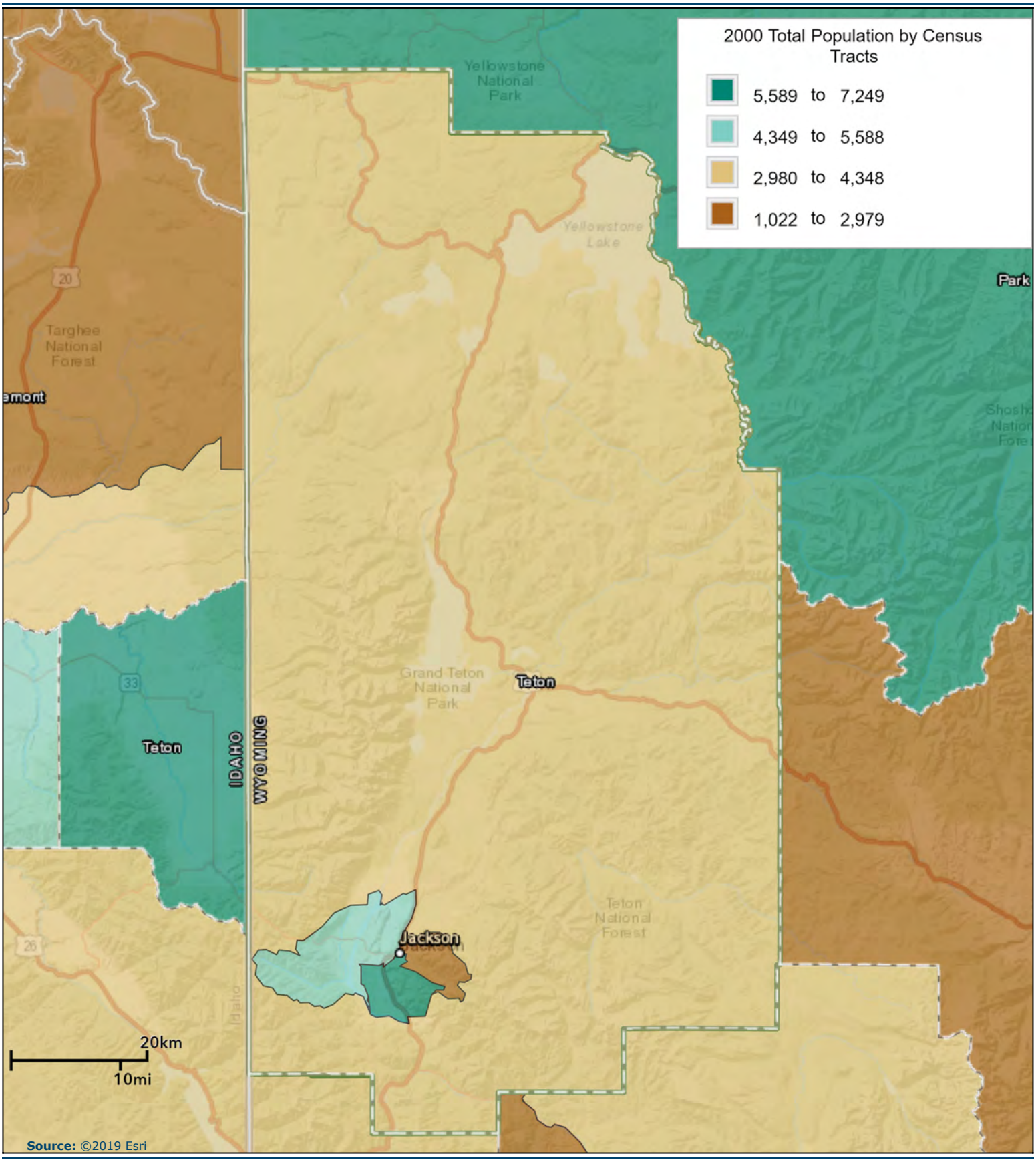
esri THE SCIENCE OF WHERE

U.S. Census Bureau, Esri forecasts for 2019 and 2024, Esri Vintage 2019 Time Series

Source: This infographic contains data provided by American Community Survey (ACS), Esri, Esri and Bureau of Labor Statistics. The vintage of the data is 2013-2017, 2019, 2024.

2000 Total Population

Teton County Census Tracts



August 01, 2019

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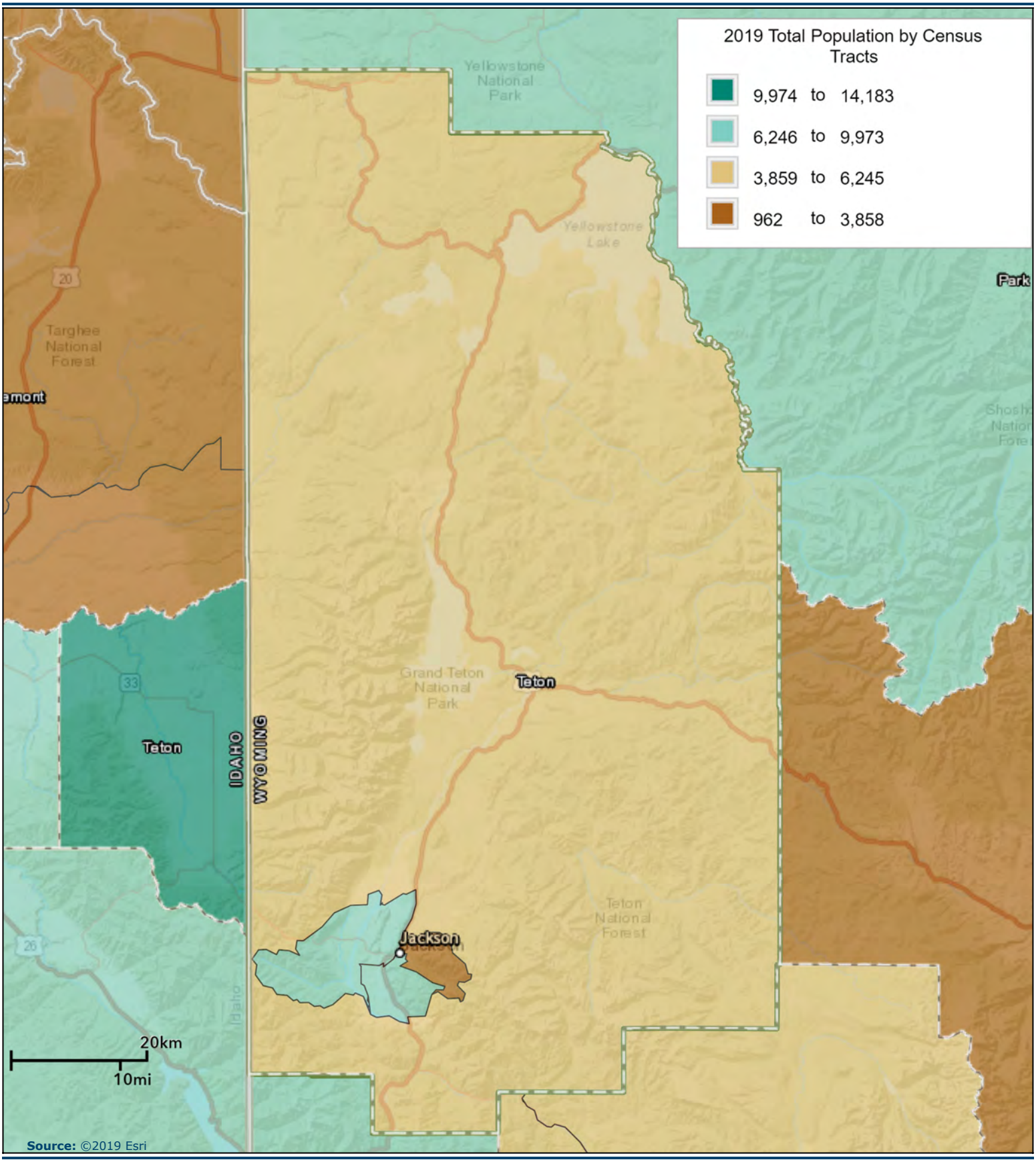
2019 Total Population

Teton County Census Tracts



August 01, 2019

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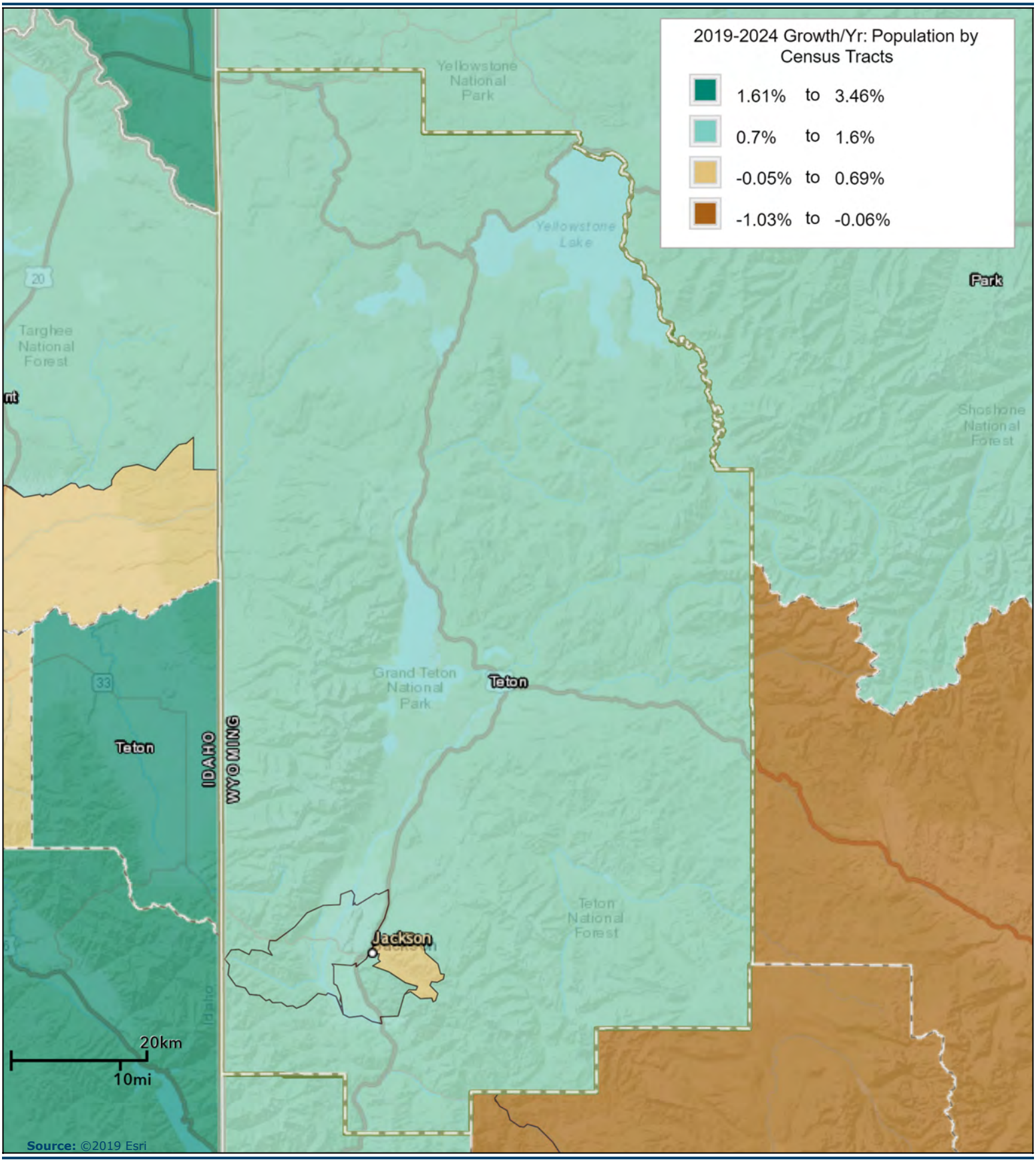
2019-2024 Growth/Yr: Population

Teton County Census Tracts



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5.5 Appendix E- At-Risk Critical Facilities

Appendix E- Planning Area Critical Facilities with Risk

Critical Facility Type	Critical Facility Name	Address	Zip	FloodRisk	DamRisk	HailRisk	LandslideRisk	LightningRisk	WildfireRisk
adult_care_centers	MorningStar Assisted Living Center	3000 W BIG TRAIL DRIVE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
adult_care_centers	Senior Center of JH	830 E HANSEN AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
adult_care_centers	Brandychase Apartments Assisted Living	340 RANCHER STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
adult_care_centers	Pioneer Homestead 1	300 RANCHER STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
adult_care_centers	Pioneer Homestead 2	835 E HANSEN AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
adult_care_centers	Pioneer Homestead 3	280 RANCHER STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
adult_care_centers	St. John's Living Center	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
airports	Melody Airstrip	4850 S RICKS ROAD	83001	LOW	LOW	LOW	NEGLIGIBLE	HIGH	
airports	Jackson Hole Airport	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	S Hwy 191 Hoback River bridge 3			HIGH	LOW	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	S Hwy 191 Hoback River bridge 2			HIGH	LOW	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	S Hwy 191 Hoback River bridge 1			HIGH	LOW	NEGLIGIBLE	MEDIUM	NEGLIGIBLE	HIGH

bridges	Snake River Sporting Club Snake River bridge	12695 S RIVER BEND ROAD	83001	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	Hoback Jct South Rd. Hoback River bridge			HIGH	HIGH	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	S Hwy 89 Snake River bridge 3			HIGH	HIGH	NEGLIGIBLE	MEDIUM	NEGLIGIBLE	HIGH
bridges	S Fall Cr Rd. Fall Creek bridge			HIGH	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Swinging Bridge Rd. Snake River bridge			HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	S Hwy 89 Snake River bridge 1	6750 S HIGHWAY 89	83001	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	S Hwy 89 Flat Creek			HIGH	HIGH	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	S Park Loop Flat Creek bridge	4850 S RICKS ROAD	83001	MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	
bridges	Mosquito Creek Rd. Mosquito Creek bridge			MEDIUM	LOW	NEGLIGIBLE	MEDIUM	NEGLIGIBLE	HIGH
bridges	S Fall Creek Rd. Mosquito Creek bridge			LOW	LOW	LOW	MEDIUM	HIGH	HIGH
bridges	High School Rd Flat Creek bridge			HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
bridges	Pine Meadow Rd Fish Creek bridge	5705 W PINE MEADOW ROAD	83014	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	N Hwy 89 Flat Creek Bridge			HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
bridges	Ward Ln Fish Creek bridge	5670 W WARD LANE	83014	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH

bridges	Hwy 22 Fish Creek bridge	5660 W WARD LANE	83014	MEDIUM	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	Hwy 22 Snake River Bridge			HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	
bridges	Fish Creek Rd Fish Creek bridge	1450 N FISH CREEK ROAD	83014	MEDIUM	HIGH	LOW	NEGLIGIBLE	HIGH	HIGH
bridges	N West St. Fish Creek bridge	5680 W PHILLIPS RIDGE ROAD	83014	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	Private Drive Fish Creek bridge	1925 N FISH CREEK ROAD	83014	HIGH	HIGH	NEGLIGIBLE	HIGH	HIGH	HIGH
bridges	Private Drive Fish Creek bridge	2005 N FISH CREEK ROAD	83014	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	Private Drive Fish Creek bridge			HIGH	HIGH	NEGLIGIBLE	HIGH	HIGH	HIGH
bridges	Private Drive Fish Creek bridge	5500 W 3/B RANCH ROAD	83014	HIGH	HIGH	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	Private Drive Fish Creek bridge	2425 N FISH CREEK ROAD	83014	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	Private Drive Fish Creek bridge	2453 N FISH CREEK ROAD	83014	HIGH	HIGH	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	Fish Creek Rd Fish Creek bridge 2	5075 W RAINBOW TROUT LANE	83014	HIGH	HIGH	NEGLIGIBLE	MEDIUM	HIGH	HIGH
bridges	Private Drive Fish Creek bridge 1			HIGH	HIGH	NEGLIGIBLE	HIGH	HIGH	HIGH

bridges	Private Drive Fish Creek bridge 2	3250 N FISH CREEK ROAD	83014	HIGH	HIGH	NEGLIGIBLE	HIGH	NEGLIGIBLE	
bridges	Moose-Wilson Rd. Granite Creek bridge	2955 W JOHN DODGE ROAD	83014	HIGH	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
bridges	Spring Gulch Rd. Gros Ventre River bridge	5875 N SPRING GULCH ROAD	83001	MEDIUM	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
bridges	N Hwy 89 Gros Ventre Bridge 2			HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	
bridges	N Hwy 89 Gros Ventre Bridge 1	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	
bridges	Moose-Wilson Rd. Irrigation Ditch bridge	1555 W POKER FLATS LOOP	83014	LOW	LOW	MEDIUM	NEGLIGIBLE	LOW	HIGH
bridges	Moose-Wilson Rd. Lake Creek bridge	11400 N MOOSE-WILSON ROAD	83012	LOW	LOW	NEGLIGIBLE	MEDIUM	NEGLIGIBLE	
bridges	Teton Park Rd. Snake River bridge	2 CENTRAL STREET	83013	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Teton Park Rd Cottonwood Creek bridge	2 CENTRAL STREET	83013	HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Lupine Meadows Cottonwood Creek bridge	2 CENTRAL STREET	83013	HIGH	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	W Alta Rd. Grand Teton Canal bridge 1	910 W ALTA SKI HILL ROAD	83414	LOW	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Alta South Rd. Teton Creek bridge	150 GREENVILLE ROAD	83414	MEDIUM	LOW	MEDIUM	NEGLIGIBLE	LOW	HIGH

bridges	N Hwy 89 Spread Creek bridge	2 CENTRAL STREET	83013	HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
bridges	Hwy 26 Blackrock Creek bridge			HIGH	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Hwy 26 Buffalo Fork bridge	15200 E HIGHWAY 287	83013	HIGH	LOW	NEGLIGIBLE	MEDIUM	NEGLIGIBLE	HIGH
bridges	N Hwy 89 Buffalo Fork bridge	2 CENTRAL STREET	83013	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Hwy 26 Lava Creek bridge			HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	N Hwy 89 Pacific Creek bridge	2 CENTRAL STREET	83013	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	
bridges	Buffalo Valley Rd. Buffalo Fork bridge			HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	Teton Park Rd. Jackson Lake Dam	2 CENTRAL STREET	83013	MEDIUM	HIGH	LOW	NEGLIGIBLE	HIGH	HIGH
bridges	Buffalo Valley Rd. Box Creek bridge			MEDIUM	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
bridges	N Hwy 89 Christian Creek Bridge	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
bridges	N Hwy 89 Pilgrim Creek bridge	2 CENTRAL STREET	83013	HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	
bridges	N Hwy 89 Snake River Bridge at Flagg			MEDIUM	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
cellular_towers	MAST			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
cellular_towers	TOWER			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH

cellular_towers	TOWER			LOW	LOW	LOW	HIGH	HIGH	HIGH
cellular_towers	TOWER			LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
cellular_towers	TOWER			LOW	LOW	LOW	HIGH	HIGH	HIGH
cellular_towers	TOWER			LOW	LOW	LOW	HIGH	HIGH	HIGH
cellular_towers	TOWER			LOW	LOW	LOW	LOW	HIGH	HIGH
cellular_towers	N/A			LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
cellular_towers	N/A			LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
cellular_towers	TOWER	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	LOW	HIGH	
cellular_towers	TOWER	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
cellular_towers	POLE			LOW	LOW	LOW	NEGLIGIBLE	HIGH	
cellular_towers	POLE			LOW	LOW	LOW	MEDIUM	HIGH	
cellular_towers	TOWER			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
cellular_towers	POLE			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
dams	Wastewater Treatment Plant	5450 S RICKS ROAD	83001	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	NEGLIGIBLE	
dams	Flat Creek Ranch Dam			MEDIUM	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
dams	Leidy Lake Dam			MEDIUM	LOW	LOW	MEDIUM	HIGH	
dams	Lily Lake Dam			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
dams	Porter Reservoir Dam			MEDIUM	LOW	LOW	MEDIUM	HIGH	
dams	Elk Ranch Reservoir Dam	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	MEDIUM	HIGH	

dams	Tracy Lake Dam	18500 BUFFALO VALLEY ROAD	83013	MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
dams	Jackson Lake Dam	2 CENTRAL STREET	83013	MEDIUM	HIGH	LOW	NEGLIGIBLE	HIGH	HIGH
dams	Bergman Lake Dam	1550 E DARBY CANYON ROAD	83414	HIGH	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	
dams	Indian Lake Dam	1550 E DARBY CANYON ROAD	83414	HIGH	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	
dams	Grassy Lake Reservoir Dam	1550 E DARBY CANYON ROAD	83414	LOW	LOW	NEGLIGIBLE	LOW	NEGLIGIBLE	
education	Colter Elementary School			MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	
education	Jackson Hole High School	1910 W HIGH SCHOOL ROAD	83001	MEDIUM	LOW	LOW	NEGLIGIBLE	HIGH	
education	Jackson Hole Community School			LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
education	Summit High School	1855 HIGH SCHOOL ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
education	Jackson Hole Middle School	1230 SOUTH PARK LOOP ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	MEDIUM	
education	Jackson Hole Outdoor Leadership Institute	5000 W PINE MEADOW ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	LOW	HIGH

education	Central Wyoming College	250 S GLENWOOD STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
education	University of Wyoming Extension Office	255 W DELONEY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
education	Teton County Agriculture	255 W DELONEY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
education	Children's Learning Center	255 W GILL AVENUE	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
education	Jackson Campus of Teton Science Schools	700 N COYOTE CANYON ROAD	83001	LOW	LOW	LOW	HIGH	HIGH	HIGH
education	Wilson Elementary School	5200 H-H-R RANCH ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
education	C-Bar-V Ranch	3850 N WILDERNESS DRIVE	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
education	Kelly Elementary School	6725 E LITTLE SCHOOL ROAD	83011	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
education	Kelly Campus of Teton Science Schools	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
education	Alta Elementary School	15 ALTA SCHOOL ROAD	83414	LOW	LOW	MEDIUM	NEGLIGIBLE	LOW	HIGH
education	Moran Elementary School	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
emergency_response	Hoback Fire Station			MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
emergency_response	VOAD (Volunteer Organizations			LOW	LOW	MEDIUM	MEDIUM	HIGH	HIGH

	Active in Disasters)								
emergency_response	Teton County Search and RescueÂ			LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
emergency_response	Teton County Jail	180 S KING STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
emergency_response	Jackson Hole Fire Department	50 E PEARL AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
emergency_response	Jackson City Police Department	120 E PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
emergency_response	Wilson Volunteer Fire Department Association	2500 N MOOSE-WILSON ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
emergency_response	Teton Village Special Fire District	7020 N RACHEL WAY	83025	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
emergency_response	Teton Village Fire Department	7652 GRANITE LOOP ROAD	83025	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
emergency_response	Alta Fire Department	15 ALTA SCHOOL ROAD	83414	LOW	LOW	HIGH	NEGLIGIBLE	LOW	HIGH
emergency_response	Moran Fire Station	2 CENTRAL STREET	83013	HIGH	HIGH	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
environmental	Jackson Hole Conservation Alliance	655 S CACHE STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
environmental	Teton Park Service	2 CENTRAL STREET	83013	MEDIUM	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
federal_facilities	National Elk Refuge Headquarters			LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
federal_facilities	BTNF Jackson District Headquarters	45 ROSENCRANS	83001	MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	

federal_facilities	GTNP Moose Dispatch/Fire /Ambulance Barns	2 CENTRAL STREET	83013	HIGH	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
federal_facilities	Jenny Lake Ranger Station	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
federal_facilities	Jenny Lake Ranger Station	407 JENNY LAKE CAMPGROUND ROAD	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
federal_facilities	BTNF Blackrock Ranger Station			LOW	LOW	NEGLIGIBLE	LOW	HIGH	HIGH
federal_facilities	Buffalo Fork Ranger Station	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
federal_facilities	GTNP Colter Bay Ambulance/Fire Barns	2 CENTRAL STREET	83013	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
federal_facilities	Flagg Ranch Ranger Station			LOW	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH
federal_facilities	Snake River Ranger Station			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
federal_facilities	Old Faithful Ranger Station			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
federal_facilities	Lake Ranger Station			LOW	LOW	NEGLIGIBLE	MEDIUM	HIGH	HIGH
fire_stations	Station 3			MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
fire_stations	Station 7	3230 S ADAMS CANYON DRIVE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
fire_stations	Station 1	50 E PEARL AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	

fire_stations	Station 2	1315 N WEST STREET	83014	MEDIUM	HIGH	LOW	HIGH	HIGH	HIGH
fire_stations	Station 6	2505 N MOOSE-WILSON ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
fire_stations	Teton Village	7652 GRANITE LOOP ROAD	83025	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
fire_stations	JH Airport	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
fire_stations	Moose	2 CENTRAL STREET	83013	HIGH	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
fire_stations	Station 4	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
fire_stations	Colter Bay	2 CENTRAL STREET	83013	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
food__grocery_stores	Hoback Market	10880 S HIGHWAY 89	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
food__grocery_stores	Smith's	1425 S HIGHWAY 89	83001	MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Hole Food Rescue	1524 MARTIN LANE	83001	MEDIUM	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
food__grocery_stores	Jackson Whole Grocer	1175 S HIGHWAY 89	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
food__grocery_stores	Jackson Hole People's Market			LOW	LOW	LOW	HIGH	NEGLIGIBLE	HIGH
food__grocery_stores	Presbyterian Church of Jackson Hole	1251 SOUTH PARK LOOP ROAD	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	

food__grocery_stores	Slow Food in the Tetons	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
food__grocery_stores	Latino Grocery Store	980 W BROADWAY AVENUE #9	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Albertsons	105 BUFFALO WAY	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Lucky's Market	940 W BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Latino Grocery Store	974 W BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Senior Center of Jackson Hole	830 E HANSEN AVENUE	83001	LOW	LOW	HIGH	LOW	HIGH	HIGH
food__grocery_stores	Catholic Church	201 S JACKSON STREET	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
food__grocery_stores	WIC-Women, Infants & Children	460 E PEARL AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Pearl Street Meat & Fish Co	40 W PEARL AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
food__grocery_stores	Good Samaritan Mission	285 W PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
food__grocery_stores	Jackson Hole Farmer's Market	25 E BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Jackson Cupboard	170 N GLENWOOD STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
food__grocery_stores	Creekside Market	565 N CACHE STREET	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	

health_care	Morning Star	3000 W BIG TRAIL DRIVE	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
health_care	Institute for Cognitive Health	1415 S HIGHWAY 89	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	St. John's Family Health and Urgent Care	1415 S HIGHWAY 89	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Right to Life of Wyoming/ Teton County Chapter	852 S HIGHWAY 89	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
health_care	Raising Girls	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
health_care	Emerg-A-Care			LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Jackson Hole Family Planning			LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Teton Outpatient Services	50 BUFFALO WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
health_care	Teton County Health Department	340 E PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
health_care	WIC- Women, Infants & Children	460 E PEARL AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Turning Point, A Pregnancy Resource Center			LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Jackson Hole Womens Care: Mary E Girling MD	140 E BROAD WAY AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
health_care	Jackson Hole Community Counseling			LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH

health_care	St. John's Medical Center	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
health_care	St. John's Living Center	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
health_care	Cowboy Kids Pediatrics	625 E BROAD WAY AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
health_care	Women's Health and Family Care	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	St. John's Hospital Foundation	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Teton Free Clinic	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Jackson Pediatrics	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
health_care	Meno Clinic center for advanced medicine	5235 H-H-R RANCH ROAD	83014	MEDIUM	HIGH	HIGH	NEGLIGIBLE	HIGH	
helipads	St. John's Hospital Helipad	625 E BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
helipads	National Elk Refuge Helispot			LOW	LOW	LOW	NEGLIGIBLE	HIGH	
helipads	Teton Interagency Helibase	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
helipads	Cowboy Village Resort Helispot			LOW	LOW	LOW	MEDIUM	HIGH	HIGH

helipads	BTNF Blackrock Helispot			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
law_enforcement	Sheriff's Office	180 S KING STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
law_enforcement	Teton County Dispatch / Jail	180 S KING STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
law_enforcement	Jackson Police Department / Town Hall	150 E PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
lve_lng_distribution_center	LOWER VALLEY POWER & LIGHT INC.	4000 S HIGHWAY 89	83001	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
medical_care_facilities	Urgent Care of Jackson Hole	1415 S HIGHWAY 89	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
medical_care_facilities	Teton Outpatient Clinic	1160 ALPINE LANE	83001	LOW	LOW	LOW	NEGLIGIBLE	HIGH	
medical_care_facilities	Teton County Public Health	460 E PEARL AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
medical_care_facilities	Emerg-a-Care Clinic	455 W BROADWAY AVENUE	83001	MEDIUM	LOW	MEDIUM	HIGH	HIGH	
medical_care_facilities	St. John's Hospital	625 E BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
medical_care_facilities	Teton Village Clinic			LOW	LOW	LOW	MEDIUM	HIGH	HIGH
medical_care_facilities	Jackson Lake Lodge Clinic	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
medical_care_facilities	Old Faithful Clinic			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
medical_care_facilities	Lake Clinic			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	HIGH
private_schools	Jackson Hole Community School			LOW	LOW	HIGH	NEGLIGIBLE	HIGH	

private_schools	Jackson Hole Classical Academy	1450 SOUTH PARK LOOP ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
private_schools	Timber Ridge Academy	275 N WILLOW STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
private_schools	Journeys School Jackson Campus	700 N COYOTE CANYON ROAD	83001	LOW	LOW	LOW	LOW	HIGH	HIGH
private_schools	Jackson Hole Bible College	3475 N CHENEY LANE	83014	MEDIUM	HIGH	HIGH	NEGLIGIBLE	HIGH	
private_schools	Teton Science School Kelly Campus	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
private_sector	Jackson Hole Chamber Of Commerce	110 CENTER STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
private_sector	Silcon Coulior	5605 W HIGHWAY 22	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	HIGH
radios___repeaters	Bacon Ridge			LOW	LOW	LOW	HIGH	HIGH	
radios___repeaters	NOAA Radio			LOW	LOW	LOW	LOW	HIGH	HIGH
radios___repeaters	WyoLink SnKi			LOW	LOW	NEGLIGIBLE	LOW	HIGH	HIGH
radios___repeaters	Snow King East			LOW	LOW	NEGLIGIBLE	LOW	HIGH	HIGH
radios___repeaters	Snow King West			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
radios___repeaters	Rendezvous Mtn.			LOW	LOW	LOW	HIGH	HIGH	HIGH
radios___repeaters	Rendezvous Mt FS			LOW	LOW	LOW	HIGH	HIGH	HIGH
radios___repeaters	JH Airport	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
radios___repeaters	Apres Vous			LOW	LOW	LOW	LOW	HIGH	HIGH

radios___repeaters	Fred's Mountain	1550 E DARBY CANYON ROAD	83414	LOW	LOW	LOW	LOW	HIGH	HIGH
radios___repeaters	Targhee Radio	3300 E ALTA SKI HILL ROAD	83414	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
radios___repeaters	Rosies Ridge FS			LOW	LOW	LOW	HIGH	HIGH	HIGH
radios___repeaters	Rosies Ridge			LOW	LOW	LOW	HIGH	HIGH	HIGH
radios___repeaters	WyoLink SiMo	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
radios___repeaters	Signal Mtn.	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
radios___repeaters	Signal Mtn.	595 SIGNAL MOUNTAIN SUMMIT ROAD	83013	LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
radios___repeaters	Gravel Peak			LOW	LOW	LOW	HIGH	HIGH	
radios___repeaters	Bechler Repeater YNP	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	
radios___repeaters	Hawk's Rest			LOW	LOW	NEGLIGIBLE	HIGH	HIGH	
radios___repeaters	GTNP Flag Ranch Rptr.			LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
radios___repeaters	Mt Sheridan YNP So.			LOW	LOW	LOW	MEDIUM	HIGH	
recreation	Teton Adaptive Sports	6650 S FORWEAL DRIVE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
recreation	Jackson Hole Youth Soccer	1175 GREGORY LANE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
recreation	Snow King Mountain			LOW	LOW	LOW	HIGH	NEGLIGIBLE	HIGH

recreation	Jackson Hole Public Art	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Teton Trail Runners	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Girls Actively Participating	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Lacrosse ClubÂ	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Pony Club	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Volleyball	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Youth Baseball	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Teton County Library	125 VIRGINIAN LANE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Ski & Snowboard Club	100 E SNOW KING AVENUE	83001	LOW	LOW	HIGH	MEDIUM	HIGH	HIGH
recreation	Boyscouts of America, Jackson District	930 W BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	MEDIUM	HIGH	
recreation	Jackson Hole Kayak Club	945 W BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	HIGH	HIGH	
recreation	Friends of Pathways	270 W HANSEN AVENUE	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
recreation	Center for the Arts	265 S CACHE STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
recreation	Teton Botanical Garden			LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH

recreation	Jackson Hole Children's Museum			LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Historical Society and Museum	225 N CACHE STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
recreation	Teton County Recreation Center	155 E GILL AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Stingray Swim TeamÂ	155 E GILL AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
recreation	National Elk Refuge			LOW	LOW	LOW	NEGLIGIBLE	HIGH	
recreation	Old Wilson Community Center	5655 W MAIN STREET	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	HIGH
recreation	National Museum of Wildlife Art	2820 RUNGIUS ROAD	83001	LOW	LOW	LOW	HIGH	NEGLIGIBLE	HIGH
recreation	Grand Teton Music Festival	4015 W LAKE CREEK DRIVE	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
recreation	Jackson Hole Mountain Resort	3725 W CURTIS DRIVE	83025	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
recreation	Alta Branch Library	15 ALTA SCHOOL ROAD	83414	LOW	LOW	MEDIUM	NEGLIGIBLE	LOW	HIGH
recreation	Grand Teton National Park	2 CENTRAL STREET	83013	LOW	LOW	LOW	MEDIUM	NEGLIGIBLE	
recreation	Bridger-Teton National Forest			LOW	LOW	LOW	MEDIUM	NEGLIGIBLE	
recreation	Yellowstone National Park			LOW	LOW	LOW	HIGH	NEGLIGIBLE	
religion	Presbyterian Church of Jackson Hole	1251 SOUTH PARK LOOP ROAD	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	

religion	Chabad Jewish Center	1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
religion	Jahovah witness	1145 MAPLE WAY	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
religion	First Baptist Church	72 W KELLY AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
religion	Catholic Church	201 S JACKSON STREET	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
religion	Synagogue	265 E BROADWAY AVENUE	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
religion	Episcopal Church of Jackson Hole	170 N GLENWOOD STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
religion	Redeemer Lutheran Church	275 N WILLOW STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
sirens	Station 3 Siren			MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	HIGH
sirens	Station 7 Siren			LOW	LOW	MEDIUM	MEDIUM	HIGH	HIGH
sirens	TCSD Bus Barn Siren	1855 HIGH SCHOOL ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
sirens	Station 1 Siren	50 E PEARL AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
sirens	Station 2 Siren	1315 N WEST STREET	83014	MEDIUM	HIGH	LOW	HIGH	HIGH	HIGH
sirens	Station 6 Siren	2525 N TETON PINES DRIVE	83014	MEDIUM	HIGH	HIGH	NEGLIGIBLE	HIGH	
sirens	Teton Village Siren	3355 W CODY LANE	83025	LOW	LOW	LOW	MEDIUM	HIGH	HIGH

sirens	JH Airport Siren	2 CENTRAL STREET	83013	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
social_services		7905 S FALL CREEK ROAD	83014	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
social_services		530 W ELK AVENUE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
social_services		3510 SOUTH PARK DRIVE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
social_services		1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
social_services		1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
social_services		1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
social_services		1070 MAPLE WAY	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
social_services		660 CACHE CREEK DRIVE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
social_services		862 W BROAD WAY AVENUE	83001	LOW	LOW	HIGH	MEDIUM	HIGH	
social_services		430 S JACKSON STREET	83001	MEDIUM	LOW	HIGH	NEGLIGIBLE	HIGH	
social_services		830 E HANSEN AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
social_services		285 W PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	

social_services		270 W BROADWAY AVENUE	83001	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	
social_services		172 CENTER STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
social_services		170 N GLENWOOD STREET	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
social_services		5235 H-H-R RANCH ROAD	83014	MEDIUM	HIGH	HIGH	NEGLIGIBLE	HIGH	
social_services		4655 W STILSON RANCH ROAD	83014	MEDIUM	HIGH	HIGH	NEGLIGIBLE	HIGH	
social_services		3230 W MCCOLLISTER DRIVE	83025	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	HIGH	HIGH
teton_county_eoc	Teton County EOC	3240 S ADAMS CANYON DRIVE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
teton_county_morgue	Teton County Morgue	3240 S ADAMS CANYON DRIVE	83001	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
teton_county_school_district	Jackson Hole High School	1910 W HIGH SCHOOL ROAD	83001	LOW	LOW	LOW	NEGLIGIBLE	HIGH	
teton_county_school_district	Colter Elementary School	1855 HIGH SCHOOL ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
teton_county_school_district	Summit High School	1855 HIGH SCHOOL ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
teton_county_school_district	Teton County School District Bus Barn	1855 HIGH SCHOOL ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	

teton_county_school_district	Jackson Hole Middle School	1230 SOUTH PARK LOOP ROAD	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
teton_county_school_district	Jackson Elementary	255 N JEAN STREET	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
teton_county_school_district	Wilson Elementary School	5200 H-H-R RANCH ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
teton_county_school_district	Kelly Elementary School	6725 E LITTLE SCHOOL ROAD	83011	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	HIGH
teton_county_school_district	Alta Elementary School	15 ALTA SCHOOL ROAD	83414	LOW	LOW	MEDIUM	NEGLIGIBLE	LOW	HIGH
teton_county_school_district	Moran Elementary School	2 CENTRAL STREET	83013	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
veterinary_facilities	Teton Animal Hospital	1225 GREGORY LANE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
veterinary_facilities	Spring Creek Animal Hospital	975 W BROAD WAY AVENUE	83001	LOW	LOW	MEDIUM	HIGH	HIGH	
veterinary_facilities	Animal Care Clinic	415 E PEARL AVENUE	83001	LOW	LOW	HIGH	NEGLIGIBLE	HIGH	
veterinary_facilities	Fish Creek Vet Clinic	5325 W 3/B RANCH ROAD	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	
wastewater_facilities	TOJ - Wastewater Treatment Plant	5450 S RICKS ROAD	83001	MEDIUM	HIGH	LOW	NEGLIGIBLE	HIGH	
wastewater_facilities	Aspens Wastewater Treatment Plant	4745 W WILLOWBROOK LANE	83014	MEDIUM	HIGH	MEDIUM	NEGLIGIBLE	HIGH	

wastewater_facilities	Teton Village - Wastewater Treatment Plant	7020 N RACHEL WAY	83025	LOW	LOW	LOW	MEDIUM	HIGH	HIGH
water_storage	Rafter J Water Tank			MEDIUM	LOW	LOW	HIGH	HIGH	HIGH
water_storage	TOJ Water Tank "Snow King Tank"			LOW	LOW	MEDIUM	HIGH	HIGH	HIGH
water_storage	TOJ Water Tank "2 Million Gallon Tank"			LOW	LOW	LOW	HIGH	HIGH	
water_storage	TOJ Water Tank "Refuge Tank"			LOW	LOW	LOW	LOW	HIGH	
water_storage	Teton Village Water Tank			LOW	LOW	LOW	HIGH	NEGLIGIBLE	HIGH
water_treatment	Melody Ranch ISD - Water Treatment Plant	4435 S SAGE MEADOW ROAD	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
water_treatment	Rafter J ISD - Water Treatment Plant	1370 VALLEY SPRINGS ROAD	83001	LOW	LOW	MEDIUM	NEGLIGIBLE	HIGH	
water_treatment	TOJ Wells 6, 7, & 8	855 S SWAN ROAD	83001	MEDIUM	HIGH	LOW	NEGLIGIBLE	HIGH	
water_treatment	TOJ Well 5			MEDIUM	LOW	MEDIUM	NEGLIGIBLE	HIGH	
water_treatment	TOJ Well 1			LOW	LOW	LOW	NEGLIGIBLE	HIGH	
water_treatment	TOJ Well 2			LOW	LOW	LOW	NEGLIGIBLE	HIGH	
water_treatment	TOJ Well 3			LOW	LOW	LOW	NEGLIGIBLE	NEGLIGIBLE	
water_treatment	Teton Village Well 2	2865 W APRES VOUS ROAD	83025	LOW	LOW	LOW	NEGLIGIBLE	HIGH	HIGH
water_treatment	Teton Village Well 1	7655 N MOOSE-WILSON ROAD	83014	LOW	LOW	LOW	MEDIUM	HIGH	HIGH

5.6 Appendix F- Winter Storm Information, 1996-January 2019

Appendix F- Winter Storms 1996-January 2019

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
1996	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	14	Six to fourteen inches of snow fell over much of far west Wyoming. The greatest amount was fourteen inches at the top of Jackson Hole Ski Area.
1996	February	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Heavy snow fell over much of the western mountains, west of the Continental Divide. A foot of snow fell at Togwotee Lodge (Teton County).
1996	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Twelve inches of snow fell at the middle and top parts of the Jackson Hole Ski Area.
1996	February	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	10	Six to ten inches of snow fell in the lower elevations of the west third of the state. The largest amount was ten inches at Pinedale.
1996	January	Winter Storm	YELLOWSTONE NATIONAL PARK	40	Heavy snow and strong winds were over the western mountains and the Snowy Range. Fifteen to forty inches of snow fell, with the greatest amount being forty inches in some of the west facing mountains. Twenty four inches of snow fell in Jackson in 24 hours which was the largest 24 hour snowfall ever recorded for that city. Some roads in the area were closed on the 28th. In addition, winds were from 55 to 70 MPH with gusts over 100 MPH over the open, higher areas. The strong winds caused considerable blowing and drifting snow.
1996	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	11	Up to eleven inches of snow fell in the northern mountains and the adjacent foothills. The largest amount of eleven inches fell in Lander. Interstate 90, north of Buffalo was closed until 600 AM, temporarily stranding a number of travelers.
1996	February	Heavy Snow	JACKSON HOLE	10	Six to ten inches of snow fell in the lower elevations of the west third of the state. The largest amount was ten inches at Pinedale.
1996	January	Winter Storm	YELLOWSTONE NATIONAL PARK	10	Six to ten inches of snow fell over far west Wyoming. The greatest amount was ten inches at Bondurant. In addition, strong winds produced considerable blowing and drifting snow.
1996	January	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	11	Up to eleven inches of snow fell in the northern mountains and the adjacent foothills. The largest amount of eleven inches fell in Lander. Interstate 90, north of Buffalo was closed until 600 AM, temporarily stranding a number of travelers.
1996	March	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Up to twelve inches of snow fell in the northwest mountains. The greatest amount reported of 12 inches was in parts of Yellowstone National Park.
1996	February	Heavy Snow	YELLOWSTONE NATIONAL PARK	9	The higher mountains received up to nine inches of snow from the afternoon of the 21st until sunrise on the 22nd. The top of the Jackson Hole Ski Area received nine inches of new snow during that time.
1996	December	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Over a foot of new snow in southern Yellowstone National Park and in northern Wind River Mountains. 8 inches of new snow near Bedford.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
1996	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	8	Up to 8 inches of snow in the Lander area. Times are approximate.
1996	March	Heavy Snow	YELLOWSTONE NATIONAL PARK	14	Six to 14 inches of snow fell in the northwest mountains.
1996	October	Winter Storm	TETON & GROS VENTRE MOUNTAINS	11	11 inches of snow received at Lander airport.
1996	October	Winter Storm	JACKSON HOLE	6	6 inches of snow received at Hudson.
1996	March	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	22	Heavy snow fell in parts of western Wyoming. The largest amounts were twenty inches at Sinks Canyon (Fremont County) and twenty two inches at Pinedale. In addition, ten inches at Lander, nine inches at Mountain View and fifteen inches at Thermopolis. Interstate 80 was closed for a time between Fort Bridger and Evanston due to the snowfall. Power was out during much of the time in parts of the southwest corner of the state.
1996	March	Blizzard	TETON & GROS VENTRE MOUNTAINS	0	Brief heavy snow and strong winds caused blizzard conditions for a time over parts of central Wyoming.
1996	March	Blizzard	JACKSON HOLE	0	Brief heavy snow and strong winds caused blizzard conditions for a time over parts of central Wyoming.
1997	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Over a foot of snow northwest mountains.
1997	February	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	12	Nearly a foot of new snow in the Lander foothills.
1997	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Over a foot of snow in northwest mountains.
1997	March	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	9	Up to 9 inches of snow in Lander Foothills, 7 inches in Riverton.
1997	February	Heavy Snow	YELLOWSTONE NATIONAL PARK	18	Heavy snow northwest mountains; around a foot and a half of new snow. Snow began on January 31st at approximately 1200.
1997	February	Heavy Snow	YELLOWSTONE NATIONAL PARK	12	Up to a foot of new snow northwest mountains.
1997	March	Heavy Snow	JACKSON HOLE	9	Up to 9 inches of snow in Lander Foothills, 7 inches in Riverton.
1997	October	Winter Storm	YELLOWSTONE NATIONAL PARK	18	Winter storm spanned three days and moved from western Wyoming late on the 23rd to eastern Wyoming on the 25th. Snowfall amounts approached 1 1/2 feet in some

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
			MT ID / W PARK / N TETON		locations, with the greatest amounts on northeast-facing slopes and eastern foothills. Sinks Canyon, near Lander, received 17 inches of snow; Lander received 16 inches; South Pass 15 inches; along the South Fork of the Shoshone River southwest of Cody 11 to 13 inches; Casper 8 to 12 inches; extreme southwest Sweetwater County around 12 inches. In addition, blizzard conditions prevailed across Sweetwater County on the 24th, with I-80 and many county roads closed.
1998	December	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	36	Around one foot of new snow in the valleys, up to 3 feet in the mountains. Considerable blowing and drifting snow caused occasional whiteout conditions in the Star Valley. Beginning and ending times are estimates.
1998	December	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	36	Around one foot of new snow in the valleys, up to 3 feet in the mountains. Considerable blowing and drifting snow caused occasional whiteout conditions in the Star Valley. Beginning and ending times are estimates.
1998	November	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	10	10 inches of new snow in Yellowstone National Park, with half a foot of new snow in other areas.
1998	November	Heavy Snow	JACKSON VALLEY / SC TETON	10	10 inches of new snow in Yellowstone National Park, with half a foot of new snow in other areas.
1998	November	Heavy Snow	TETON/MOUTAINS / TETON EXCEPT N AND SC	10	10 inches of new snow in Yellowstone National Park, with half a foot of new snow in other areas.
1998	January	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	24	Winter Storm northwestern part of state over two days, with the heaviest snow falling Saturday afternoon through Sunday. Hardest hit were Jackson Hole, northern and western Park County, and northern Sublette County, with up to two feet of snow reported in these areas over the weekend. In Jackson, storm was characterized as the "biggest in years". Whiteout conditions reported parts of northern Park County on Sunday.
1998	January	Winter Storm	JACKSON VALLEY / SC TETON	24	Winter Storm northwestern part of state over two days, with the heaviest snow falling Saturday afternoon through Sunday. Hardest hit were Jackson Hole, northern and western Park County, and northern Sublette County, with up to two feet of snow reported in these areas over the weekend. In Jackson, storm was characterized as the "biggest in years". Whiteout conditions reported parts of northern Park County on Sunday.
1998	January	Heavy Snow	JACKSON VALLEY / SC TETON	24	General snow amounts of 6 to 10 inches. Isolated amounts of 2 feet on the higher benches north of Afton at Star Valley Ranch.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
1998	January	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	24	General snow amounts of 6 to 10 inches. Isolated amounts of 2 feet on the higher benches north of Afton at Star Valley Ranch.
1998	January	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	24	Winter Storm northwestern part of state over two days, with the heaviest snow falling Saturday afternoon through Sunday. Hardest hit were Jackson Hole, northern and western Park County, and northern Sublette County, with up to two feet of snow reported in these areas over the weekend. In Jackson, storm was characterized as the "biggest in years". Whiteout conditions reported parts of northern Park County on Sunday.
1998	January	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	24	General snow amounts of 6 to 10 inches. Isolated amounts of 2 feet on the higher benches north of Afton at Star Valley Ranch.
1998	April	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	36	Two-day storm dumped up to 3 feet of snow on parts of Johnson County, with the heaviest amounts near the town of Buffalo. Roads (including I-25 and I-90) and schools were closed, and tree limbs and power lines were down in Buffalo. Lesser amounts fell over northwest Wyoming, with 7 to 12 inches reported from central parts of Jackson Hole northward into Yellowstone National Park.
1998	April	Heavy Snow	JACKSON VALLEY / SC TETON	36	Two-day storm dumped up to 3 feet of snow on parts of Johnson County, with the heaviest amounts near the town of Buffalo. Roads (including I-25 and I-90) and schools were closed, and tree limbs and power lines were down in Buffalo. Lesser amounts fell over northwest Wyoming, with 7 to 12 inches reported from central parts of Jackson Hole northward into Yellowstone National Park.
1998	June	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	36	Late spring storm dropped 1 to 3 feet of snow on Beartooth Highway in northwest Park Co...10 inches of snow in the Owl Creek Mountains near Thermopolis and 7 to 9 inches of snow in the Wind River Mountains and Lander Foothills. Power outages in Fremont County due to downed power lines.
1998	November	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	24	Around a foot and a half of new snow in Yellowstone National Park and just south of the Park, with 20 inches reported at Grant Village, 17 inches at Old Faithful.
1998	November	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	24	Around a foot and a half of new snow in Yellowstone National Park and just south of the Park, with 20 inches reported at Grant Village, 17 inches at Old Faithful.
1998	October	Winter Storm	YELLOWSTONE NATIONAL PARK	17	A severe winter storm moved across Western and Central Wyoming dumping locally heavy snow from southern Yellowstone National Park to the Casper area. The main brunt of the storm was felt in the Casper area where up to 17 inches of snow fell.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
			MT ID / W PARK / N TETON		Strong winds accompanied the heavy snow causing widespread tree damage and power outages. Poor visibilities and icy road conditions caused numerous vehicle accidents.
1998	December	Heavy Snow	TETON/MOUTAINS / TETON EXCEPT N AND SC	18	Up to a foot and a half of snow in the northwest mountains.
1998	December	Winter Storm	JACKSON VALLEY / SC TETON	36	Around one foot of new snow in the valleys, up to 3 feet in the mountains. Considerable blowing and drifting snow caused occasional whiteout conditions in the Star Valley. Beginning and ending times are estimates.
1998	December	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	18	Up to a foot and a half of snow in the northwest mountains.
1998	February	Heavy Snow	JACKSON VALLEY / SC TETON	8	Up to 8 inches of snow reported in the Jackson area.
1998	February	Winter Storm	JACKSON VALLEY / SC TETON	12	Heaviest amounts included around a foot of new snow in the Jackson Hole area, and nearly a foot of new snow in the Big Horn Mountains. Afton, in the Star Valley, reported 6 inches of new snow.
1999	January	Heavy Snow	TETON/MOUTAINS / TETON EXCEPT N AND SC	10	Up to 10 inches of new snow in the Bondurant and Togwotee Pass areas.
2000	January	Winter Storm	JACKSON VALLEY / SC TETON	16	Up to a foot of snow and locally strong winds in southern and eastern parts of Yellowstone National Park. Local snowfall up to 16 inches and strong winds in some valleys of far western Wyoming.
2000	January	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	16	Up to a foot of snow and locally strong winds in southern and eastern parts of Yellowstone National Park. Local snowfall up to 16 inches and strong winds in some valleys of far western Wyoming.
2000	January	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	16	Up to a foot of snow and locally strong winds in southern and eastern parts of Yellowstone National Park. Local snowfall up to 16 inches and strong winds in some valleys of far western Wyoming.
2000	January	Winter Storm	JACKSON VALLEY / SC TETON	24	Two-day storm dropped heavy snow across parts of western and northern Wyoming. Amounts in lower elevations ranged up to 18 inches in Cody, and there were unofficial reports of 2 feet of snow in the northwest mountains.
2000	January	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	24	Two-day storm dropped heavy snow across parts of western and northern Wyoming. Amounts in lower elevations ranged up to 18 inches in Cody, and there were unofficial reports of 2 feet of snow in the northwest mountains.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2000	February	Winter Storm	JACKSON VALLEY / SC TETON	12	Heavy snow western mountains/valleys. Over a foot of new snow in the mountains and up to 8 inches valleys.
2000	February	Winter Storm	TETON/MOUTAINS / TETON EXCEPTN AND SC	12	Heavy snow western mountains/valleys. Over a foot of new snow in the mountains and up to 8 inches valleys.
2000	March	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	11	Heavy snow in northwest mountains...up to 11 inches in Yellowstone National Park at Mammoth.
2000	September	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	24	Early Fall storm brought up to 2 feet of snow to the Big Horn Mtns...12 to 18 inches to the Absarokas and Wind River Mtns...and up to a foot of snow to the Casper area and to parts of Sweetwater County.
2000	December	Heavy Snow	JACKSON VALLEY / SC TETON	12	Localized heavy snow ranging from 6 inches in the Jackson area to over a foot just northwest of Moose.
2000	December	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	12	Localized heavy snow event with 6 inches in lower elevations to near a foot in the mountains.
2000	December	Heavy Snow	JACKSON VALLEY / SC TETON	6	Localized heavy snow produced around a half foot of snow.
2000	December	Heavy Snow	JACKSON VALLEY / SC TETON	12	Localized heavy snow event with 6 inches in lower elevations to near a foot in the mountains.
2001	December	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	19	A storm system produced heavy snow across parts of western Wyoming. Snowfall amounts included 19 inches at the Jackson Hole Ski Resort, 16 inches at Bondurant and Togwotee Cowboy Lodge, 12 inches at Snake River in Yellowstone National Park, 10 to 12 inches at Jackson and 7 inches at Kemmerer.
2001	December	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	19	A storm system produced heavy snow across parts of western Wyoming. Snowfall amounts included 19 inches at the Jackson Hole Ski Resort, 16 inches at Bondurant and Togwotee Cowboy Lodge, 12 inches at Snake River in Yellowstone National Park, 10 to 12 inches at Jackson and 7 inches at Kemmerer.
2001	December	Heavy Snow	JACKSON VALLEY / SC TETON	12	A storm system produced heavy snow across parts of western Wyoming. Snowfall amounts included 19 inches at the Jackson Hole Ski Resort, 16 inches at Bondurant and Togwotee Cowboy Lodge, 12 inches at Snake River in Yellowstone National Park, 10 to 12 inches at Jackson and 7 inches at Kemmerer.
2001	February	Heavy Snow	JACKSON VALLEY / SC TETON	6	Locally heavy snow with up to 6 inches in the Jackson Hole area.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2001	June	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	30	Late spring snow storm dropped up to 30 inches of snow in the Northwest Wyoming mountains. Yellowstone National Park was closed for part of June 13th.
2001	June	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	30	Late spring snow storm dropped up to 30 inches of snow in the Northwest Wyoming mountains. Yellowstone National Park was closed for part of June 13th.
2001	November	Heavy Snow	JACKSON VALLEY / SC TETON	12	A storm brought heavy snow to the area. Snowfall amounts ranged from 1 foot in the Jackson Valley to 2 feet in the mountains.
2001	November	Heavy Snow	TETON/MOUTAINS / TETON EXCEPTN AND SC	24	A storm brought heavy snow to the area. Snowfall amounts ranged from 1 foot in the Jackson Valley to 2 feet in the mountains.
2002	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	18	A storm system brought heavy snow to much of central and western Wyoming. Snowfall amounts ranged from 6 to 9 inches in the lower elevations to 10 to 18 inches in the mountains. Also, two people were injured when icy conditions caused a van to slide of I-25 north of Casper.
2002	December	Heavy Snow	YELLOWSTONE NATIONAL PARK	14	Abundant pacific moisture and upslope flow brought heavy snow to northwest Wyoming. SNOTEL sites reported 12 to 14 inches of snow.
2002	December	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	14	Abundant pacific moisture and upslope flow brought heavy snow to northwest Wyoming. SNOTEL sites reported 12 to 14 inches of snow.
2002	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	24	A series of Pacific storms brought heavy snow to parts of western Wyoming. Snowfall amounts ranged from 13 to 24 inches in the mountains to 6 to 14 inches for Jackson Hole and Upper Green River Basin Foothills.
2002	November	Heavy Snow	JACKSON HOLE	14	A series of Pacific storms brought heavy snow to parts of western Wyoming. Snowfall amounts ranged from 13 to 24 inches in the mountains to 6 to 14 inches for Jackson Hole and Upper Green River Basin Foothills.
2002	November	Heavy Snow	YELLOWSTONE NATIONAL PARK	18	A storm system brought heavy snow to much of central and western Wyoming. Snowfall amounts ranged from 6 to 9 inches in the lower elevations to 10 to 18 inches in the mountains. Also, two people were injured when icy conditions caused a van to slide of I-25 north of Casper.
2002	January	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	24	A Pacific storm system brought heavy snow and strong winds to the western Wyoming mountains. Snowfall amounts included upwards of 2 feet at Grand Targhee Ski Resort and 1 to 2 feet elsewhere. The combination of strong winds and heavy snow closed both Teton and Togwotee Passes and the highway between Moose and Moran Junction. Both Grand Targhee and Jackson Hole ski areas closed ski lifts due to the strong winds.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2002	January	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	24	A Pacific storm system brought heavy snow and strong winds to the western Wyoming mountains. Snowfall amounts included upwards of 2 feet at Grand Targhee Ski Resort and 1 to 2 feet elsewhere. The combination of strong winds and heavy snow closed both Teton and Togwotee Passes and the highway between Moose and Moran Junction. Both Grand Targhee and Jackson Hole ski areas closed ski lifts due to the strong winds.
2002	February	Winter Storm	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	12	Storng westerly flow aloft brought a brief Pacific storm to western Wyoming. Snowfall amounts ranged from 6 to 12 inches. Wind gusts of 60 to 80 mph were recorded by automatic sensors.
2002	February	Winter Storm	TETON/MOUTAINS / TETON EXCEPT N AND SC	12	Storng westerly flow aloft brought a brief Pacific storm to western Wyoming. Snowfall amounts ranged from 6 to 12 inches. Wind gusts of 60 to 80 mph were recorded by automatic sensors.
2002	May	Heavy Snow	YELLOWSTONE NATIONAL PARK MT ID / W PARK / N TETON	12	A storm system brought heavy snow to the northwest mountains of Wyoming. Snowfall amounts ranged from 10 to 12 inches.
2002	May	Heavy Snow	TETON/MOUTAINS / TETON EXCEPT N AND SC	12	A storm system brought heavy snow to the northwest mountains of Wyoming. Snowfall amounts ranged from 10 to 12 inches.
2003	December	Heavy Snow	JACKSON HOLE	8	An intense Pacific storm pushed through Wyoming, spreading moisture and widespread snowfall to the western mountains and valleys. The mountains of Yellowstone National Park, Absaroka Mountains, Teton Mountains, and Salt River Mountains generally received betweeen 15 to 30 inches of new snowfall. The valleys of far western Wyoming received 5 to 8 inches of new fallen snow.
2003	December	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	30	An intense Pacific storm pushed through Wyoming, spreading moisture and widespread snowfall to the western mountains and valleys. The mountains of Yellowstone National Park, Absaroka Mountains, Teton Mountains, and Salt River Mountains generally received betweeen 15 to 30 inches of new snowfall. The valleys of far western Wyoming received 5 to 8 inches of new fallen snow.
2003	December	Heavy Snow	YELLOWSTONE NATIONAL PARK	30	An intense Pacific storm pushed through Wyoming, spreading moisture and widespread snowfall to the western mountains and valleys. The mountains of Yellowstone National Park, Absaroka Mountains, Teton Mountains, and Salt River Mountains generally received betweeen 15 to 30 inches of new snowfall. The valleys of far western Wyoming received 5 to 8 inches of new fallen snow.
2003	December	Heavy Snow	YELLOWSTONE NATIONAL PARK	36	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming, dropping significant snowfall as 2003 came to a close. Holiday travel was

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					significantly impacted as snow began with the first storm on Christmas Night. The final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The conclusion of this event is provided in the January 2004 Storm Data publication.
2003	December	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	60	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming, dropping significant snowfall as 2003 came to a close. Holiday travel was significantly impacted as snow began with the first storm on Christmas Night. The final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The conclusion of this event is provided in the January 2004 Storm Data publication.
2003	December	Heavy Snow	JACKSON HOLE	24	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming, dropping significant snowfall as 2003 came to a close. Holiday travel was significantly impacted as snow began with the first storm on Christmas Night. The final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The conclusion of this event is provided in the January 2004 Storm Data publication.
2003	August	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Two hikers climbing Grand Teton were caught in a winter storm on August 29. On the summit of Grand Teton, two feet of snow was deposited between August 29-31. The climbers sought refuge inside a dry cave until skies cleared on August 31. However, one of the climbers was seriously injured when he fell during the descent.
2003	October	Winter Storm	YELLOWSTONE NATIONAL PARK	36	A strong autumn snowstorm brought widespread heavy snow to much of western and central Wyoming. Some portions of this region received anywhere from 1 to 3 feet of snow. The most concentrated area of heavy snow was observed from the southern Wind River Mountains, including Lander, east to Riverton to Casper and Casper Mountain. Roads became treacherous bringing travel to a halt across much of the area. Two highways in southwest Wyoming were closed: U.S. 191 west from Rock Springs and U.S. 189 east from Kemmerer to Wyoming Highway 372 near Fontenelle Reservoir. Two people were killed in separate accidents when their automobiles slid

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					of the roadway. Additional traffic related accidents totaled 396, with about 100 people reporting injuries.
2003	March	Winter Storm	JACKSON HOLE	10	A spring storm brought heavy snow to western and central Wyoming. The heavy snow was the result of an upper level disturbance that dropped south from Montana and moved across Wyoming. The storm track created a favorable upslope flow for areas east of the Continental Divide. Snowfall ranged from 4 to 10 inches in the lower elevations to 24 to 30 inches in the Teton Range of western Wyoming. Also, snowfall was around 1 foot in Lander and Meeteetse. The combination of wind and snow closed many state highways around the area on the morning of March 27th.
2003	March	Winter Storm	YELLOWSTONE NATIONAL PARK	40	A strong westerly flow and abundant pacific moisture brought heavy snow to the mountains of western Wyoming. Snowfall ranged from 15 to 40 inches in the mountains to 6 to 12 inches in the valleys. In addition, strong winds produced considerable blowing and drifting snow, causing blizzard conditions in the Jackson Valley on the morning of March 6th. During the same morning, snow drifts of 3 to 4 feet stranded several motorists north of Afton. On March 6th around 11 PM MST, the summit of Rendezvous Peak at the Jackson Hole Ski Resort reported a wind gust of 93 mph. The summit also clocked a wind gust of 84 mph on March 7th around midnight MST.
2003	March	Winter Storm	YELLOWSTONE NATIONAL PARK	30	A spring storm brought heavy snow to western and central Wyoming. The heavy snow was the result of an upper level disturbance that dropped south from Montana and moved across Wyoming. The storm track created a favorable upslope flow for areas east of the Continental Divide. Snowfall ranged from 4 to 10 inches in the lower elevations to 24 to 30 inches in the Teton Range of western Wyoming. Also, snowfall was around 1 foot in Lander and Meeteetse. The combination of wind and snow closed many state highways around the area on the morning of March 27th.
2003	March	Winter Storm	JACKSON HOLE	12	A strong westerly flow and abundant pacific moisture brought heavy snow to the mountains of western Wyoming. Snowfall ranged from 15 to 40 inches in the mountains to 6 to 12 inches in the valleys. In addition, strong winds produced considerable blowing and drifting snow, causing blizzard conditions in the Jackson Valley on the morning of March 6th. During the same morning, snow drifts of 3 to 4 feet stranded several motorists north of Afton. On March 6th around 11 PM MST, the summit of Rendezvous Peak at the Jackson Hole Ski Resort reported a wind gust of 93 mph. The summit also clocked a wind gust of 84 mph on March 7th around midnight MST.
2003	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	40	A strong westerly flow and abundant pacific moisture brought heavy snow to the mountains of western Wyoming. Snowfall ranged from 15 to 40 inches in the mountains to 6 to 12 inches in the valleys. In addition, strong winds produced

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					considerable blowing and drifting snow, causing blizzard conditions in the Jackson Valley on the morning of March 6th. During the same morning, snow drifts of 3 to 4 feet stranded several motorists north of Afton. On March 6th around 11 PM MST, the summit of Rendezvous Peak at the Jackson Hole Ski Resort reported a wind gust of 93 mph. The summit also clocked a wind gust of 84 mph on March 7th around midnight MST.
2003	February	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A winter storm brought heavy snow and strong winds to western Wyoming and the Big Horn Mountains in central Wyoming. Snowfall ranged from 1 to 2 feet in the mountains to 6 to 12 inches in the lower elevations. Also, a wind gust of 73 mph was reported on February 22 at the Pine Creek Ski Resort.
2003	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A winter storm brought heavy snow and strong winds to western Wyoming and the Big Horn Mountains in central Wyoming. Snowfall ranged from 1 to 2 feet in the mountains to 6 to 12 inches in the lower elevations. Also, a wind gust of 73 mph was reported on February 22 at the Pine Creek Ski Resort.
2003	February	Winter Storm	JACKSON HOLE	12	A winter storm brought heavy snow and strong winds to western Wyoming and the Big Horn Mountains in central Wyoming. Snowfall ranged from 1 to 2 feet in the mountains to 6 to 12 inches in the lower elevations. Also, a wind gust of 73 mph was reported on February 22 at the Pine Creek Ski Resort.
2003	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	30	A spring storm brought heavy snow to western and central Wyoming. The heavy snow was the result of an upper level disturbance that dropped south from Montana and moved across Wyoming. The storm track created a favorable upslope flow for areas east of the Continental Divide. Snowfall ranged from 4 to 10 inches in the lower elevations to 24 to 30 inches in the Teton Range of western Wyoming. Also, snowfall was around 1 foot in Lander and Meeteetse. The combination of wind and snow closed many state highways around the area on the morning of March 27th.
2004	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	36	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming dropping significant snowfall as 2003 came to a close. Holiday travel was significantly impacted as snow began with the first storm on Christmas Night. The final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The beginning of this event is provided in the December 2003 Storm Data publication.
2004	January	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	60	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming dropping significant snowfall as 2003 came to a close. Holiday travel was significantly impacted as snow began with the first storm on Christmas Night. The

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The beginning of this event is provided in the December 2003 Storm Data publication.
2004	January	Heavy Snow	JACKSON HOLE	24	Three vigorous weather systems slammed into the western mountains and valleys of Wyoming dropping significant snowfall as 2003 came to a close. Holiday travel was significantly impacted as snow began with the first storm on Christmas Night. The final storm pushed out of western Wyoming on 1/1/04. Total snowfall accumulation during this eight day stretch approached 4 to 5 feet in the western mountains and northern Star Valley. Two to three feet of new snow was recorded in the rest of the western valleys during this time frame. Several roads were closed across western and central Wyoming including Highway 28 at South Pass and Highway 22 at Teton Pass. The beginning of this event is provided in the December 2003 Storm Data publication.
2005	January	Heavy Snow	YELLOWSTONE NATIONAL PARK	24	A strong Pacific storm system dropped very heavy snow across western Wyoming. Snowfall amounts of 2 to 3 feet were common above 8000 feet. Lower elevations west of the Continental Divide received 1 to 2 feet of new snow through the period. Snowfall combined with wind gusts to 40 mph, dropped surface visibilities to near zero in some areas creating treacherous travelling conditions.
2005	January	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	36	A strong Pacific storm system dropped very heavy snow across western Wyoming. Snowfall amounts of 2 to 3 feet were common above 8000 feet. Lower elevations west of the Continental Divide received 1 to 2 feet of new snow through the period. Snowfall combined with wind gusts to 40 mph, dropped surface visibilities to near zero in some areas creating treacherous travelling conditions.
2005	January	Heavy Snow	JACKSON HOLE	24	A strong Pacific storm system dropped very heavy snow across western Wyoming. Snowfall amounts of 2 to 3 feet were common above 8000 feet. Lower elevations west of the Continental Divide received 1 to 2 feet of new snow through the period. Snowfall combined with wind gusts to 40 mph, dropped surface visibilities to near zero in some areas creating treacherous travelling conditions.
2005	March	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	12	An early spring snowstorm brought snow to the mountains and valleys of western and central Wyoming. Three to six inches of snow fell across most lower elevations. The western mountains generally received 8 to 12 inches of new snow from the event. In addition, gusty winds created very low visibilities at times further impacting travel conditions throughout the area.
2005	March	Heavy Snow	JACKSON HOLE	8	An early spring snowstorm brought snow to the mountains and valleys of western and central Wyoming. Three to six inches of snow fell across most lower elevations. The

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					western mountains generally received 8 to 12 inches of new snow from the event. In addition, gusty winds created very low visibilities at times further impacting travel conditions throughout the area.
2005	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	25	A strong Pacific Storm System dumped 15 to 25 inches of snow across the mountains of western Wyoming through the period. Western valley locations received 6 to 12 inches of snow by storms end. Snowfall combined with wind gusts to 40 mph at ridge-top, dropping surface visibilities to near zero in mountain passes creating treacherous traveling conditions.
2005	December	Winter Storm	JACKSON HOLE	12	A strong Pacific Storm System dumped 15 to 25 inches of snow across the mountains of western Wyoming through the period. Western valley locations received 6 to 12 inches of snow by storms end. Snowfall combined with wind gusts to 40 mph at ridge-top, dropping surface visibilities to near zero in mountain passes creating treacherous traveling conditions.
2006	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A strong storm system pushed into western Wyoming from the Great Basin during the morning of January 2nd and continued through noon on the 3rd. Snowfall amounts totaled 1 to 2 feet in elevations above 8000 feet. Western valley and basin locations received lighter amounts of 6 to 12 inches. Mountain-top winds approached 35 mph during the event reducing visibilities to near zero at times over mountain passes.
2006	January	Winter Storm	JACKSON HOLE	12	A strong storm system pushed into western Wyoming from the Great Basin during the morning of January 2nd and continued through noon on the 3rd. Snowfall amounts totaled 1 to 2 feet in elevations above 8000 feet. Western valley and basin locations received lighter amounts of 6 to 12 inches. Mountain-top winds approached 35 mph during the event reducing visibilities to near zero at times over mountain passes.
2006	January	Winter Storm	JACKSON HOLE	7	A strong upper-level storm system pummelled extreme western Wyoming with significant snowfall accumulations. The western valleys generally received 4 to 7 inches. Meanwhile the mountains of western Wyoming received generally 12 to 22 inches of new snow accumulation. Strong westerly winds approaching 35 mph at mountain-top combined to make travel treacherous across mountain passes throughout the event.
2006	January	Winter Storm	YELLOWSTONE NATIONAL PARK	22	A strong upper-level storm system pummelled extreme western Wyoming with significant snowfall accumulations. The western valleys generally received 4 to 7 inches. Meanwhile the mountains of western Wyoming received generally 12 to 22 inches of new snow accumulation. Strong westerly winds approaching 35 mph at mountain-top combined to make travel treacherous across mountain passes throughout the event.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2006	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	22	A strong upper-level storm system pummelled extreme western Wyoming with significant snowfall accumulations. The western valleys generally received 4 to 7 inches. Meanwhile the mountains of western Wyoming received generally 12 to 22 inches of new snow accumulation. Strong westerly winds approaching 35 mph at mountain-top combined to make travel treacherous across mountain passes throughout the event.
2006	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	12	An upper low dropped slowly southeast through the Great Basin. Southerly flow persisted long enough to generate 6 to 12 inch snowfall amounts in the higher mountains and valleys of far west Wyoming.
2006	November	Heavy Snow	JACKSON HOLE	12	Moist westerly flow off the Pacific produced snowfall of one to two feet in the western Wyoming mountains. The Star Valley and Jackson Hole experienced snowfall of 5 to 12 inches.
2006	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	12	Moist westerly flow off the Pacific produced snowfall of one to two feet in the western Wyoming mountains. The Star Valley and Jackson Hole experienced snowfall of 5 to 12 inches.
2007	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A Pacific storm system and associated cold front caused heavy snow and considerable wind across western Wyoming on Christmas Eve. Snowfall of around six inches was reported in the Star Valley with slightly more than one foot in the nearby mountains. As the storm moved east of the Continental Divide it brought favorable northerly upslope flow to the Lander Foothills. A quick six to eight inches of snow was recorded by early Christmas morning in and near Lander.
2007	December	Winter Storm	JACKSON HOLE	8	Strong westerly flow off the Pacific Ocean brought heavy snow and gusty west to southwest wind to Teton County. Snowfall of six to eight inches was common around Moose and other locations in central Grand Teton National Park. Snowfall on the Teton Range totaled one foot.
2007	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	Strong westerly flow off the Pacific Ocean brought heavy snow and gusty west to southwest wind to Teton County. Snowfall of six to eight inches was common around Moose and other locations in central Grand Teton National Park. Snowfall on the Teton Range totaled one foot.
2007	January	Winter Storm	YELLOWSTONE NATIONAL PARK	16	Strong westerly flow off the Pacific brought moisture and strong winds to the mountains of western Wyoming. Snow accumulations of 8 to 16 inches were widespread with an estimated peak amount of 17 inches at Lewis Lake Divide.
2007	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	Strong westerly flow off the Pacific brought moisture and strong winds to the mountains of western Wyoming. Snow accumulations of 8 to 16 inches were widespread with an estimated peak amount of 17 inches at Lewis Lake Divide.
2007	December	Winter Storm	JACKSON HOLE	12	Persistent moist westerly flow from the Pacific Ocean created a prolonged period of snow and gusty wind across western Wyoming. Wind gusts of 25 to 35 mph were

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					common along with heavy snow, which combined to cause white-out conditions at times. Snowfall totals in the Jackson and Star valleys generally ranged from six to eleven inches. Amounts of one to two feet of snow fell in the Teton, Gros Ventre, Wyoming, and Salt River mountain ranges.
2007	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Persistent moist westerly flow from the Pacific Ocean created a prolonged period of snow and gusty wind across western Wyoming. Wind gusts of 25 to 35 mph were common along with heavy snow, which combined to cause white-out conditions at times. Snowfall totals in the Jackson and Star valleys generally ranged from six to eleven inches. Amounts of one to two feet of snow fell in the Teton, Gros Ventre, Wyoming, and Salt River mountain ranges.
2007	December	Winter Storm	YELLOWSTONE NATIONAL PARK	24	Persistent moist westerly flow from the Pacific Ocean created a prolonged period of snow and gusty wind across western Wyoming. Wind gusts of 25 to 35 mph were common along with heavy snow, which combined to cause white-out conditions at times. Snowfall totals in the Jackson and Star valleys generally ranged from six to eleven inches. Amounts of one to two feet of snow fell in the Teton, Gros Ventre, Wyoming, and Salt River mountain ranges.
2008	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	19	An upper level low moved across Wyoming bringing widespread snow. The heaviest snowfall occurred in the Teton and Gros Ventre ranges where 12 to 19 inches were observed.
2008	December	Winter Storm	YELLOWSTONE NATIONAL PARK	18	The first in a series of strong Pacific storm systems slammed western Wyoming with one to two feet of mountain snow. Snowfall in the Jackson and Star valleys commonly ranged from 10 to 18 inches. Some notable totals were 25 inches at Snow King Ski Area and nearly 18 inches just southeast of Thayne.
2008	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	The first in a series of strong Pacific storm systems slammed western Wyoming with one to two feet of mountain snow. Snowfall in the Jackson and Star valleys commonly ranged from 10 to 18 inches. Some notable totals were 25 inches at Snow King Ski Area and nearly 18 inches just southeast of Thayne.
2008	December	Winter Storm	JACKSON HOLE	24	The first in a series of strong Pacific storm systems slammed western Wyoming with one to two feet of mountain snow. Snowfall in the Jackson and Star valleys commonly ranged from 10 to 18 inches. Some notable totals were 25 inches at Snow King Ski Area and nearly 18 inches just southeast of Thayne.
2008	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A vigorous cold front and associated low pressure brought dramatic temperature and wind changes to much of western Wyoming on Saturday, December 13. The heaviest snow fell in the mountains and higher valleys of western Wyoming in advance of the arctic cold frontal surge. Mountain snowfall of six to twelve inches was common with three to six inches in the valleys. East of the Continental Divide, snowfall totals only ranged from one to three inches in the lower elevations with four to six inches in the

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					mountains.||The strong arctic surge began around 0900MST near the Montana border and eventually reached central portions of the state between 1300 and 1500MST. The initial blast dropped above normal temperatures about 20 to 25 degrees in the first hour following frontal passage. In many locations east of the Continental Divide, the snow combined with gusty north wind of 30 to 50 mph and sharply falling temperatures, some on the order of 35 to 45 degrees over several hours, to create dangerous winter conditions. The most dangerous conditions occurred around Buffalo where winds gusted over 50 mph for almost an entire eight hour period. A peak gust of 60 mph was recorded at the Buffalo Airport and 1/4 mile visibility was reported for over four hours. This led to the closing of several roads around Buffalo. Other notable wind gusts were 63 mph at the Powell Airport and 47 mph at the Greybull Airport, both in the Big Horn Basin. Ground truth reports and webcams revealed near zero visibility due to the snow and wind, despite the limited snowfall.||The very cold temperatures and gusty wind also combined to create dangerous wind chills. By late Saturday evening, wind chill readings in the north Big Horn Basin, Johnson County, and Natrona County had fallen into the 30 below to 45 below zero range.||A four-vehicle accident occurred at 1248MST on Saturday, December 13 about five miles northeast of Cody on U.S. Highway 14A. Near zero visibility was reported at the time of the accident. A pileup on Interstate 90 north of Buffalo early Saturday afternoon involved six to eight vehicles and caused three injuries. The interstate was subsequently closed until 0430MST on Sunday. Also, two fisherman on Boysen Reservoir were stranded but survived Saturday night as they were unable to make their way back across the white-capped lake. Waves of four to six feet made the journey to their boat launch unsafe.
2008	December	Winter Storm	JACKSON HOLE	6	A vigorous cold front and associated low pressure brought dramatic temperature and wind changes to much of western Wyoming on Saturday, December 13. The heaviest snow fell in the mountains and higher valleys of western Wyoming in advance of the arctic cold frontal surge. Mountain snowfall of six to twelve inches was common with three to six inches in the valleys. East of the Continental Divide, snowfall totals only ranged from one to three inches in the lower elevations with four to six inches in the mountains.||The strong arctic surge began around 0900MST near the Montana border and eventually reached central portions of the state between 1300 and 1500MST. The initial blast dropped above normal temperatures about 20 to 25 degrees in the first hour following frontal passage. In many locations east of the Continental Divide, the snow combined with gusty north wind of 30 to 50 mph and sharply falling temperatures, some on the order of 35 to 45 degrees over several hours, to create dangerous winter conditions. The most dangerous conditions occurred around Buffalo where winds gusted over 50 mph for almost an entire eight

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2008	December	Winter Storm	JACKSON HOLE	20	A powerful Pacific storm system brought snowfall of 18 to 36 inches to the mountains of western Wyoming. The snow was particularly heavy on Christmas morning. The highest totals of around three feet occurred in the Teton Range and in the mountains just above Pinedale. Snowfall of 12 to 20 inches was common from the Star Valley north across Jackson Hole. A southerly component to the wind helped to funnel enhanced snowfall across Sublette County on Christmas evening. The lower elevations around Pinedale and Cora received about one foot of snow in this favorable flow.
2008	December	Winter Storm	YELLOWSTONE NATIONAL PARK	36	A powerful Pacific storm system brought snowfall of 18 to 36 inches to the mountains of western Wyoming. The snow was particularly heavy on Christmas morning. The highest totals of around three feet occurred in the Teton Range and in the mountains just above Pinedale. Snowfall of 12 to 20 inches was common from the Star Valley north across Jackson Hole. A southerly component to the wind helped to funnel enhanced snowfall across Sublette County on Christmas evening. The lower elevations around Pinedale and Cora received about one foot of snow in this favorable flow.
2008	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	36	A powerful Pacific storm system brought snowfall of 18 to 36 inches to the mountains of western Wyoming. The snow was particularly heavy on Christmas morning. The highest totals of around three feet occurred in the Teton Range and in the mountains just above Pinedale. Snowfall of 12 to 20 inches was common from the Star Valley north across Jackson Hole. A southerly component to the wind helped to funnel enhanced snowfall across Sublette County on Christmas evening. The lower elevations around Pinedale and Cora received about one foot of snow in this favorable flow.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2008	February	Winter Storm	JACKSON HOLE	12	A powerful Pacific storm system impacted many of the mountains and higher valleys of western Wyoming. Mountain snow totals typically ranged from one to two feet. The heaviest of the snow fell in the Teton and Wyoming ranges. Snowfall of six to ten inches was common in the Jackson and Star valleys. The snow fell in bands across the Upper Green River Basin Foothills producing snowfall rates of up to two inches an hour during the afternoon of Thursday, February 7. Total snowfall ranged from eight inches to one foot from Bondurant to Pinedale along U.S. Highway 191.
2008	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A powerful Pacific storm system impacted many of the mountains and higher valleys of western Wyoming. Mountain snow totals typically ranged from one to two feet. The heaviest of the snow fell in the Teton and Wyoming ranges. Snowfall of six to ten inches was common in the Jackson and Star valleys. The snow fell in bands across the Upper Green River Basin Foothills producing snowfall rates of up to two inches an hour during the afternoon of Thursday, February 7. Total snowfall ranged from eight inches to one foot from Bondurant to Pinedale along U.S. Highway 191.
2008	January	Winter Storm	YELLOWSTONE NATIONAL PARK	18	Heavy snow and gusty southwest wind of 20 to 30 mph occurred across a broad swath of western Wyoming in advance of a vigorous low pressure system. The very moist flow produced snowfall of 12 to 18 inches in the mountains. Accompanying the snow were occasional wind gusts of 40 to 50 mph. Snowfall in the Bondurant, Star, and Jackson valleys mainly ranged from six to nine inches; however, 12 to 13 inches of snow fell in a swath from Moose to near Jackson Lake Dam.
2008	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	Heavy snow and gusty southwest wind of 20 to 30 mph occurred across a broad swath of western Wyoming in advance of a vigorous low pressure system. The very moist flow produced snowfall of 12 to 18 inches in the mountains. Accompanying the snow were occasional wind gusts of 40 to 50 mph. Snowfall in the Bondurant, Star, and Jackson valleys mainly ranged from six to nine inches; however, 12 to 13 inches of snow fell in a swath from Moose to near Jackson Lake Dam.
2008	January	Winter Storm	JACKSON HOLE	12	Heavy snow and gusty southwest wind of 20 to 30 mph occurred across a broad swath of western Wyoming in advance of a vigorous low pressure system. The very moist flow produced snowfall of 12 to 18 inches in the mountains. Accompanying the snow were occasional wind gusts of 40 to 50 mph. Snowfall in the Bondurant, Star, and Jackson valleys mainly ranged from six to nine inches; however, 12 to 13 inches of snow fell in a swath from Moose to near Jackson Lake Dam.
2008	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	Heavy snow and gusty wind accompanied a powerful storm system that roared across western Wyoming. Snowfall rates of one to two inches an hour occurred at the height of the storm Sunday afternoon, January 27 into the early morning of Monday, January 28. Snow accumulations of 12 to 18 inches were common in Yellowstone National Park and the Teton Range. A peak of 18 inches was reported at both Grant Village

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					Ranger Station and at the summit of the Jackson Hole Mountain Resort. The ski lifts at the resort were closed at 0940MST Monday due to near zero visibility in the blowing snow. Many skiers had difficulty making it to safe shelter because of the near-Blizzard conditions on the mountain. A peak gust of 78 mph was recorded at the Raymer study plot at the resort late Monday morning. Two of the resort's lifts opened by 1445MST Monday, while the other lifts remained closed through the day. ||Snowfall in the Jackson, Star, and Bondurant valleys ranged from six to ten inches. The combination of snow and wind closed Jackson Hole Airport Sunday evening through Monday. Also, State Highway 390 near Teton Village was closed between 1000MST and 1200MST Monday due to low visibility in the blowing snow. The lower elevations of southern Lincoln county received only one to three inches of snow. However, the snow combined with gusty wind across this area to close roadways leading to Kemmerer and Diamondville, isolating these small towns for part of Monday.
2008	January	Winter Storm	JACKSON HOLE	12	Heavy snow and gusty wind accompanied a powerful storm system that roared across western Wyoming. Snowfall rates of one to two inches an hour occurred at the height of the storm Sunday afternoon, January 27 into the early morning of Monday, January 28. Snow accumulations of 12 to 18 inches were common in Yellowstone National Park and the Teton Range. A peak of 18 inches was reported at both Grant Village Ranger Station and at the summit of the Jackson Hole Mountain Resort. The ski lifts at the resort were closed at 0940MST Monday due to near zero visibility in the blowing snow. Many skiers had difficulty making it to safe shelter because of the near-Blizzard conditions on the mountain. A peak gust of 78 mph was recorded at the Raymer study plot at the resort late Monday morning. Two of the resort's lifts opened by 1445MST Monday, while the other lifts remained closed through the day. ||Snowfall in the Jackson, Star, and Bondurant valleys ranged from six to ten inches. The combination of snow and wind closed Jackson Hole Airport Sunday evening through Monday. Also, State Highway 390 near Teton Village was closed between 1000MST and 1200MST Monday due to low visibility in the blowing snow. The lower elevations of southern Lincoln county received only one to three inches of snow. However, the snow combined with gusty wind across this area to close roadways leading to Kemmerer and Diamondville, isolating these small towns for part of Monday.
2008	January	Winter Storm	YELLOWSTONE NATIONAL PARK	18	Heavy snow and gusty wind accompanied a powerful storm system that roared across western Wyoming. Snowfall rates of one to two inches an hour occurred at the height of the storm Sunday afternoon, January 27 into the early morning of Monday, January 28. Snow accumulations of 12 to 18 inches were common in Yellowstone National Park and the Teton Range. A peak of 18 inches was reported at both Grant Village Ranger Station and at the summit of the Jackson Hole Mountain Resort. The ski lifts at the resort were closed at 0940MST Monday due to near zero visibility in the blowing

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					snow. Many skiers had difficulty making it to safe shelter because of the near-Blizzard conditions on the mountain. A peak gust of 78 mph was recorded at the Raymer study plot at the resort late Monday morning. Two of the resort's lifts opened by 1445MST Monday, while the other lifts remained closed through the day. ||Snowfall in the Jackson, Star, and Bondurant valleys ranged from six to ten inches. The combination of snow and wind closed Jackson Hole Airport Sunday evening through Monday. Also, State Highway 390 near Teton Village was closed between 1000MST and 1200MST Monday due to low visibility in the blowing snow. The lower elevations of southern Lincoln county received only one to three inches of snow. However, the snow combined with gusty wind across this area to close roadways leading to Kemmerer and Diamondville, isolating these small towns for part of Monday.
2008	February	Winter Storm	JACKSON HOLE	8	An unstable atmosphere and moisture combined to produce heavy snow around the town of Jackson during the morning hours of Sunday, February 24. The heaviest snow fell between 0700MST and 1000MST. Snowfall totals in Jackson ranged from five to eight inches with a high of nine inches reported west of Moose near Beaver Creek. Gusty south wind made travel difficult between Jackson and Moran Junction.
2008	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	10	Strong westerly flow brought moisture and gusty wind to the Teton and Gros Ventre mountain ranges of western Wyoming. Total snowfall generally ranged from five to ten inches. A weather station at the summit of Jackson Hole Ski Area recorded sustained west to southwest wind of 30 to 40 mph for about 16 hours beginning Wednesday evening, November 12. The same station recorded a peak gust to 77 mph at 0700MST on November 13 with frequent gusts of 55 to 65 mph throughout the storm.
2008	October	Winter Storm	TETON & GROS VENTRE MOUNTAINS	30	A large low pressure system tracked from the southern Great Basin across Wyoming bringing heavy snowfall to western and central Wyoming. The slow moving storm pumped abundant moisture north into the state ahead of the main area of low pressure producing heavy snow.||Snowfall of 6 to 12 inches occurred at most lower elevation locations. However, upslope favored locations such as Thermopolis and Lander received 24 to near 30 inches of snow, respectively. The heavy snow wreaked havoc on trees around the cities of Worland, Thermopolis, and Lander. Numerous trees were still in full leaf causing branches to break under the weight of the snow. The falling tree limbs caused power outages lasting up to five hours near Thermopolis. Hundreds of tree limbs fell at Hot Springs State Park prompting officials to request state assistance. Long-time residents of Thermopolis recalled this being the worst tree damage due to snow in recent memory. Snow totals of one to two feet were common in the high country. Higher amounts of two to three feet were found on the east slopes of the Wind River and Absaroka ranges.||Northwest to northeast wind of 15 to

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					25 mph persisted throughout the region during the 48-hour snowstorm. The strongest winds were observed in Sweetwater County where easterly wind was routinely clocked between 30 and 45 mph on Saturday. A peak gust of 56 mph was recorded at the Rock Springs-Sweetwater County Airport at 1246MST on October 11. However, a lack of snowfall kept visibilities across Sweetwater County around three-quarters of a mile or better during the storm.||The heavy snow and slick roads caused three separate accidents on state or federal highways on Friday night, October 10. The accidents were responsible for four deaths and four injuries. Two accidents occurred in Park County while another happened in Johnson County.
2008	October	Winter Storm	JACKSON HOLE	12	A large low pressure system tracked from the southern Great Basin across Wyoming bringing heavy snowfall to western and central Wyoming. The slow moving storm pumped abundant moisture north into the state ahead of the main area of low pressure producing heavy snow.||Snowfall of 6 to 12 inches occurred at most lower elevation locations. However, upslope favored locations such as Thermopolis and Lander received 24 to near 30 inches of snow, respectively. The heavy snow wreaked havoc on trees around the cities of Worland, Thermopolis, and Lander. Numerous trees were still in full leaf causing branches to break under the weight of the snow. The falling tree limbs caused power outages lasting up to five hours near Thermopolis. Hundreds of tree limbs fell at Hot Springs State Park prompting officials to request state assistance. Long-time residents of Thermopolis recalled this being the worst tree damage due to snow in recent memory. Snow totals of one to two feet were common in the high country. Higher amounts of two to three feet were found on the east slopes of the Wind River and Absaroka ranges.||Northwest to northeast wind of 15 to 25 mph persisted throughout the region during the 48-hour snowstorm. The strongest winds were observed in Sweetwater County where easterly wind was routinely clocked between 30 and 45 mph on Saturday. A peak gust of 56 mph was recorded at the Rock Springs-Sweetwater County Airport at 1246MST on October 11. However, a lack of snowfall kept visibilities across Sweetwater County around three-quarters of a mile or better during the storm.||The heavy snow and slick roads caused three separate accidents on state or federal highways on Friday night, October 10. The accidents were responsible for four deaths and four injuries. Two accidents occurred in Park County while another happened in Johnson County.
2009	January	Winter Storm	JACKSON HOLE	8	Persistent northwest flow aloft ushered a series of weather disturbances across Wyoming bringing heavy snow to the mountains of northern Wyoming. Mountain snowfall of 12 to 18 inches was common. A prolonged period of light snow allowed accumulations to top-out between six and eight inches in Jackson Hole and the Star Valley.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2009	January	Winter Storm	YELLOWSTONE NATIONAL PARK	20	Strong, moist westerly flow off the Pacific Ocean provided a prolonged period of snowfall across northwest and far west Wyoming. Mountain snowfall generally ranged from 12 to 20 inches. The highest amounts were mainly confined to a swath from northeast Teton County, across southern Yellowstone National Park, and into the central Absaroka Range. For the lower elevations, the heaviest snow totals of four to eight inches occurred in the Bondurant Valley.
2009	January	Winter Storm	YELLOWSTONE NATIONAL PARK	18	Persistent northwest flow aloft ushered a series of weather disturbances across Wyoming bringing heavy snow to the mountains of northern Wyoming. Mountain snowfall of 12 to 18 inches was common. A prolonged period of light snow allowed accumulations to top-out between six and eight inches in Jackson Hole and the Star Valley.
2009	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	Persistent northwest flow aloft ushered a series of weather disturbances across Wyoming bringing heavy snow to the mountains of northern Wyoming. Mountain snowfall of 12 to 18 inches was common. A prolonged period of light snow allowed accumulations to top-out between six and eight inches in Jackson Hole and the Star Valley.
2009	March	Winter Storm	YELLOWSTONE NATIONAL PARK	16	Southwest flow ahead of a Pacific low pressure system tracked a plume of moisture across northwest Wyoming. The result was 8 to 16 inches of snowfall over the higher terrain of central and southern Yellowstone National Park and the adjacent Absaroka Range to the east. The heaviest snow fell in a swath from Grant Village to around Pahaska near the East Entrance to the park.
2009	March	Winter Storm	YELLOWSTONE NATIONAL PARK	14	Persistent west-southwest flow of 35 to 45 mph brought moisture to the mountains of northwest Wyoming. Warm temperatures hindered snowfall accumulation. Still, storm totals of 8 to 14 inches occurred over the southern half of Yellowstone National Park. Some notable amounts were 14 inches at Two Ocean Plateau SNOTEL and 13 inches at Grant Village. Wind gusts of 20 to 30 mph were frequent throughout the storm.
2009	March	Winter Storm	YELLOWSTONE NATIONAL PARK	16	Strong westerly flow ahead of an approaching Pacific storm produced heavy snowfall in the mountains of far west Wyoming. Snowfall around Jackson Hole ranged from about 3 inches in Jackson to 13 inches at Moose. The nearby Teton Range and the higher terrain of Yellowstone National Park received 10 to 16 inches of snow. The exceptions were a few measuring sites at the Jackson Hole Mountain Resort which measured snowfall of 17 to 19 inches.
2009	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	Strong westerly flow ahead of an approaching Pacific storm produced heavy snowfall in the mountains of far west Wyoming. Snowfall around Jackson Hole ranged from about 3 inches in Jackson to 13 inches at Moose. The nearby Teton Range and the higher terrain of Yellowstone National Park received 10 to 16 inches of snow. The

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					exceptions were a few measuring sites at the Jackson Hole Mountain Resort which measured snowfall of 17 to 19 inches.
2009	March	Winter Storm	JACKSON HOLE	13	Strong westerly flow ahead of an approaching Pacific storm produced heavy snowfall in the mountains of far west Wyoming. Snowfall around Jackson Hole ranged from about 3 inches in Jackson to 13 inches at Moose. The nearby Teton Range and the higher terrain of Yellowstone National Park received 10 to 16 inches of snow. The exceptions were a few measuring sites at the Jackson Hole Mountain Resort which measured snowfall of 17 to 19 inches.
2009	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	Strong, moist westerly flow off the Pacific Ocean provided a prolonged period of snowfall across northwest and far west Wyoming. Mountain snowfall generally ranged from 12 to 20 inches. The highest amounts were mainly confined to a swath from northeast Teton County, across southern Yellowstone National Park, and into the central Absaroka Range. For the lower elevations, the heaviest snow totals of four to eight inches occurred in the Bondurant Valley.
2009	April	Winter Storm	YELLOWSTONE NATIONAL PARK	16	West-northwest flow was accompanied by enough moisture to generate heavy orographic snow in the mountains of Yellowstone National Park and Teton County. The heaviest snow fell in a swath from the Teton Range to around the East Entrance of Yellowstone National Park. Snowfall totals reached 10 to 16 inches within this swath.
2009	March	Winter Storm	JACKSON HOLE	12	A good surge of Pacific moisture combined with a vigorous cold front to produce widespread heavy snow in the mountains and nearby foothill areas of west-central Wyoming. Strong westerly flow allowed for snowfall of one to two feet in the Teton, Salt River, and Wyoming ranges of far west Wyoming. The nearby Jackson Hole measured new snowfall of 6 to 12 inches. East of the Continental Divide, the cold frontal push created ideal upslope conditions from the Wind River Range east to Casper. One to two feet of snow fell in the eastern Wind River Range with 6 to 12 inches commonly found from Lander to Jeffrey City to Casper. The heavy snow closed roads across Fremont County during the day on Thursday, March 26.
2009	April	Winter Storm	JACKSON HOLE	16	West-northwest flow was accompanied by enough moisture to generate heavy orographic snow in the mountains of Yellowstone National Park and Teton County. The heaviest snow fell in a swath from the Teton Range to around the East Entrance of Yellowstone National Park. Snowfall totals reached 10 to 16 inches within this swath.
2009	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	West-northwest flow was accompanied by enough moisture to generate heavy orographic snow in the mountains of Yellowstone National Park and Teton County. The heaviest snow fell in a swath from the Teton Range to around the East Entrance of Yellowstone National Park. Snowfall totals reached 10 to 16 inches within this swath.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2009	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A good surge of Pacific moisture combined with a vigorous cold front to produce widespread heavy snow in the mountains and nearby foothill areas of west-central Wyoming. Strong westerly flow allowed for snowfall of one to two feet in the Teton, Salt River, and Wyoming ranges of far west Wyoming. The nearby Jackson Hole measured new snowfall of 6 to 12 inches. East of the Continental Divide, the cold frontal push created ideal upslope conditions from the Wind River Range east to Casper. One to two feet of snow fell in the eastern Wind River Range with 6 to 12 inches commonly found from Lander to Jeffrey City to Casper. The heavy snow closed roads across Fremont County during the day on Thursday, March 26.
2009	December	Winter Storm	YELLOWSTONE NATIONAL PARK	23	Strong westerly flow off the Pacific Ocean brought abundant moisture to the mountains and valleys of western Wyoming. Mountain snowfall generally ranged from around 16 to 23 inches. The highest totals of 20 to 23 inches fell in a swath from the northern Wyoming Range north through Teton County to the extreme south end of Yellowstone National Park. The Bondurant Valley and the north half of Star Valley recorded the most snowfall among western valley sites. Totals of 12 to 16 inches were common from Alpine to Thayne with a foot observed at Bondurant. Most other valley locations recorded totals of 6 to 10 inches.
2009	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	23	Strong westerly flow off the Pacific Ocean brought abundant moisture to the mountains and valleys of western Wyoming. Mountain snowfall generally ranged from around 16 to 23 inches. The highest totals of 20 to 23 inches fell in a swath from the northern Wyoming Range north through Teton County to the extreme south end of Yellowstone National Park. The Bondurant Valley and the north half of Star Valley recorded the most snowfall among western valley sites. Totals of 12 to 16 inches were common from Alpine to Thayne with a foot observed at Bondurant. Most other valley locations recorded totals of 6 to 10 inches.
2009	December	Winter Storm	JACKSON HOLE	16	Strong westerly flow off the Pacific Ocean brought abundant moisture to the mountains and valleys of western Wyoming. Mountain snowfall generally ranged from around 16 to 23 inches. The highest totals of 20 to 23 inches fell in a swath from the northern Wyoming Range north through Teton County to the extreme south end of Yellowstone National Park. The Bondurant Valley and the north half of Star Valley recorded the most snowfall among western valley sites. Totals of 12 to 16 inches were common from Alpine to Thayne with a foot observed at Bondurant. Most other valley locations recorded totals of 6 to 10 inches.
2010	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	Strong and moist westerly flow off the Pacific Ocean generated snowfall of around one foot across the Teton and northern Gros Ventre mountain ranges. A foot of snow accumulated in about 16 hours at a Jackson Hole Mountain Resort measuring station.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2010	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	Grand Targhee Resort on the west slope of the Teton Range received a foot of snow from a persistent moist, westerly flow. Locations at the extreme north end of the range also received about one foot of fresh snow.
2010	January	Winter Storm	JACKSON HOLE	12	Pacific moisture streamed into western Wyoming and produced heavy snow across the far western valleys and the Teton Range. Most of the snowfall was orographically driven with a favorable westerly wind. Snowfall amounts in the Star and Jackson valleys generally ranged from four to seven inches. A peak snowfall of one foot occurred east of Moran in a favored west-east oriented valley. Snowfall of 10 to 15 inches was common in the Teton Range, with a maximum amount of 19 inches at Grand Targhee Ski Area.
2010	November	Winter Storm	YELLOWSTONE NATIONAL PARK	24	Pacific moisture moved into western Wyoming as a strong storm system moved ashore in the Pacific northwest. Snow totals in the higher elevations ranged from 14 inches in the Tetons to 24 inches near Mammoth Hot Springs in Yellowstone National Park. Up to six inches of new snow fell in parts of Jackson Hole.
2010	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	14	Pacific moisture moved into western Wyoming as a strong storm system moved ashore in the Pacific northwest. Snow totals in the higher elevations ranged from 14 inches in the Tetons to 24 inches near Mammoth Hot Springs in Yellowstone National Park. Up to six inches of new snow fell in parts of Jackson Hole.
2010	November	Winter Storm	JACKSON HOLE	6	Pacific moisture moved into western Wyoming as a strong storm system moved ashore in the Pacific northwest. Snow totals in the higher elevations ranged from 14 inches in the Tetons to 24 inches near Mammoth Hot Springs in Yellowstone National Park. Up to six inches of new snow fell in parts of Jackson Hole.
2010	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	19	Pacific moisture streamed into western Wyoming and produced heavy snow across the far western valleys and the Teton Range. Most of the snowfall was orographically driven with a favorable westerly wind. Snowfall amounts in the Star and Jackson valleys generally ranged from four to seven inches. A peak snowfall of one foot occurred east of Moran in a favored west-east oriented valley. Snowfall of 10 to 15 inches was common in the Teton Range, with a maximum amount of 19 inches at Grand Targhee Ski Area.
2010	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A winter storm tracked from the Pacific Northwest through Idaho, bringing moderate to heavy snow to far western Wyoming on Sunday, January 31. Snow totals by the end of the day reached six inches in northern Star Valley and 10 to 12 inches in the western mountains. More information about the conclusion of this event is contained in the February 2010 Storm Data publication.
2010	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	Moderate to heavy snow associated with a winter storm that tracked from the Pacific Northwest through Idaho abated during the morning of February 1. Final snow totals reached eight inches in northern Star Valley and 16 to 18 inches in the western

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					mountains. Information about the beginning of this event is contained in the January 2010 Storm Data publication.
2010	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A strong Pacific storm system developed and moved across the Great Basin bringing heavy snow to much of western and southern Wyoming. One to two feet of snow fell in the western mountains. Snowfall of six to twelve inches was common across the western valleys and Sweetwater County.
2010	December	Winter Storm	JACKSON HOLE	12	A strong Pacific storm system developed and moved across the Great Basin bringing heavy snow to much of western and southern Wyoming. One to two feet of snow fell in the western mountains. Snowfall of six to twelve inches was common across the western valleys and Sweetwater County.
2010	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	14	A moist westerly flow brought heavy snow to western Wyoming. A cold front followed, moving south through the state. This cold front coupled with a strong surface low over Colorado brought moderate to heavy snow to southern and central Wyoming. Snow totals of 6 to 8 inches fell in the lower elevations with 10 to 14 inches common in the mountains.
2010	December	Winter Storm	JACKSON HOLE	8	A moist westerly flow brought heavy snow to western Wyoming. A cold front followed, moving south through the state. This cold front coupled with a strong surface low over Colorado brought moderate to heavy snow to southern and central Wyoming. Snow totals of 6 to 8 inches fell in the lower elevations with 10 to 14 inches common in the mountains.
2010	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	41	Enhanced west-northwest flow on the backside of an upper-level closed low generated copious snowfall in the mountains of far west Wyoming. Snowfall amounts ranged from 17 to 41 inches over about a 48-hour period. The heaviest snow fell in the Teton Range, where snowfall of 30 inches or more was common. Grand Targhee Ski Area on the west side of the range received 41 inches, 33 of which fell in a 24-hour period beginning Saturday, January 23, at 0500MST. Reports from mid-mountain and Rendezvous Mountain at the Jackson Hole Ski Area recorded similar amounts. Total snowfall of 24 to 30 inches was common along the north border of Grand Teton National Park. To the south, amounts around 20 inches were estimated across the northern Wyoming Range.||In the northern Big Horn Basin, a band of snow formed and quickly produced several inches of snow during the overnight and morning hours of January 22 and 23. Reports from the area ranged from 8 to 12 inches, with the highest totals in and around Lovell.
2010	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	Moist northwest flow generated moderate to heavy snowfall across western Wyoming from February 11 through 13. For most locations, the heaviest snow fell on Friday, February 12, as moisture increased across the region. Snowfall in the Teton and

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					Wyoming ranges generally topped out between 10 and 20 inches. Lesser amounts of five to nine inches fell in the lower elevations of Jackson and Star valleys.
2010	February	Winter Storm	JACKSON HOLE	9	Moist northwest flow generated moderate to heavy snowfall across western Wyoming from February 11 through 13. For most locations, the heaviest snow fell on Friday, February 12, as moisture increased across the region. Snowfall in the Teton and Wyoming ranges generally topped out between 10 and 20 inches. Lesser amounts of five to nine inches fell in the lower elevations of Jackson and Star valleys.
2010	March	Winter Storm	YELLOWSTONE NATIONAL PARK	21	A strong Pacific upper level low pressure system brought strong winds to the Absaroka Mountains and the southern wind corridor from Rock Springs to Casper. These winds were followed by heavy snows in the far west mountains, where 12 to 21 inches was reported.||High winds were observed periodically on both Monday, March 29, and Tuesday, March 30. In Clark, 13 cottonwood trees were toppled and a home had two-thirds of its roof removed around 0200MST Monday. A peak gust to 84 mph was measured on Chief Joseph Pass later that morning. High wind was also reported on Monday across western Natrona County.||On Tuesday, sustained winds of 40 mph with occasional gusts near 60 mph were observed in eastern Sweetwater County. The peak gust at the Rock Springs-Sweetwater County Airport ASOS registered 68 mph with the passage of a cold front around 1630MST. Afternoon peak gusts of 59 mph and 62 mph were recorded at Jeffrey City and Casper-Natrona County International Airport, respectively.
2010	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	21	A strong Pacific upper level low pressure system brought strong winds to the Absaroka Mountains and the southern wind corridor from Rock Springs to Casper. These winds were followed by heavy snows in the far west mountains, where 12 to 21 inches was reported.||High winds were observed periodically on both Monday, March 29, and Tuesday, March 30. In Clark, 13 cottonwood trees were toppled and a home had two-thirds of its roof removed around 0200MST Monday. A peak gust to 84 mph was measured on Chief Joseph Pass later that morning. High wind was also reported on Monday across western Natrona County.||On Tuesday, sustained winds of 40 mph with occasional gusts near 60 mph were observed in eastern Sweetwater County. The peak gust at the Rock Springs-Sweetwater County Airport ASOS registered 68 mph with the passage of a cold front around 1630MST. Afternoon peak gusts of 59 mph and 62 mph were recorded at Jeffrey City and Casper-Natrona County International Airport, respectively.
2010	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A vigorous Pacific storm moved through the Intermountain West. A strong jet stream provided a fetch of Pacific moisture and dynamic lift. This system brought heavy snow to central Wyoming and high winds to the southwest part of the state. Up to two feet

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					of snow fell over the eastern slopes of the Wind River Mountains and winds gusting to 89 mph were recorded in the Salt River and Wyoming ranges.
2010	October	Heavy Snow	YELLOWSTONE NATIONAL PARK	19	A strong Pacific storm system dove southeast across the Great Basin creating favorable conditions for mountain snows in western Wyoming. Up to 19 inches of snow fell in the Tetons and in southern portions of Yellowstone National Park. Lesser snowfall amounts were observed along the Salt River and Wyoming ranges.
2010	October	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	19	A strong Pacific storm system dove southeast across the Great Basin creating favorable conditions for mountain snows in western Wyoming. Up to 19 inches of snow fell in the Tetons and in southern portions of Yellowstone National Park. Lesser snowfall amounts were observed along the Salt River and Wyoming ranges.
2010	November	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A rapid succession of strong disturbances in northwest flow brought moderate to heavy snow and strong winds to the western mountains and valleys. Around six inches of snow fell in Star Valley and southern Lincoln County and wind gusted to 40 mph at times. The combination of snow and wind caused hazardous driving conditions. The western mountains received 12 to 16 inches of new snow.
2010	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	The mountains of far west Wyoming were hit hard by a combination of heavy snow and wind for a short period of time. Snowfall of 9 to 12 inches fell during a 10 to 14-hour period. The storm was also accompanied by measured wind speeds of 50 to around 80 mph. The peak wind at the summit of Jackson Hole Mountain Resort was 83 mph, while an isolated location above 10,000 feet in the Wyoming Range topped out at 106 mph.
2010	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	A rapid succession of strong disturbances in northwest flow brought moderate to heavy snow and strong winds to the western mountains and valleys. Around six inches of snow fell in Star Valley and southern Lincoln County and wind gusted to 40 mph at times. The combination of snow and wind caused hazardous driving conditions. The western mountains received 12 to 16 inches of new snow.
2010	November	Winter Storm	JACKSON HOLE	6	A rapid succession of strong disturbances in northwest flow brought moderate to heavy snow and strong winds to the western mountains and valleys. Around six inches of snow fell in Star Valley and southern Lincoln County and wind gusted to 40 mph at times. The combination of snow and wind caused hazardous driving conditions. The western mountains received 12 to 16 inches of new snow.
2011	November	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A series of Pacific disturbances brought heavy snow to portions of western and central Wyoming. One to two feet of snow fell in the western mountains. Snow totals across the lower elevations ranged from 6 to 12 inches.
2011	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A series of Pacific disturbances brought heavy snow to portions of western and central Wyoming. One to two feet of snow fell in the western mountains. Snow totals across the lower elevations ranged from 6 to 12 inches.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2011	November	Winter Storm	JACKSON HOLE	12	A series of Pacific disturbances brought heavy snow to portions of western and central Wyoming. One to two feet of snow fell in the western mountains. Snow totals across the lower elevations ranged from 6 to 12 inches.
2011	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A storm system moved through the Great Basin bringing widespread snowfall with up to a foot in the Teton and Salt River ranges.
2011	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A narrow band of heavy snow developed over far west Wyoming as an upper level low pressure system moved across northeast Wyoming. Star Valley saw 12 to 15 inches of snow and the southern Teton Range saw 21 to 24 inches of new snow.
2011	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	17	A strong jet stream and favorable moist northwest flow brought heavy snow and high wind to portions of western and central Wyoming. Up to 17 inches of snow fell in the southern Teton Range and up to a foot in the Bighorn Mountains. High wind to 67 mph was recorded at Buffalo and 60 mph gusts were recorded in the Green Mountains and Rattlesnake Range. A semi-truck was tipped over on State Highway 120 south of Cody.
2011	April	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A large upper level low pressure system brought several rounds of heavy snow to the mountains of western and north-central Wyoming as well as the Star Valley and Jackson Hole. Total snowfall was 12 to 24 inches in most areas with up to three feet at Togwotee Pass. The western valleys received 7 to 16 inches of new snow.
2011	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	36	A large upper level low pressure system brought several rounds of heavy snow to the mountains of western and north-central Wyoming as well as the Star Valley and Jackson Hole. Total snowfall was 12 to 24 inches in most areas with up to three feet at Togwotee Pass. The western valleys received 7 to 16 inches of new snow.
2011	April	Winter Storm	JACKSON HOLE	12	A large upper level low pressure system brought several rounds of heavy snow to the mountains of western and north-central Wyoming as well as the Star Valley and Jackson Hole. Total snowfall was 12 to 24 inches in most areas with up to three feet at Togwotee Pass. The western valleys received 7 to 16 inches of new snow.
2011	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A series of disturbances in a moist Pacific flow brought one to two feet of snow to the mountains of western Wyoming. Warm air in place allowed the western valleys to receive primarily rain during this period.
2011	December	Winter Storm	YELLOWSTONE NATIONAL PARK	17	A Pacific storm system brought heavy snow and strong wind to the mountains of western Wyoming where snowfall ranged from 12 to 17 inches. The snow was accompanied by high wind, with gusts topping 100 mph in the Tetons and the Wyoming Range. A peak gust of 76 mph was measured at Jackson Hole Mountain Resort delaying the opening of several lifts. Instrumentation on Mt. Coffin at elevation 10,870 feet in the Wyoming Range indicated a peak wind of 134 mph.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2011	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	17	A Pacific storm system brought heavy snow and strong wind to the mountains of western Wyoming where snowfall ranged from 12 to 17 inches. The snow was accompanied by high wind, with gusts topping 100 mph in the Tetons and the Wyoming Range. A peak gust of 76 mph was measured at Jackson Hole Mountain Resort delaying the opening of several lifts. Instrumentation on Mt. Coffin at elevation 10,870 feet in the Wyoming Range indicated a peak wind of 134 mph.
2011	December	Winter Storm	YELLOWSTONE NATIONAL PARK	19	Another in a series of moist Pacific storm systems brought heavy snow and strong wind to the mountains along and west of the Continental Divide. Up to 19 inches of snow fell in Yellowstone National Park and the Absaroka Range. Lesser amounts fell in the Salt River and Wyoming Ranges; however, the snow was accompanied by stronger wind in these ranges. Gusts over 100 mph were measured on Mt. Coffin. The strong westerly flow also resulted in high wind east of the divide. Peak gusts of 60 to around 75 mph were recorded in south-central Wyoming and in favored locations lee of the Absaroka Range.
2011	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	19	Another in a series of moist Pacific storm systems brought heavy snow and strong wind to the mountains along and west of the Continental Divide. Up to 19 inches of snow fell in Yellowstone National Park and the Absaroka Range. Lesser amounts fell in the Salt River and Wyoming Ranges; however, the snow was accompanied by stronger wind in these ranges. Gusts over 100 mph were measured on Mt. Coffin. The strong westerly flow also resulted in high wind east of the divide. Peak gusts of 60 to around 75 mph were recorded in south-central Wyoming and in favored locations lee of the Absaroka Range.
2011	January	Winter Storm	JACKSON HOLE	12	A strong disturbance moved into western Wyoming in a very moist northwest flow. A circulation in the mid-levels of the atmosphere associated with this disturbance enhanced snowfall. This combination brought six to twelve inches of new snow to Jackson Hole and the Star Valley in western Wyoming.
2012	December	Winter Storm	YELLOWSTONE NATIONAL PARK	17	A Pacific storm brought high winds and heavy snow to portions of western and central Wyoming on Wednesday, December 5. East of the Continental Divide, wind gusts up to 67 mph where reported in the Green and Rattlesnake Range with gusts as high as 73 mph reported west of Clark in Park County. West of the Divide, heavy snow fell across portions of northwest Wyoming. Peak snowfall totaled 17 inches in southwest Yellowstone National Park and 13 inches in the higher elevations of Teton County.
2012	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	13	A Pacific storm brought high winds and heavy snow to portions of western and central Wyoming on Wednesday, December 5. East of the Continental Divide, wind gusts up to 67 mph where reported in the Green and Rattlesnake Range with gusts as high as 73 mph reported west of Clark in Park County. West of the Divide, heavy snow fell

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					across portions of northwest Wyoming. Peak snowfall totaled 17 inches in southwest Yellowstone National Park and 13 inches in the higher elevations of Teton County.
2012	December	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A couple of storm systems moved through western Wyoming accompanied by heavy snow and gusty wind. Snowfall of one to around two feet was common. The heaviest snow was estimated to have fallen in the Salt and Wyoming mountain ranges. Up to 18 inches of snow fall across the higher elevations of the Tetons including the Jackson Hole Mountain Resort. Totals topped one foot in portions of Yellowstone National Park and the Wind River Range. Snowfall amounts in the Star Valley and Jackson Hole were generally 6 to 10 inches with a 15 inch total observed at Alpine. Strong winds also occurred across the peaks with gusts as high as 78 mph. In addition, east of the Continental Divide some areas saw very strong winds with gusts to 72 mph in the Green Mountains and 59 mph at the Casper Airport.
2012	December	Winter Storm	YELLOWSTONE NATIONAL PARK	15	Moist westerly flow and a series of upper level disturbances brought snow to the mountains of western Wyoming. By the afternoon of December 1, snowfall totals reached 12 to 15 inches at many locations above 7500 to 8000 feet. The heaviest snow fell in the early morning on December 1. See November 2012 Storm Data for more information about the onset of this event.
2012	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	Moist westerly flow and a series of upper level disturbances brought snow to the mountains of western Wyoming. By the afternoon of December 1, snowfall totals reached 12 to 15 inches at many locations above 7500 to 8000 feet. The heaviest snow fell in the early morning on December 1. See November 2012 Storm Data for more information about the onset of this event.
2012	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	A couple of storm systems moved through western Wyoming accompanied by heavy snow and gusty wind. Snowfall of one to around two feet was common. The heaviest snow was estimated to have fallen in the Salt and Wyoming mountain ranges. Up to 18 inches of snow fall across the higher elevations of the Tetons including the Jackson Hole Mountain Resort. Totals topped one foot in portions of Yellowstone National Park and the Wind River Range. Snowfall amounts in the Star Valley and Jackson Hole were generally 6 to 10 inches with a 15 inch total observed at Alpine. Strong winds also occurred across the peaks with gusts as high as 78 mph. In addition, east of the Continental Divide some areas saw very strong winds with gusts to 72 mph in the Green Mountains and 59 mph at the Casper Airport.
2012	December	Winter Storm	JACKSON HOLE	10	A couple of storm systems moved through western Wyoming accompanied by heavy snow and gusty wind. Snowfall of one to around two feet was common. The heaviest snow was estimated to have fallen in the Salt and Wyoming mountain ranges. Up to 18 inches of snow fall across the higher elevations of the Tetons including the Jackson Hole Mountain Resort. Totals topped one foot in portions of Yellowstone National

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					Park and the Wind River Range. Snowfall amounts in the Star Valley and Jackson Hole were generally 6 to 10 inches with a 15 inch total observed at Alpine. Strong winds also occurred across the peaks with gusts as high as 78 mph. In addition, east of the Continental Divide some areas saw very strong winds with gusts to 72 mph in the Green Mountains and 59 mph at the Casper Airport.
2012	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	Two storm systems moved across western and central Wyoming and brought heavy snow and high wind to the region. The higher elevations of northwest Wyoming saw 12 to 15 inches of snow. Snow totals in Star Valley reached 8 inches in a swath from Thayne to Star Valley Ranch. Wind gusts around 60 mph were common in the Teton Range and east of the Continental Divide in central Wyoming ahead of the storm.
2012	February	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A strong Pacific storm system brought heavy snow to western Wyoming and the Bighorn Mountains. Two to three feet of snow fell in the Teton Range and southeast Bighorn Mountains. Six to ten inches were common in the western Wyoming valleys. Widespread strong to high wind accompanied this system with gusts of 60 to 70 mph across many lower elevations east of the Continental Divide. Gusts over 100 mph were recorded in the western Wyoming mountains.
2012	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	36	A strong Pacific storm system brought heavy snow to western Wyoming and the Bighorn Mountains. Two to three feet of snow fell in the Teton Range and southeast Bighorn Mountains. Six to ten inches were common in the western Wyoming valleys. Widespread strong to high wind accompanied this system with gusts of 60 to 70 mph across many lower elevations east of the Continental Divide. Gusts over 100 mph were recorded in the western Wyoming mountains.
2012	February	Winter Storm	JACKSON HOLE	10	A strong Pacific storm system brought heavy snow to western Wyoming and the Bighorn Mountains. Two to three feet of snow fell in the Teton Range and southeast Bighorn Mountains. Six to ten inches were common in the western Wyoming valleys. Widespread strong to high wind accompanied this system with gusts of 60 to 70 mph across many lower elevations east of the Continental Divide. Gusts over 100 mph were recorded in the western Wyoming mountains.
2012	February	Winter Storm	JACKSON HOLE	8	Moist Pacific flow brought moderate to heavy snow to western Wyoming. A foot of snow fell at Jackson Hole Mountain Resort and eight inches of new snow was reported north of Wilson in the Jackson Valley.
2012	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	Moist Pacific flow brought moderate to heavy snow to western Wyoming. A foot of snow fell at Jackson Hole Mountain Resort and eight inches of new snow was reported north of Wilson in the Jackson Valley.
2012	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A very moist Pacific storm system brought strong westerly flow and heavy snow to western Wyoming over a 48-hour period. Snowfall of one to two feet fell in Star Valley and Jackson Hole. Most of the western Wyoming mountains saw two to four feet of

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					snow. The heavy snow produced 16 major avalanches across the area. One of the hardest hit areas was Teton Pass, a popular commuter route over State Highway 22. The pass was first closed for about 14 hours beginning Wednesday evening, January 18. Eventually the pass was closed for nearly 48 hours from Thursday evening until Saturday afternoon due to avalanche reduction and snow maintenance work. Similar work was performed in Hoback Canyon between Jackson and Bondurant during the storm.
2012	January	Winter Storm	JACKSON HOLE	12	A very moist Pacific storm system brought strong westerly flow and heavy snow to western Wyoming over a 48-hour period. Snowfall of one to two feet fell in Star Valley and Jackson Hole. Most of the western Wyoming mountains saw two to four feet of snow. The heavy snow produced 16 major avalanches across the area. One of the hardest hit areas was Teton Pass, a popular commuter route over State Highway 22. The pass was first closed for about 14 hours beginning Wednesday evening, January 18. Eventually the pass was closed for nearly 48 hours from Thursday evening until Saturday afternoon due to avalanche reduction and snow maintenance work. Similar work was performed in Hoback Canyon between Jackson and Bondurant during the storm.
2012	January	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A very moist Pacific storm system brought strong westerly flow and heavy snow to western Wyoming over a 48-hour period. Snowfall of one to two feet fell in Star Valley and Jackson Hole. Most of the western Wyoming mountains saw two to four feet of snow. The heavy snow produced 16 major avalanches across the area. One of the hardest hit areas was Teton Pass, a popular commuter route over State Highway 22. The pass was first closed for about 14 hours beginning Wednesday evening, January 18. Eventually the pass was closed for nearly 48 hours from Thursday evening until Saturday afternoon due to avalanche reduction and snow maintenance work. Similar work was performed in Hoback Canyon between Jackson and Bondurant during the storm.
2012	January	Winter Storm	YELLOWSTONE NATIONAL PARK	20	A strong Pacific storm system moved into western Wyoming late on January 20 and brought snow to the region through the 21st. Total snowfall of 12 to 20 inches fell in the mountains with 5 to 8 inches around Jackson. The Bondurant Valley received around 10 inches of new snow.
2012	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	A strong Pacific storm system moved into western Wyoming late on January 20 and brought snow to the region through the 21st. Total snowfall of 12 to 20 inches fell in the mountains with 5 to 8 inches around Jackson. The Bondurant Valley received around 10 inches of new snow.
2012	January	Winter Storm	JACKSON HOLE	12	A strong Pacific storm system moved into western Wyoming late on January 20 and brought snow to the region through the 21st. Total snowfall of 12 to 20 inches fell in

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					the mountains with 5 to 8 inches around Jackson. The Bondurant Valley received around 10 inches of new snow.
2012	November	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A series of storms moved through western Wyoming beginning on November 30. Snowfall of up to one foot was estimated at several automated stations by midnight of that day. The snow continued into December. Please see the December 2012 Storm Data for the conclusion of this event.
2012	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A series of storms moved through western Wyoming beginning on November 30. Snowfall of up to one foot was estimated at several automated stations by midnight of that day. The snow continued into December. Please see the December 2012 Storm Data for the conclusion of this event.
2013	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A long-lived winter storm moved across western and central Wyoming and brought heavy snow to many areas, especially the western mountains. The highest accumulations were in the Salt River and Wyoming ranges where up to 30 inches fell at the Blind Bull SNOTEL. Accumulations of 1 to 2 feet were common across the higher elevations of Yellowstone National Park, and the Teton and Wind River ranges. In the lower elevations, the snow mixed with rain at times, limiting accumulation. Maximum accumulations in the lower elevations topped out around 1 foot in Bondurant and at 7 inches in Green River. The storm was accompanied by gusty northeast wind and arctic temperatures. The two combined to create wind chill readings well below zero.
2013	December	Winter Storm	JACKSON HOLE	12	A long-lived winter storm moved across western and central Wyoming and brought heavy snow to many areas, especially the western mountains. The highest accumulations were in the Salt River and Wyoming ranges where up to 30 inches fell at the Blind Bull SNOTEL. Accumulations of 1 to 2 feet were common across the higher elevations of Yellowstone National Park, and the Teton and Wind River ranges. In the lower elevations, the snow mixed with rain at times, limiting accumulation. Maximum accumulations in the lower elevations topped out around 1 foot in Bondurant and at 7 inches in Green River. The storm was accompanied by gusty northeast wind and arctic temperatures. The two combined to create wind chill readings well below zero.
2013	December	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A long-lived winter storm moved across western and central Wyoming and brought heavy snow to many areas, especially the western mountains. The highest accumulations were in the Salt River and Wyoming ranges where up to 30 inches fell at the Blind Bull SNOTEL. Accumulations of 1 to 2 feet were common across the higher elevations of Yellowstone National Park, and the Teton and Wind River ranges. In the lower elevations, the snow mixed with rain at times, limiting accumulation. Maximum accumulations in the lower elevations topped out around 1 foot in Bondurant and at 7 inches in Green River. The storm was accompanied by gusty northeast wind and arctic temperatures. The two combined to create wind chill readings well below zero.

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2013	October	Heavy Snow	JACKSON HOLE	6	A slow moving low pressure system in the Great Basin brought moisture and colder air to western Wyoming. Many lower elevation locations received three to six inches of snow. The heaviest low elevation snow fell in Jackson Hole, especially in and around the town of Jackson. Snowfall totals of six to nine inches were common. One report from a private meteorologist indicated about five inches fell in two hours on the evening of Monday, October 28. He reported another 4 to 5 inches falling by sunrise Tuesday. Southerly flow aloft, the position of an upper level jet stream, and local terrain effects helped to generate the higher totals at Jackson.
2013	September	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	The first winter storm of the 2013-14 winter moved into northwest Wyoming and brought locally heavy snow to the higher elevations of Teton County. The SNOTEL site at Togwotee Pass recorded 15 to 18 inches of snow in about a 12-hour period on Wednesday, September 25.
2014	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	26	A moist Pacific storm moved into Wyoming and brought heavy snow to areas west of the Continental Divide. The heaviest snow fell in the Salt and Wyoming ranges where many areas received over a foot of new snow. The maximum amount was 26 inches estimated at the Spring Creek Divide SNOTEL. Amounts over a foot also fell in the Tetons, Yellowstone National Park, and the Absaroka Range. The western valleys generally received between 6 and 10 inches of snow.||East of the Continental Divide, the same storm system produced strong winds near Clark and across eastern Sweetwater and southern Fremont counties. A tight pressure gradient and strong low level winds mixed to the ground to create the high winds. Peak speeds were registered near the foothills around Clark where a maximum gust of 92 mph was recorded. Portions of Fremont and Sweetwater counties saw wind gusts of 60 to 69 mph.
2014	December	Winter Storm	JACKSON HOLE	12	A moist Pacific storm moved into Wyoming and brought heavy snow to areas west of the Continental Divide. The heaviest snow fell in the Salt and Wyoming ranges where many areas received over a foot of new snow. The maximum amount was 26 inches estimated at the Spring Creek Divide SNOTEL. Amounts over a foot also fell in the Tetons, Yellowstone National Park, and the Absaroka Range. The western valleys generally received between 6 and 10 inches of snow.||East of the Continental Divide, the same storm system produced strong winds near Clark and across eastern Sweetwater and southern Fremont counties. A tight pressure gradient and strong low level winds mixed to the ground to create the high winds. Peak speeds were registered near the foothills around Clark where a maximum gust of 92 mph was recorded. Portions of Fremont and Sweetwater counties saw wind gusts of 60 to 69 mph.
2014	December	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A moist Pacific storm moved into Wyoming and brought heavy snow to areas west of the Continental Divide. The heaviest snow fell in the Salt and Wyoming ranges where many areas received over a foot of new snow. The maximum amount was 26 inches

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					estimated at the Spring Creek Divide SNOTEL. Amounts over a foot also fell in the Tetons, Yellowstone National Park, and the Absaroka Range. The western valleys generally received between 6 and 10 inches of snow.||East of the Continental Divide, the same storm system produced strong winds near Clark and across eastern Sweetwater and southern Fremont counties. A tight pressure gradient and strong low level winds mixed to the ground to create the high winds. Peak speeds were registered near the foothills around Clark where a maximum gust of 92 mph was recorded. Portions of Fremont and Sweetwater counties saw wind gusts of 60 to 69 mph.
2014	January	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A long-lived winter storm moved across western and central Wyoming beginning early Saturday, January 11, and continuing through the afternoon of January 13. West of the Continental Divide, heavy snow fell in the mountains as a moist, westerly flow infiltrated the region. Snowfall of one to two feet was common, with several reports topping two feet. The heaviest snow fell in the Salt River and Wyoming ranges. Strong wind accompanied this storm system with some sections of central and western Wyoming registering winds in excess of 60 mph.||High wind made its return to areas east of the Continental Divide as northwest flow prevailed across Wyoming on the backside of this storm system. Favored areas in northwest flow aloft saw wind gusts approaching or exceeding 60 mph and in some cases 70 mph. Crowheart clocked a 78 mph gust and much of Johnson County saw gusts between 59 and 62 mph as a cold front pushed south through the county. The colder air also brought a quick, but intense, period of snow to the Cody Foothills on the evening of January 13 and early morning of January 14. Snowfall totals of 8 to 12 inches fell in less than 12 hours within a swath from Cody to Meeteetse.
2014	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A long-lived winter storm moved across western and central Wyoming beginning early Saturday, January 11, and continuing through the afternoon of January 13. West of the Continental Divide, heavy snow fell in the mountains as a moist, westerly flow infiltrated the region. Snowfall of one to two feet was common, with several reports topping two feet. The heaviest snow fell in the Salt River and Wyoming ranges. Strong wind accompanied this storm system with some sections of central and western Wyoming registering winds in excess of 60 mph.||High wind made its return to areas east of the Continental Divide as northwest flow prevailed across Wyoming on the backside of this storm system. Favored areas in northwest flow aloft saw wind gusts approaching or exceeding 60 mph and in some cases 70 mph. Crowheart clocked a 78 mph gust and much of Johnson County saw gusts between 59 and 62 mph as a cold front pushed south through the county. The colder air also brought a quick, but intense, period of snow to the Cody Foothills on the evening of January 13 and early morning of January 14. Snowfall totals of 8 to 12 inches fell in less than 12 hours within a swath from Cody to Meeteetse.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2014	December	Winter Storm	JACKSON HOLE	12	A slow-moving storm system moved out of Utah and across southern Wyoming producing a period of heavy snow on Christmas Day. Low-to-mid level wind flow was from the northeast and favored upslope conditions across Hot Springs, Fremont, and Natrona counties. Snow totals ranged from 7 to 13 inches in these areas. The northern portions of both the Jackson and Star valleys reported snowfall of around one foot. The highest amounts of one to two feet fell in the foothills of the Wind River Range near Lander and on Casper Mountain. The same cold front that produced the favorable upslope flow also brought gusty northeast winds to the basins east of the Continental Divide beginning early Christmas morning. Northeast wind of 20 to 30 mph was common. The strongest wind was in Sweetwater County where sustained speeds of 30 to 40 mph and gusts to 51 mph combined with the snow to produce treacherous driving conditions on Interstate 80.
2014	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	A winter storm brought abundant Pacific moisture to the mountains and higher valleys of western Wyoming. The heaviest snow fell on Wednesday, January 29. Storm total mountain snowfall of 12 to 18 inches was common in a swath from southern Yellowstone National Park south into the Salt River and Wyoming ranges. Many communities in the Jackson and Star valleys topped out between 6 and 12 inches of snow. East of the Continental Divide, the storm caused strong winds with gusts in excess of 60 mph. The wind impacted areas around Clark and the Green and Rattlesnake ranges.
2014	January	Winter Storm	YELLOWSTONE NATIONAL PARK	18	A winter storm brought abundant Pacific moisture to the mountains and higher valleys of western Wyoming. The heaviest snow fell on Wednesday, January 29. Storm total mountain snowfall of 12 to 18 inches was common in a swath from southern Yellowstone National Park south into the Salt River and Wyoming ranges. Many communities in the Jackson and Star valleys topped out between 6 and 12 inches of snow. East of the Continental Divide, the storm caused strong winds with gusts in excess of 60 mph. The wind impacted areas around Clark and the Green and Rattlesnake ranges.
2014	January	Winter Storm	JACKSON HOLE	12	A winter storm brought abundant Pacific moisture to the mountains and higher valleys of western Wyoming. The heaviest snow fell on Wednesday, January 29. Storm total mountain snowfall of 12 to 18 inches was common in a swath from southern Yellowstone National Park south into the Salt River and Wyoming ranges. Many communities in the Jackson and Star valleys topped out between 6 and 12 inches of snow. East of the Continental Divide, the storm caused strong winds with gusts in excess of 60 mph. The wind impacted areas around Clark and the Green and Rattlesnake ranges.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2014	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	A winter storm moved in from the northwest and brought heavy snow to areas west of the Continental Divide and strong wind to areas east of the Divide. The highest snowfall was in the Salt and Wyoming ranges where Commissary Ridge received an estimated 18 inches of snow. In Star Valley, the northwest flow produced 8 inches of snow at Bedford and 9 inches south of Smoot. Snowfall of 6 to nearly 10 inches was reported in the southwest portion of the Jackson Valley. The nearby mountains received about one foot of snow. The problem east of the Divide was strong wind. The maximum gust was 103 mph at Clark. Frequent gusts in excess of 60 mph were reported in Fremont and Natrona counties, where peak gusts ranged from 80 to 84 mph.
2014	November	Winter Storm	JACKSON HOLE	9	A winter storm moved in from the northwest and brought heavy snow to areas west of the Continental Divide and strong wind to areas east of the Divide. The highest snowfall was in the Salt and Wyoming ranges where Commissary Ridge received an estimated 18 inches of snow. In Star Valley, the northwest flow produced 8 inches of snow at Bedford and 9 inches south of Smoot. Snowfall of 6 to nearly 10 inches was reported in the southwest portion of the Jackson Valley. The nearby mountains received about one foot of snow. The problem east of the Divide was strong wind. The maximum gust was 103 mph at Clark. Frequent gusts in excess of 60 mph were reported in Fremont and Natrona counties, where peak gusts ranged from 80 to 84 mph.
2014	November	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A Pacific trough and associated cold front moved across western and central Wyoming and brought heavy snow and strong wind to northwest areas of the state. Temperatures ahead of the front were well above normal with readings around 50F. Within a few hours of the cold front passing, temperatures had fallen by 40F to 50F. There was a prolonged period of strong winds ahead of the cold frontal passage. The strongest winds occurred in Park County where gusts of 117 mph were recorded near Clark. Wind gusts in Cody reached 82 mph, toppling trees and causing scattered power outages. Wind gusts over 60 mph were also registered in Johnson, Natrona, and Fremont counties. As for snowfall, the western mountains and portions of Yellowstone National Park received around one foot of snow. The heavy snow also impacted Cody in the wake of the cold front. Many areas in and around the town reported 7 to 11 inches of new snow.
2014	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A complex winter storm and persistent northwest flow combined to produce a significant snow and wind event across western and central Wyoming. The heaviest snow fell across the western mountains where storm totals of over two feet were measured in the Salt, Wyoming, and Teton ranges. The western valleys generally received 6 to 12 inches of snow with locally higher amounts. Heavy snow also fell east

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					of the Continental Divide. Over two feet fell on the western slopes of the Bighorn Range. The lower elevations of Big Horn County also received heavy snow. Snowfall totals of 7 to 13 inches were common in a swath from Frannie to Lovell to Shell. Strong winds also accompanied the storm, with a peak gust of 92 mph registered at Clark.
2014	November	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A complex winter storm and persistent northwest flow combined to produce a significant snow and wind event across western and central Wyoming. The heaviest snow fell across the western mountains where storm totals of over two feet were measured in the Salt, Wyoming, and Teton ranges. The western valleys generally received 6 to 12 inches of snow with locally higher amounts. Heavy snow also fell east of the Continental Divide. Over two feet fell on the western slopes of the Bighorn Range. The lower elevations of Big Horn County also received heavy snow. Snowfall totals of 7 to 13 inches were common in a swath from Frannie to Lovell to Shell. Strong winds also accompanied the storm, with a peak gust of 92 mph registered at Clark.
2014	November	Winter Storm	JACKSON HOLE	12	A complex winter storm and persistent northwest flow combined to produce a significant snow and wind event across western and central Wyoming. The heaviest snow fell across the western mountains where storm totals of over two feet were measured in the Salt, Wyoming, and Teton ranges. The western valleys generally received 6 to 12 inches of snow with locally higher amounts. Heavy snow also fell east of the Continental Divide. Over two feet fell on the western slopes of the Bighorn Range. The lower elevations of Big Horn County also received heavy snow. Snowfall totals of 7 to 13 inches were common in a swath from Frannie to Lovell to Shell. Strong winds also accompanied the storm, with a peak gust of 92 mph registered at Clark.
2014	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Moisture from a storm system moving in from the North Pacific combined with favorable jet dynamics and an Arctic front dropping south out of Montana to bring heavy snow to much of western Wyoming and central portions of the state. The heaviest snow fell in the western mountains where around two feet of new snow was reported in the Absaroka and Teton ranges. The western valleys were also hard hit by snow with frequent reports of 6 to 12 inches. Valley snowfall was heaviest at the north end of Jackson Hole as Moran piled up 20 inches and Moose reported 18 inches. Meanwhile, east of the Continental Divide the heaviest snow fell around Cody where 6 to 8 inches was recorded.
2014	November	Winter Storm	JACKSON HOLE	18	Moisture from a storm system moving in from the North Pacific combined with favorable jet dynamics and an Arctic front dropping south out of Montana to bring heavy snow to much of western Wyoming and central portions of the state. The

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					heaviest snow fell in the western mountains where around two feet of new snow was reported in the Absaroka and Teton ranges. The western valleys were also hard hit by snow with frequent reports of 6 to 12 inches. Valley snowfall was heaviest at the north end of Jackson Hole as Moran piled up 20 inches and Moose reported 18 inches. Meanwhile, east of the Continental Divide the heaviest snow fell around Cody where 6 to 8 inches was recorded.
2014	February	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A long lived winter storm brought significant snow to much of western and northern Wyoming. The highest totals were across the Salt River and Wyoming ranges where snowfall totals of two to nearly four feet were estimated. Many other areas across the western mountains received an estimated one to two feet. Across the lower elevations, snowfall in the basins and valleys ranged from 6 to 16 inches. These reports included 22 inches at Alpine, 17 inches at Cokeville, 15 inches in Kemmerer, 8 to 12 inches in Jackson Hole, and 7 to 11 inches around Cody.
2014	February	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A complex winter weather system in the southwest United States combined with arctic air dropping south from Montana to produce widespread heavy snow across a good portion of western Wyoming. Most mountain locations received 12 to 18 inches of snow with isolated totals up to around 2 feet. Snowfall in Jackson Hole and the Bondurant Valley ranged from 10 to 20 inches. Totals in and near the city of Casper topped out around 6 inches. Much colder air, in some cases record setting, moved into northern and central Wyoming in the wake of this system. More information regarding the conclusion of this winter storm can be found in the March 2014 Storm Data publication.
2014	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A complex winter weather system in the southwest United States combined with arctic air dropping south from Montana to produce widespread heavy snow across a good portion of western Wyoming. Most mountain locations received 12 to 18 inches of snow with isolated totals up to around 2 feet. Snowfall in Jackson Hole and the Bondurant Valley ranged from 10 to 20 inches. Totals in and near the city of Casper topped out around 6 inches. Much colder air, in some cases record setting, moved into northern and central Wyoming in the wake of this system. More information regarding the conclusion of this winter storm can be found in the March 2014 Storm Data publication.
2014	February	Winter Storm	JACKSON HOLE	20	A complex winter weather system in the southwest United States combined with arctic air dropping south from Montana to produce widespread heavy snow across a good portion of western Wyoming. Most mountain locations received 12 to 18 inches of snow with isolated totals up to around 2 feet. Snowfall in Jackson Hole and the Bondurant Valley ranged from 10 to 20 inches. Totals in and near the city of Casper topped out around 6 inches. Much colder air, in some cases record setting, moved into

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					northern and central Wyoming in the wake of this system. More information regarding the conclusion of this winter storm can be found in the March 2014 Storm Data publication.
2014	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A long lived winter storm brought significant snow to much of western and northern Wyoming. The highest totals were across the Salt River and Wyoming ranges where snowfall totals of two to nearly four feet were estimated. Many other areas across the western mountains received an estimated one to two feet. Across the lower elevations, snowfall in the basins and valleys ranged from 6 to 16 inches. These reports included 22 inches at Alpine, 17 inches at Cokeville, 15 inches in Kemmerer, 8 to 12 inches in Jackson Hole, and 7 to 11 inches around Cody.
2014	February	Winter Storm	JACKSON HOLE	12	A long lived winter storm brought significant snow to much of western and northern Wyoming. The highest totals were across the Salt River and Wyoming ranges where snowfall totals of two to nearly four feet were estimated. Many other areas across the western mountains received an estimated one to two feet. Across the lower elevations, snowfall in the basins and valleys ranged from 6 to 16 inches. These reports included 22 inches at Alpine, 17 inches at Cokeville, 15 inches in Kemmerer, 8 to 12 inches in Jackson Hole, and 7 to 11 inches around Cody.
2014	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	Areas west of the Continental Divide received another dose of Pacific moisture and heavy snow. The Salt River, Wyoming, and Teton ranges received the most snow with amounts over a foot common. The maximum amounts included 17 inches at Blind Bull Summit and Indian Creek in the Salt River and Wyoming ranges along with 15 inches at Grassy Lake in the Tetons. Across the lower elevations, the most snow fell northwest of Daniel where amounts were measured around 10 inches. East of the Continental Divide, strong wind gusts of 60 to 80 mph were recorded in the Green Mountains in southeast Fremont County.
2014	February	Winter Storm	YELLOWSTONE NATIONAL PARK	26	Another in a series of very wet Pacific storms brought more heavy snow to areas west of the Continental Divide. New snowfall of 29 inches fell at Hoback Junction in Teton County. Some other impressive amounts included 26 inches at Lewis Lake Divide in Yellowstone National Park and up to 2 feet at Alpine. East of the Divide, the story once again was strong winds in favored areas such as the Cody Foothills, the Green and Rattlesnake Range, and the south side of Casper. The maximum wind gust was 85 mph near Clark in the Cody Foothills. Portions of southeast Fremont and southern Natrona counties also reported wind gusts in excess of 60 mph.
2014	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Another in a series of very wet Pacific storms brought more heavy snow to areas west of the Continental Divide. New snowfall of 29 inches fell at Hoback Junction in Teton County. Some other impressive amounts included 26 inches at Lewis Lake Divide in Yellowstone National Park and up to 2 feet at Alpine. East of the Divide, the story once

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					again was strong winds in favored areas such as the Cody Foothills, the Green and Rattlesnake Range, and the south side of Casper. The maximum wind gust was 85 mph near Clark in the Cody Foothills. Portions of southeast Fremont and southern Natrona counties also reported wind gusts in excess of 60 mph.
2014	February	Winter Storm	JACKSON HOLE	29	Another in a series of very wet Pacific storms brought more heavy snow to areas west of the Continental Divide. New snowfall of 29 inches fell at Hoback Junction in Teton County. Some other impressive amounts included 26 inches at Lewis Lake Divide in Yellowstone National Park and up to 2 feet at Alpine. East of the Divide, the story once again was strong winds in favored areas such as the Cody Foothills, the Green and Rattlesnake Range, and the south side of Casper. The maximum wind gust was 85 mph near Clark in the Cody Foothills. Portions of southeast Fremont and southern Natrona counties also reported wind gusts in excess of 60 mph.
2014	March	Winter Storm	YELLOWSTONE NATIONAL PARK	20	A complex winter storm brought wind and snow to portions of western and central Wyoming. West of the Continental Divide, heavy snow fell in a swath of Teton County encompassing the Teton Range and southern Yellowstone National Park. The highest amounts fell in this region with totals ranging from 12 to around 20 inches. East of the Divide, downslope wind in and near the Absaroka Range gusted from 79 to 89 mph. In Natrona County, wind gusts were clocked at 59 to 68 mph near Casper Mountain and in the Rattlesnake Range.
2014	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	A complex winter storm brought wind and snow to portions of western and central Wyoming. West of the Continental Divide, heavy snow fell in a swath of Teton County encompassing the Teton Range and southern Yellowstone National Park. The highest amounts fell in this region with totals ranging from 12 to around 20 inches. East of the Divide, downslope wind in and near the Absaroka Range gusted from 79 to 89 mph. In Natrona County, wind gusts were clocked at 59 to 68 mph near Casper Mountain and in the Rattlesnake Range.
2014	March	Winter Storm	YELLOWSTONE NATIONAL PARK	24	The combination of moisture associated with a storm over the southwest United States and arctic air pushing south across Wyoming produced widespread heavy snow. Snowfall of 12 to 18 inches was common in the mountains with a few locations climbing to around 2 feet. Totals of 10 to 20 inches were measured in Jackson Hole and the Bondurant Valley, while amounts around 6 inches were observed in Casper. Record-setting cold temperatures were recorded across mainly northern and central Wyoming following this system. More information regarding the onset of this winter storm is contained in the February 2014 Storm Data publication.
2014	March	Winter Storm	JACKSON HOLE	20	The combination of moisture associated with a storm over the southwest United States and arctic air pushing south across Wyoming produced widespread heavy snow. Snowfall of 12 to 18 inches was common in the mountains with a few locations

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					climbing to around 2 feet. Totals of 10 to 20 inches were measured in Jackson Hole and the Bondurant Valley, while amounts around 6 inches were observed in Casper. Record-setting cold temperatures were recorded across mainly northern and central Wyoming following this system. More information regarding the onset of this winter storm is contained in the February 2014 Storm Data publication.
2014	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	The combination of moisture associated with a storm over the southwest United States and arctic air pushing south across Wyoming produced widespread heavy snow. Snowfall of 12 to 18 inches was common in the mountains with a few locations climbing to around 2 feet. Totals of 10 to 20 inches were measured in Jackson Hole and the Bondurant Valley, while amounts around 6 inches were observed in Casper. Record-setting cold temperatures were recorded across mainly northern and central Wyoming following this system. More information regarding the onset of this winter storm is contained in the February 2014 Storm Data publication.
2015	January	Winter Storm	YELLOWSTONE NATIONAL PARK	12	An upper level low and deep Pacific moisture combined to bring heavy snow to areas west of the Continental Divide. The westerly flow favored the Teton Range where the heaviest snow fell. Over three feet of new snow was estimated to have fallen at both the Grand Targhee and Grassy Lake SNOTEL sites. More than a foot of snow also fell in portions of the Salt River and Wyoming ranges, the Absaroka Range, and Yellowstone National Park. Favorable northwest flow aloft also brought over a foot of snow to northern portions of the western Bighorn Range. The heaviest snow in the lower elevations was at Alpine where 16.5 inches of new snow fell. Totals in Jackson Hole approached 10 inches.||East of the Divide, a tight pressure gradient and strong mid-level winds mixing to the surface brought high winds to several locations. The strongest recorded winds were near Clark, where a gust to 113 mph was measured. Measured gusts in the Green and Rattlesnake ranges and on the south side of Casper in Natrona County topped out at 88 mph and 81 mph, respectively. Peak speeds in southern Lincoln County, eastern Sweetwater County, and the Upper Wind River Basin ranged from 60 to 66 mph.
2015	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	36	An upper level low and deep Pacific moisture combined to bring heavy snow to areas west of the Continental Divide. The westerly flow favored the Teton Range where the heaviest snow fell. Over three feet of new snow was estimated to have fallen at both the Grand Targhee and Grassy Lake SNOTEL sites. More than a foot of snow also fell in portions of the Salt River and Wyoming ranges, the Absaroka Range, and Yellowstone National Park. Favorable northwest flow aloft also brought over a foot of snow to northern portions of the western Bighorn Range. The heaviest snow in the lower elevations was at Alpine where 16.5 inches of new snow fell. Totals in Jackson Hole approached 10 inches.||East of the Divide, a tight pressure gradient and strong mid-

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					level winds mixing to the surface brought high winds to several locations. The strongest recorded winds were near Clark, where a gust to 113 mph was measured. Measured gusts in the Green and Rattlesnake ranges and on the south side of Casper in Natrona County topped out at 88 mph and 81 mph, respectively. Peak speeds in southern Lincoln County, eastern Sweetwater County, and the Upper Wind River Basin ranged from 60 to 66 mph.
2015	January	Winter Storm	JACKSON HOLE	10	An upper level low and deep Pacific moisture combined to bring heavy snow to areas west of the Continental Divide. The westerly flow favored the Teton Range where the heaviest snow fell. Over three feet of new snow was estimated to have fallen at both the Grand Targhee and Grassy Lake SNOTEL sites. More than a foot of snow also fell in portions of the Salt River and Wyoming ranges, the Absaroka Range, and Yellowstone National Park. Favorable northwest flow aloft also brought over a foot of snow to northern portions of the western Bighorn Range. The heaviest snow in the lower elevations was at Alpine where 16.5 inches of new snow fell. Totals in Jackson Hole approached 10 inches.||East of the Divide, a tight pressure gradient and strong mid-level winds mixing to the surface brought high winds to several locations. The strongest recorded winds were near Clark, where a gust to 113 mph was measured. Measured gusts in the Green and Rattlesnake ranges and on the south side of Casper in Natrona County topped out at 88 mph and 81 mph, respectively. Peak speeds in southern Lincoln County, eastern Sweetwater County, and the Upper Wind River Basin ranged from 60 to 66 mph.
2015	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A cold front and an associated upper level disturbance moved across Wyoming and brought heavy snow to the Teton Range west of the Continental Divide and high winds to areas east of the Divide. Around a foot of new snow fell at the Jackson Hole Mountain Resort. Meanwhile, the normally windier locations of Natrona County and those around Clark saw wind gusts past 58 mph. The highest wind gust recorded was 91 mph near Clark in the Cody Foothills. Other peak speeds were generally from 60 to 65 mph.
2015	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	Two Pacific weather systems moved into western Wyoming and brought heavy snow to some mountain locations. The heaviest snow fell in the Tetons where many of the higher elevation reporting sites were estimated to have received over a foot of snow with a maximum of 20 inches at the Phillips Bench SNOTEL site. Heavy snow also fell in the Salt River and Wyoming ranges with the highest snowfall of 17 inches estimated at the Triple Peak SNOTEL site.
2015	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	Terrain-induced heavy snowfall occurred across western Wyoming as a favorable moist, westerly flow aloft enveloped areas west of the Continental Divide. The heaviest snow fell in Teton County with frequent reports of 12 to 18 inches in Jackson

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					Hole and in the Teton Range. Snow totals of 6 to 10 inches were common across the lower elevations of Lincoln County. The nearby Salt River and Wyoming ranges received about one foot of snow. To the east of the Divide, high wind blew in Natrona County where speeds reached 74 mph on the south side of Casper and 61 mph at the city's international airport.
2015	December	Winter Storm	JACKSON HOLE	12	Terrain-induced heavy snowfall occurred across western Wyoming as a favorable moist, westerly flow aloft enveloped areas west of the Continental Divide. The heaviest snow fell in Teton County with frequent reports of 12 to 18 inches in Jackson Hole and in the Teton Range. Snow totals of 6 to 10 inches were common across the lower elevations of Lincoln County. The nearby Salt River and Wyoming ranges received about one foot of snow. To the east of the Divide, high wind blew in Natrona County where speeds reached 74 mph on the south side of Casper and 61 mph at the city's international airport.
2015	December	Winter Storm	JACKSON HOLE	12	A strong feed of moisture from the Pacific Ocean combined with favorable upper-level dynamics and low-level upslope flow to produce heavy snow across portions of western and central Wyoming. The heaviest snow fell in Natrona County with Casper Mountain receiving the most snow with as much of 32 inches reported. The city of Casper had 10 to 16 inches with higher amounts in the southern sections of town. Thermopolis and Lander also had favorable upslope flow and averaged around 10 and 8 inches of new snow, respectively. Less snow fell in other areas, but gusty winds combined with the snow to produce near white-out conditions that closed major roads including Interstate 25 and US 20/26. Across the west, the most snow fell in the vicinity of Jackson Hole with reports of 6 to 12 inches fairly common, especially north of the town of Jackson.
2016	December	Winter Storm	YELLOWSTONE NATIONAL PARK	27	The combination of a moist Pacific Air mass, strong jet dynamics and cold front passage brought heavy snow to portions of western and central Wyoming. The heaviest snow fell in northwestern Wyoming. Some of the highest amounts of snow recorded were 27 inches at the Two Oceans Plateau SNOTEL site in Yellowstone Park, 21 inches at the top of the Jackson Hole Resort and 18 inches at South Pass in the Wind River Range. In the lower elevations of the west, amounts generally ranged from 4 to 9 inches. Heavy snow also fell around Casper in central Wyoming, where 7 to 10 inches of snow fell across the city. The snow was accompanied by strong winds over 50 mph in many places which resulted in blowing and drifting of the snow as well as some road closures.
2016	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	21	The combination of a moist Pacific Air mass, strong jet dynamics and cold front passage brought heavy snow to portions of western and central Wyoming. The heaviest snow fell in northwestern Wyoming. Some of the highest amounts of snow

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					recorded were 27 inches at the Two Oceans Plateau SNOTEL site in Yellowstone Park, 21 inches at the top of the Jackson Hole Resort and 18 inches at South Pass in the Wind River Range. In the lower elevations of the west, amounts generally ranged from 4 to 9 inches. Heavy snow also fell around Casper in central Wyoming, where 7 to 10 inches of snow fell across the city. The snow was accompanied by strong winds over 50 mph in many places which resulted in blowing and drifting of the snow as well as some road closures.
2016	December	Winter Storm	JACKSON HOLE	12	The combination of a moist Pacific Air mass, strong jet dynamics and cold front passage brought heavy snow to portions of western and central Wyoming. The heaviest snow fell in northwestern Wyoming. Some of the highest amounts of snow recorded were 27 inches at the Two Oceans Plateau SNOTEL site in Yellowstone Park, 21 inches at the top of the Jackson Hole Resort and 18 inches at South Pass in the Wind River Range. In the lower elevations of the west, amounts generally ranged from 4 to 9 inches. Heavy snow also fell around Casper in central Wyoming, where 7 to 10 inches of snow fell across the city. The snow was accompanied by strong winds over 50 mph in many places which resulted in blowing and drifting of the snow as well as some road closures.
2016	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	The passage of a potent Pacific cold front in concert with a favorable jet stream position, strong mid-level winds, and a tightening pressure gradient led to widespread high wind east of the Continental Divide. Some foothill locations experienced the strong wind over an extended period spreading across two days. The strongest winds were in the wind prone areas near Clark where a wind gust of 103 mph was recorded on Thursday, February 18. In northern Johnson County, damage was reported in and around the town of Buffalo where wind gusts of 71 to 81 mph were recorded. The damage consisted of three downed light poles, roof damage of varying degrees, and trees toppled. A semitruck was overturned by high winds along Outer Drive on the south side of Casper around 0745MST on Friday. Strong wind on the west side of Cody blew down at least one billboard later that afternoon. Wind gusts near or above hurricane force were also recorded outside of Casper and in the Absaroka Range. The strong westerly flow also brought heavy snow to the Tetons. Snowfall of 15 inches was reported at Jackson Hole Mountain Resort.
2016	November	Heavy Snow	JACKSON HOLE	24	Low pressure passing through the area followed by a persistent, unstable northwest flow brought heavy snow to portions of the western mountains. Much of the snow fell in bands, leading to big changes in accumulation across short distances. The heaviest amounts fell at Jackson Hole where 2 feet of new snow was reported and in the Salt and Wyoming Ranges where 23 inches fell at Commissary Ridge. In the valleys, the most snow fell in the Jackson Valley where 11.5 inches fell near Wilson.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2016	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A plume of Pacific moisture combined with a strong upper-level disturbance and associated cold front to bring heavy snow to western Wyoming with high wind to the east of the Continental Divide. The heaviest snow fell across the western mountains with over two feet of new snow reported in the higher elevations of the Teton Range. Valley totals generally ranged from 6 to as much as 12 inches. Meanwhile, an increasing pressure gradient and favorable conditions for mountain wave-generated winds produced high winds in Natrona County and around Clark. A wind sensor west of Clark peaked at 95 mph during the mountain wave, while an anemometer on the south side of Casper gusted to 72 mph.
2016	January	Winter Storm	JACKSON HOLE	12	A plume of Pacific moisture combined with a strong upper-level disturbance and associated cold front to bring heavy snow to western Wyoming with high wind to the east of the Continental Divide. The heaviest snow fell across the western mountains with over two feet of new snow reported in the higher elevations of the Teton Range. Valley totals generally ranged from 6 to as much as 12 inches. Meanwhile, an increasing pressure gradient and favorable conditions for mountain wave-generated winds produced high winds in Natrona County and around Clark. A wind sensor west of Clark peaked at 95 mph during the mountain wave, while an anemometer on the south side of Casper gusted to 72 mph.
2016	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	18	After a long stretch of mild and mainly dry weather, a Pacific storm with copious amounts of moisture combined with favorable jet dynamics to bring heavy snow to the western mountains. The heaviest amounts fell in the Teton Range where snow totals of 12 to 18 inches fell in about 24 hours at the Jackson Hole Mountain Resort. Over a foot of snow also fell in portions of the Salt River and Wyoming ranges to the south, and in Yellowstone National Park to the north. Valley locations also received heavy snow of up to 8 inches. Meanwhile, wind gusts over 70 mph were recorded for about 90 minutes late in the evening of March 13 on the east side of the Absaroka Range. A mesonet station west of Clark clocked a peak gust of 90 mph at 2137MST.
2016	March	Winter Storm	YELLOWSTONE NATIONAL PARK	12	After a long stretch of mild and mainly dry weather, a Pacific storm with copious amounts of moisture combined with favorable jet dynamics to bring heavy snow to the western mountains. The heaviest amounts fell in the Teton Range where snow totals of 12 to 18 inches fell in about 24 hours at the Jackson Hole Mountain Resort. Over a foot of snow also fell in portions of the Salt River and Wyoming ranges to the south, and in Yellowstone National Park to the north. Valley locations also received heavy snow of up to 8 inches. Meanwhile, wind gusts over 70 mph were recorded for about 90 minutes late in the evening of March 13 on the east side of the Absaroka Range. A mesonet station west of Clark clocked a peak gust of 90 mph at 2137MST.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2016	March	Winter Storm	JACKSON HOLE	12	After a long stretch of mild and mainly dry weather, a Pacific storm with copious amounts of moisture combined with favorable jet dynamics to bring heavy snow to the western mountains. The heaviest amounts fell in the Teton Range where snow totals of 12 to 18 inches fell in about 24 hours at the Jackson Hole Mountain Resort. Over a foot of snow also fell in portions of the Salt River and Wyoming ranges to the south, and in Yellowstone National Park to the north. Valley locations also received heavy snow of up to 8 inches. Meanwhile, wind gusts over 70 mph were recorded for about 90 minutes late in the evening of March 13 on the east side of the Absaroka Range. A mesonet station west of Clark clocked a peak gust of 90 mph at 2137MST.
2016	December	Winter Weather	YELLOWSTONE NATIONAL PARK	20	A strong and moist flow off of the Pacific combined with favorable jet dynamics to produce heavy snow across much of western Wyoming. The heaviest snow well in the western mountains where 29 inches fell at the Jackson Hole Ski Resort, 24 inches in the Salt and Wyoming Range and 20 inches in southwestern Yellowstone Park. Heavy snow also fell in the Jackson and Star Valleys where 15 inches was measured near Wilson and at the Star Valley Ranch. Meanwhile, strong mid level winds mixing to the surface brought high winds to portions of Fremont and Natrona Counties. The strongest winds were along Outer Drive south of Casper where a gust to 79 mph was recorded. This strong wind brought blowing and drifting and snow that caused travel problems.
2016	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	29	A strong and moist flow off of the Pacific combined with favorable jet dynamics to produce heavy snow across much of western Wyoming. The heaviest snow well in the western mountains where 29 inches fell at the Jackson Hole Ski Resort, 24 inches in the Salt and Wyoming Range and 20 inches in southwestern Yellowstone Park. Heavy snow also fell in the Jackson and Star Valleys where 15 inches was measured near Wilson and at the Star Valley Ranch. Meanwhile, strong mid level winds mixing to the surface brought high winds to portions of Fremont and Natrona Counties. The strongest winds were along Outer Drive south of Casper where a gust to 79 mph was recorded. This strong wind brought blowing and drifting and snow that caused travel problems.
2016	December	Winter Storm	JACKSON HOLE	15	A strong and moist flow off of the Pacific combined with favorable jet dynamics to produce heavy snow across much of western Wyoming. The heaviest snow well in the western mountains where 29 inches fell at the Jackson Hole Ski Resort, 24 inches in the Salt and Wyoming Range and 20 inches in southwestern Yellowstone Park. Heavy snow also fell in the Jackson and Star Valleys where 15 inches was measured near Wilson and at the Star Valley Ranch. Meanwhile, strong mid level winds mixing to the surface brought high winds to portions of Fremont and Natrona Counties. The strongest winds were along Outer Drive south of Casper where a gust to 79 mph was

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					recorded. This strong wind brought blowing and drifting and snow that caused travel problems.
2016	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	14	An upper level disturbance passed over Wyoming and brought locally heavy snow to the Tetons. The highest amount recorded was 14 inches at the Grassy Lake SNOTEL.
2016	December	Winter Storm	JACKSON HOLE	12	A combination of a cold front moving across the area, lee side cyclogenesis and powerful jet dynamics produced heavy snow across many portions of Wyoming. The snow hampered holiday travel in many areas. The worst conditions were across Johnson County where blizzard conditions developed and Interstate 90 was closed for several hours during Christmas Day. West of the Divide, the heaviest snow fell across the Jackson Valley where many areas had a foot of new snow. Meanwhile, East of the Divide the heaviest snow fell from Riverton and Worland to Casper where from 6 to 10 inches of new snow fell.
2016	November	Heavy Snow	TETON & GROS VENTRE MOUNTAINS	24	Low pressure passing through the area followed by a persistent, unstable northwest flow brought heavy snow to portions of the western mountains. Much of the snow fell in bands, leading to big changes in accumulation across short distances. The heaviest amounts fell at Jackson Hole where 2 feet of new snow was reported and in the Salt and Wyoming Ranges where 23 inches fell at Commissary Ridge. In the valleys, the most snow fell in the Jackson Valley where 11.5 inches fell near Wilson.
2016	December	Winter Storm	YELLOWSTONE NATIONAL PARK	32	The combination of ample Pacific moisture, good upper level divergence and an approaching Arctic Front brought heavy snow to many portions of western and central Wyoming. The heaviest snow fell in the western Mountains where many locations eclipsed 2 feet of new snow, with the highest amount of 32 inches at Lewis Lake Divide in Yellowstone Park. Meanwhile, East of the Divide, the heaviest snow fell around the Cody area, where over a foot of snow was common. The snow was accompanied by gusty winds that brought blowing and drifting snow that closed many roads for a time, including Interstate 25 in the vicinity of Casper.
2016	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	The combination of ample Pacific moisture, good upper level divergence and an approaching Arctic Front brought heavy snow to many portions of western and central Wyoming. The heaviest snow fell in the western Mountains where many locations eclipsed 2 feet of new snow, with the highest amount of 32 inches at Lewis Lake Divide in Yellowstone Park. Meanwhile, East of the Divide, the heaviest snow fell around the Cody area, where over a foot of snow was common. The snow was accompanied by gusty winds that brought blowing and drifting snow that closed many roads for a time, including Interstate 25 in the vicinity of Casper.
2016	December	Winter Storm	JACKSON HOLE	12	The combination of ample Pacific moisture, good upper level divergence and an approaching Arctic Front brought heavy snow to many portions of western and central

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					Wyoming. The heaviest snow fell in the western Mountains where many locations eclipsed 2 feet of new snow, with the highest amount of 32 inches at Lewis Lake Divide in Yellowstone Park. Meanwhile, East of the Divide, the heaviest snow fell around the Cody area, where over a foot of snow was common. The snow was accompanied by gusty winds that brought blowing and drifting snow that closed many roads for a time, including Interstate 25 in the vicinity of Casper.
2017	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	19	Another strong, moisture laden Pacific system moved into Wyoming and brought moderate to heavy snow for many areas across western and central Wyoming. In areas West of the Divide, the highest amounts fell in the Tetons where 19 inches of new snow fell at the Jackson Hole Ski Resort. Other notable amounts west of the Divide included 15 inches at the Star Valley Ranch, 15 inches at Green River and 14 inches at Farson. Heavy snow also moved East of the Divide. The heaviest snow occurred in Fremont County where around a foot of new snow fell near Lander with 8 to 10 inches around Riverton. Some other amounts included 7 to 10 inches around Thermopolis and 6 to 9 inches around Casper. As a result of the snow, many roads and mountains passes were closed at times during the winter storm.
2017	January	Winter Storm	YELLOWSTONE NATIONAL PARK	18	A persistent and moist Pacific flow and upper level disturbances moving through the region brought a period of heavy snow to portions of western and northern Wyoming. This event continued into February so please see the February issue of Storm Data for the details on this storm.
2017	January	Winter Storm	JACKSON HOLE	15	Another strong, moisture laden Pacific system moved into Wyoming and brought moderate to heavy snow for many areas across western and central Wyoming. In areas West of the Divide, the highest amounts fell in the Tetons where 19 inches of new snow fell at the Jackson Hole Ski Resort. Other notable amounts west of the Divide included 15 inches at the Star Valley Ranch, 15 inches at Green River and 14 inches at Farson. Heavy snow also moved East of the Divide. The heaviest snow occurred in Fremont County where around a foot of new snow fell near Lander with 8 to 10 inches around Riverton. Some other amounts included 7 to 10 inches around Thermopolis and 6 to 9 inches around Casper. As a result of the snow, many roads and mountains passes were closed at times during the winter storm.
2017	January	Winter Storm	YELLOWSTONE NATIONAL PARK	24	A series of front and upper level disturbances combined with a prolonged and deep flow of Pacific moisture to bring a prolonged period of snow to much of western and northern Wyoming. Total snowfall eclipsed 4 feet in portions of the Tetons as well as the Salt and Wyoming Range. Even in the western Valleys, totals of over a foot were commonplace with some areas receiving over 2 feet. This combined with strong winds that gusted to hurricane force at times in the mountains resulted in road closures and avalanches. Heavy snow also fell across northern Wyoming where a foot or more of

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					new snow fell across northern portions of Big Horn and Park counties. Meanwhile, the passage of fronts brought strong winds to portions of Park, Fremont and Natrona Counties where wind gusts past 70 mph were recorded at times.
2017	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A series of front and upper level disturbances combined with a prolonged and deep flow of Pacific moisture to bring a prolonged period of snow to much of western and northern Wyoming. Total snowfall eclipsed 4 feet in portions of the Tetons as well as the Salt and Wyoming Range. Even in the western Valleys, totals of over a foot were commonplace with some areas receiving over 2 feet. This combined with strong winds that gusted to hurricane force at times in the mountains resulted in road closures and avalanches. Heavy snow also fell across northern Wyoming where a foot or more of new snow fell across northern portions of Big Horn and Park counties. Meanwhile, the passage of fronts brought strong winds to portions of Park, Fremont and Natrona Counties where wind gusts past 70 mph were recorded at times.
2017	January	Winter Storm	JACKSON HOLE	12	A series of front and upper level disturbances combined with a prolonged and deep flow of Pacific moisture to bring a prolonged period of snow to much of western and northern Wyoming. Total snowfall eclipsed 4 feet in portions of the Tetons as well as the Salt and Wyoming Range. Even in the western Valleys, totals of over a foot were commonplace with some areas receiving over 2 feet. This combined with strong winds that gusted to hurricane force at times in the mountains resulted in road closures and avalanches. Heavy snow also fell across northern Wyoming where a foot or more of new snow fell across northern portions of Big Horn and Park counties. Meanwhile, the passage of fronts brought strong winds to portions of Park, Fremont and Natrona Counties where wind gusts past 70 mph were recorded at times.
2017	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	A couple of Pacific cold fronts combined with favorable jet dynamics to produce heavy snowfall across portions of the western mountains. The highest amounts fell in the Tetons and Absarokas, where the Jackson Hole Ski Resort and Blackwater SNOTEL reported 16 inches of new snow respectively. Heavy snow also fell in Yellowstone Park, where 12 inches of snow was reported at Parker Peak. Meanwhile, a tight pressure gradient and mixing of strong winds aloft to the surface brought high winds to portions of central Wyoming. The strongest winds were in the Green and Rattlesnake Range, where a prolonged period of high wind occurred with a maximum gust of 87 mph.
2017	March	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A couple of Pacific cold fronts combined with favorable jet dynamics to produce heavy snowfall across portions of the western mountains. The highest amounts fell in the Tetons and Absarokas, where the Jackson Hole Ski Resort and Blackwater SNOTEL reported 16 inches of new snow respectively. Heavy snow also fell in Yellowstone Park, where 12 inches of snow was reported at Parker Peak. Meanwhile, a tight

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					pressure gradient and mixing of strong winds aloft to the surface brought high winds to portions of central Wyoming. The strongest winds were in the Green and Rattlesnake Range, where a prolonged period of high wind occurred with a maximum gust of 87 mph.
2017	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	A Pacific Cold front and associated upper level disturbance moved across Wyoming and brought heavy snow to parts of Western Wyoming and high wind to portions of central Wyoming. Over a foot of snow fell in portions of the western Mountains with the highest amount in the Salt and Wyoming Range where 15 inches fell at Blind Bull Summit. Meanwhile, strong mid level winds mixed to the surface and brought high winds in some areas East of the Divide. The strongest winds occurred in the wind prone areas near Clark where a gust of 80 mph was recorded. Wind gusts of over 70 mph were recorded in Fremont and Natrona Counties.
2017	February	Winter Storm	YELLOWSTONE NATIONAL PARK	18	This a continuation of the January 31st storm. A moist Pacific flow and a potent upper level system brought heavy snow to portions of western and northern Wyoming. The heaviest snow fell in northwestern Wyoming, especially in the Absarokas where 22 inches of new snow fell at the Beartooth Lake SNOTEL site. Up to 18 inches of snow fell in Yellowstone Park. In the lower elevations East of the Divide, the highest amounts fell along the northern border. In Park County, Wapati picked up 13 inches of new snow. Almost 9 inches fell northwest of Shell in Big Horn County. Amounts dropped off significantly further south. In DuBois, a narrow band of very heavy snow developed and dropped 16 inches of new snow.
2017	February	Winter Storm	JACKSON HOLE	12	The combination of a potent upper level disturbance and an ample supply of Pacific moisture brought heavy snow to portions of western Wyoming. The highest amounts fell in the Tetons were 21 inches of new snow was measured at the Jackson Hole Ski Resort. Over a foot of new snow also fell in portions of the Absarokas, Salt and Wyoming Range and Yellowstone Park. A combination of snow and winds gusting over 60 mph closed South Pass for a time over the Wind River Mountains. In the lower elevations, the heaviest snow fell in the Jackson Valley where a foot of new snow was measured near Wilson. High wind also blew in portions of the Cody foothills where winds topped put at 76 mph near Clark.
2017	February	Winter Storm	YELLOWSTONE NATIONAL PARK	18	A combination of a strong Pacific trough and cold front, an ample supply of moisture combined to bring very heavy snow to much of western Wyoming. The highest amounts fell in the Tetons where almost 3 feet of new snow occurred at the Jackson Hole Ski resort. Heavy snow also fell in the Salt and Wyoming Range where 32 inches of snow occurred at the Indian Creek SNOTEL. Other heavy snowfall amounts included 25 inches at Deer Creek in the Wind River Range, 18 inches at Two Oceans Plateau in Yellowstone, 16 inches near Wilson, and 8 inches in Cody Alpine. The heavy snow

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					combined with gusty winds to produce very low visibility and avalanches that shut down many roads including Teton Pass, Hoback Junction and South Pass. In Jackson, the heavy snow load caused the collapse of the roof onto the Sears Department Store. In addition, strong winds occurred on the evening of the 7th. These strong winds combined with heavy wet snow to down 17 power poles along Highway 390. This led to a power outage that lasted through the 11th. In addition, Jackson Hole Ski Resort was shut down for several days due to the power loss. Meanwhile, strong wind occurred east of the Divide and across southern Wyoming. The maximum wind gusts included 96 mph at Camp Creek in the Green and Rattlesnake Range, 72 mph near Lander and 65 mph along Outer Drive south of Casper.
2017	February	Winter Storm	YELLOWSTONE NATIONAL PARK	12	The combination of a potent upper level disturbance and an ample supply of Pacific moisture brought heavy snow to portions of western Wyoming. The highest amounts fell in the Tetons were 21 inches of new snow was measured at the Jackson Hole Ski Resort. Over a foot of new snow also fell in portions of the Absarokas, Salt and Wyoming Range and Yellowstone Park. A combination of snow and winds gusting over 60 mph closed South Pass for a time over the Wind River Mountains. In the lower elevations, the heaviest snow fell in the Jackson Valley where a foot of new snow was measured near Wilson. High wind also blew in portions of the Cody foothills where winds topped put at 76 mph near Clark.
2017	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	36	A combination of a strong Pacific trough and cold front, an ample supply of moisture combined to bring very heavy snow to much of western Wyoming. The highest amounts fell in the Tetons where almost 3 feet of new snow occurred at the Jackson Hole Ski resort. Heavy snow also fell in the Salt and Wyoming Range where 32 inches of snow occurred at the Indian Creek SNOTEL. Other heavy snowfall amounts included 25 inches at Deer Creek in the Wind River Range, 18 inches at Two Oceans Plateau in Yellowstone, 16 inches near Wilson, and 8 inches in Cody Alpine. The heavy snow combined with gusty winds to produce very low visibility and avalanches that shut down many roads including Teton Pass, Hoback Junction and South Pass. In Jackson, the heavy snow load caused the collapse of the roof onto the Sears Department Store. In addition, strong winds occurred on the evening of the 7th. These strong winds combined with heavy wet snow to down 17 power poles along Highway 390. This led to a power outage that lasted through the 11th. In addition, Jackson Hole Ski Resort was shut down for several days due to the power loss. Meanwhile, strong wind occurred east of the Divide and across southern Wyoming. The maximum wind gusts included 96 mph at Camp Creek in the Green and Rattlesnake Range, 72 mph near Lander and 65 mph along Outer Drive south of Casper.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2017	February	Winter Storm	JACKSON HOLE	16	A combination of a strong Pacific trough and cold front, an ample supply of moisture combined to bring very heavy snow to much of western Wyoming. The highest amounts fell in the Tetons where almost 3 feet of new snow occurred at the Jackson Hole Ski resort. Heavy snow also fell in the Salt and Wyoming Range where 32 inches of snow occurred at the Indian Creek SNOTEL. Other heavy snowfall amounts included 25 inches at Deer Creek in the Wind River Range, 18 inches at Two Oceans Plateau in Yellowstone, 16 inches near Wilson, and 8 inches in Cody Alpine. The heavy snow combined with gusty winds to produce very low visibility and avalanches that shut down many roads including Teton Pass, Hoback Junction and South Pass. In Jackson, the heavy snow load caused the collapse of the roof onto the Sears Department Store. In addition, strong winds occurred on the evening of the 7th. These strong winds combined with heavy wet snow to down 17 power poles along Highway 390. This led to a power outage that lasted through the 11th. In addition, Jackson Hole Ski Resort was shut down for several days due to the power loss. Meanwhile, strong wind occurred east of the Divide and across southern Wyoming. The maximum wind gusts included 96 mph at Camp Creek in the Green and Rattlesnake Range, 72 mph near Lander and 65 mph along Outer Drive south of Casper.
2017	February	Winter Storm	YELLOWSTONE NATIONAL PARK	28	The last of a series of potent Pacific storms moves through the area from February 8th through February 10th. This storm was warmer than the previous systems and much of the precipitation in the western valleys fell as rain rather than snow. This led to localized flooding of low lying areas, although no damage from flooding was reported. Very heavy snow fell again in the higher elevations, with Jackson Hole Ski resort picking up another 28 inches of snow with locations in Yellowstone Park, The Absarokas, Wind River Range and Salt and Wyoming Range picking up over a foot of new snow. Up to 2 inches of rain fell in the western valleys. Rain falling on a heavy snow load caused minor damage to some buildings in Jackson, including the police station. In addition, the heavy wet snow caused numerous avalanches that closed Teton Pass as well as Hoback Junction at times for several days. Meanwhile, East of the Divide very strong mid level winds and the right front quadrant of a 150 knot jet streak brought very strong winds to some areas. The strongest winds occurred over the Cody Foothills. There was numerous gusts of hurricane force near Clark including a maximum gust of 118 mph! Wind gusts past 60 mph were also reported in Fremont and Natrona Counties.
2017	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	21	The combination of a potent upper level disturbance and an ample supply of Pacific moisture brought heavy snow to portions of western Wyoming. The highest amounts fell in the Tetons were 21 inches of new snow was measured at the Jackson Hole Ski Resort. Over a foot of new snow also fell in portions of the Absarokas, Salt and Wyoming Range and Yellowstone Park. A combination of snow and winds gusting over

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					60 mph closed South Pass for a time over the Wind River Mountains. In the lower elevations, the heaviest snow fell in the Jackson Valley where a foot of new snow was measured near Wilson. High wind also blew in portions of the Cody foothills where winds topped put at 76 mph near Clark.
2017	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	28	The last of a series of potent Pacific storms moves through the area from February 8th through February 10th. This storm was warmer than the previous systems and much of the precipitation in the western valleys fell as rain rather than snow. This led to localized flooding of low lying areas, although no damage from flooding was reported. Very heavy snow fell again in the higher elevations, with Jackson Hole Ski resort picking up another 28 inches of snow with locations in Yellowstone Park, The Absarokas, Wind River Range and Salt and Wyoming Range picking up over a foot of new snow. Up to 2 inches of rain fell in the western valleys. Rain falling on a heavy snow load caused minor damage to some buildings in Jackson, including the police station. In addition, the heavy wet snow caused numerous avalanches that closed Teton Pass as well as Hoback Junction at times for several days. Meanwhile, East of the Divide very strong mid level winds and the right front quadrant of a 150 knot jet streak brought very strong winds to some areas. The strongest winds occurred over the Cody Foothills. There was numerous gusts of hurricane force near Clark including a maximum gust of 118 mph! Wind gusts past 60 mph were also reported in Fremont and Natrona Counties.
2017	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	23	The combination of a deep Pacific trough and ample moisture brought heavy snow to portions of western and central Wyoming. The heaviest snow fell across the western mountains. The Tetons where especially hard hit with 23 inches of new snow at Grand Targhee and 20 inches at the Jackson Hole Ski Resort. Heavy snow also fell in the Star Valley with around 10 inches reported at Afton and the Star Valley Ranch. Upslope flow also brought heavy snow the eastern Bighorn Range with 19 inches at the Cloud Peak SNOTEL site. In the lower elevations, East of the Divide, snow bands developed in some areas. On particularly strong one developed over Fremont County and brought blizzard conditions for a short time. 6 to 8 inches of snow fell over a narrow strip, including the city of Riverton. Only five miles outside of the band, snowfall amounts dropped to almost nothing.
2017	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	33	An area of cold low pressure moved in from the Pacific Northwest and then strengthened as it moved East of the Continental Divide. The system had ample moisture and brought heavy snow to many areas. The heaviest snow fell along the East Slopes of the Wind River Range where several areas had over 2 feet with the highest amount of 33 inches at the Townsend Creek SNOTEL. Over a foot of snow also fell across portions of the Bighorn Range, Salt and Wyoming Mountains, Absarokas

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					and Tetons. Across the lower elevations, the highest amounts where around the Riverton and Lander areas where 5 to 10 inches of snow fell, depending on elevation. Between 6 to 12 inches of snow also fell across portions of Johnson County as well as the Jackson Valley. However, effects were much less across the lower elevations. With the high late April sun angle, most major roads in the lower elevations remained largely wet through much of the event. An exception was around Beaver Rim where US 287 was shut down during the height of the storm.
2017	April	Winter Storm	JACKSON HOLE	12	An area of cold low pressure moved in from the Pacific Northwest and then strengthened as it moved East of the Continental Divide. The system had ample moisture and brought heavy snow to many areas. The heaviest snow fell along the East Slopes of the Wind River Range where several areas had over 2 feet with the highest amount of 33 inches at the Townsend Creek SNOTEL. Over a foot of snow also fell across portions of the Bighorn Range, Salt and Wyoming Mountains, Absarokas and Tetons. Across the lower elevations, the highest amounts where around the Riverton and Lander areas where 5 to 10 inches of snow fell, depending on elevation. Between 6 to 12 inches of snow also fell across portions of Johnson County as well as the Jackson Valley. However, effects were much less across the lower elevations. With the high late April sun angle, most major roads in the lower elevations remained largely wet through much of the event. An exception was around Beaver Rim where US 287 was shut down during the height of the storm.
2017	September	Winter Storm	YELLOWSTONE NATIONAL PARK	24	An usually cold air mass and a plume of Pacific moisture combined to bring heavy snow to the mountains of northwestern Wyoming. The highest amounts were in Yellowstone Park where close to 2 feet fell in some of the higher elevations. Over a foot of snow also fell in portions of the Tetons and Absarokas. At lower elevations, temperatures remained warm enough for much of the precipitation to fall as rain or wet snow that did not accumulate.
2017	September	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	An usually cold air mass and a plume of Pacific moisture combined to bring heavy snow to the mountains of northwestern Wyoming. The highest amounts were in Yellowstone Park where close to 2 feet fell in some of the higher elevations. Over a foot of snow also fell in portions of the Tetons and Absarokas. At lower elevations, temperatures remained warm enough for much of the precipitation to fall as rain or wet snow that did not accumulate.
2017	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	15	A plume of moisture moved into western Wyoming and brought locally heavy snow. The highest amounts were recorded in the Tetons and Salt and Wyoming Range where up to 15 inches of snow fell. Heavy snow also fell in portions of the Star Valley where 8 inches of snow was measured.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2017	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Another moisture laden Pacific Storm system moved into western Wyoming on the heels of the previous storm on November 1st and brought another round of heavy snow to the western mountains of Wyoming. Over a foot of new snow fell in many of the higher elevations of the mountains with close to 2 feet in some locations. Some of the more notable snowfall amounts include 23 inches at the Willow Creek SNOTEL in the Salt and Wyoming Range and Lewis Lake Divide in Yellowstone Park, 20 inches at Jackson Hole Ski Resort and 18 inches at Beartooth Lake in the Absarokas.
2017	November	Winter Storm	YELLOWSTONE NATIONAL PARK	23	Another moisture laden Pacific Storm system moved into western Wyoming on the heels of the previous storm on November 1st and brought another round of heavy snow to the western mountains of Wyoming. Over a foot of new snow fell in many of the higher elevations of the mountains with close to 2 feet in some locations. Some of the more notable snowfall amounts include 23 inches at the Willow Creek SNOTEL in the Salt and Wyoming Range and Lewis Lake Divide in Yellowstone Park, 20 inches at Jackson Hole Ski Resort and 18 inches at Beartooth Lake in the Absarokas.
2017	November	Heavy Snow	YELLOWSTONE NATIONAL PARK	20	Another Pacific front with decent jet dynamics brought heavy snow to portions of the western Wyoming mountains and strong winds in portions of central Wyoming. New snowfall amounts eclipsed 18 inches in portions of the western mountains with some notable amounts including 2 feet at the Jackson Hole Ski Resort, 22 inches at Blind Bull Summit in the Salt and Wyoming Range and 20 inches at the Two Ocean Plateau in Yellowstone Park. Meanwhile, East of the Divide strong winds were the main concern. Wind gusts past 58 mph were recorded in portions of Park, Johnson, Natrona and Fremont Counties.
2017	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	Another Pacific front with decent jet dynamics brought heavy snow to portions of the western Wyoming mountains and strong winds in portions of central Wyoming. New snowfall amounts eclipsed 18 inches in portions of the western mountains with some notable amounts including 2 feet at the Jackson Hole Ski Resort, 22 inches at Blind Bull Summit in the Salt and Wyoming Range and 20 inches at the Two Ocean Plateau in Yellowstone Park. Meanwhile, East of the Divide strong winds were the main concern. Wind gusts past 58 mph were recorded in portions of Park, Johnson, Natrona and Fremont Counties.
2017	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A plume of Pacific moisture moved into Western Wyoming ahead of an Arctic Cold front and brought heavy snow to portions of the area. The highest amounts fell across the Tetons as well as the Salt and Wyoming Range where over a foot of new snow was common with some areas eclipsing the two foot mark. Heavy snow bands also developed in the Star Valley with many areas having over a foot of new snow.
2017	December	Winter Storm	YELLOWSTONE NATIONAL PARK	25	A cold front set up across the Montana-Wyoming border and stalled for a couple of days before eventually dropping southward into Wyoming. The front had ample

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					moisture to work with with several disturbances riding along it. Although the main effects were across Montana, some wind and snow made it into Wyoming. The heaviest snow fell in the northern Absarokas where 25 inches of new snow was recorded at the Beartooth Lake SNOTEL site. Mid level winds were also very strong with this system and mixed to the surface in some locations. Although most of the strongest winds remained over areas with very little population, some gusts were very impressive. Some of the highest included 95 mph at the Camp Creek RAWS site in the Green Mountains and 93 mph at Hoyt Peak in Yellowstone Park.
2018	February	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A complex and potent winter storm crossed western and central Wyoming and brought heavy snow and high wind to many locations. Strong winds occurred ahead of the storm in portions of central Wyoming, with some of the strongest gusts were 78 mph at Fales Rock and 75 mph along Wyoming Boulevard on the south side of Casper. Following that, heavy snow fell. Over a foot of new snow fell in portions of the Tetons, Absarokas and Casper Mountain as well as in Yellowstone Park. In the lower elevations, the heaviest snow fell around Casper where up to 15 inches was measured. Other areas with over 6 inches included around Rock Springs, northern Big Horn County and around Bondurant.
2018	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A complex and potent winter storm crossed western and central Wyoming and brought heavy snow and high wind to many locations. Strong winds occurred ahead of the storm in portions of central Wyoming, with some of the strongest gusts were 78 mph at Fales Rock and 75 mph along Wyoming Boulevard on the south side of Casper. Following that, heavy snow fell. Over a foot of new snow fell in portions of the Tetons, Absarokas and Casper Mountain as well as in Yellowstone Park. In the lower elevations, the heaviest snow fell around Casper where up to 15 inches was measured. Other areas with over 6 inches included around Rock Springs, northern Big Horn County and around Bondurant.
2018	February	Winter Storm	JACKSON HOLE	12	A complex and potent winter storm crossed western and central Wyoming and brought heavy snow and high wind to many locations. Strong winds occurred ahead of the storm in portions of central Wyoming, with some of the strongest gusts were 78 mph at Fales Rock and 75 mph along Wyoming Boulevard on the south side of Casper. Following that, heavy snow fell. Over a foot of new snow fell in portions of the Tetons, Absarokas and Casper Mountain as well as in Yellowstone Park. In the lower elevations, the heaviest snow fell around Casper where up to 15 inches was measured. Other areas with over 6 inches included around Rock Springs, northern Big Horn County and around Bondurant.
2018	January	Winter Storm	JACKSON HOLE	12	A series of upper level disturbances and a supply of Pacific moisture brought locally heavy snow to portions of western Wyoming. In the mountains, they highest amounts

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					fell in the Salt and Wyoming Range, including a maximum of 21 inches at the Willow Creek SNOTEL site. In the Tetons, the Jackson Hole Ski Resort had 16 inches of new snow. In the Jackson Valley, amounts generally ranged from 8 to 12 inches. The Star Valley also saw heavy snow, with amounts ranging from 5 inches at Afton to 12 inches at Alpine. Strong southwest wind also occurred with the system, with the Camp Creek RAWS in the Green Mountains experiencing a maximum wind gust of 84 mph.
2018	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	29	A couple of upper level disturbances brought heavy snow to portions of the western mountains. The heaviest snow fell in the Tetons where over a foot of new snow was widespread. The Jackson Hole Ski resort reported 29 inches of new snow fell. Heavy snow also fell in the Salt and Wyoming Range with 15 inches of snow reported at Commissary Ridge and Blind Bull Summit.
2018	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	21	A series of upper level disturbances and a supply of Pacific moisture brought locally heavy snow to portions of western Wyoming. In the mountains, they highest amounts fell in the Salt and Wyoming Range, including a maximum of 21 inches at the Willow Creek SNOTEL site. In the Tetons, the Jackson Hole Ski Resort had 16 inches of new snow. In the Jackson Valley, amounts generally ranged from 8 to 12 inches. The Star Valley also saw heavy snow, with amounts ranging from 5 inches at Afton to 12 inches at Alpine. Strong southwest wind also occurred with the system, with the Camp Creek RAWS in the Green Mountains experiencing a maximum wind gust of 84 mph.
2018	February	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	A pair of cold fronts moved across Wyoming and brought areas of heavy snow across northern and western portions of the state. The Big Horn Mountains saw heavy snow with some notable amounts including 20 inches at the Powder River SNOTEL and 16 inches at Shell Creek. Some of the other high amounts in the mountains included 19 inches at Evening Star in the Absarokas, 16 inches at Blind Bull Summit in the Salt and Wyoming Range and 13 inches at Togwotee Pass in the Tetons. In the Big Horn Basin, 10 inches of snow fell at Ten Sleep and anywhere from 6 to 9 inches in the Greybull area. In addition, an intense snow squall developed in western Fremont County and moved at speeds of up to 70 mph across the Wind River Basin. Wind gusts of up 77 mph were reported, and the intense winds destroyed a trailer on the Wind River Indian Reservation.
2018	March	Winter Storm	YELLOWSTONE NATIONAL PARK	29	A series of upper level disturbance brought very heavy snow to localized areas of western Wyoming. Across portions of the Tetons, persistent convective banding set up and brought periods of 2 to 3 inch an hour snowfall. At the Grand Targhee Ski Resort, 57 inches of snow was recorded through the storm. Jackson Hole received 29 inches of new snow. Heavy snow fell in the Jackson Valley as well with 8 to 14 inches around the valley. Lincoln County also saw heavy snow with over 1 foot common in the Star Valley with a maximum of 19 inches near Thayne.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2018	March	Winter Storm	TETON & GROS VENTRE MOUNTAINS	57	A series of upper level disturbance brought very heavy snow to localized areas of western Wyoming. Across portions of the Tetons, persistent convective banding set up and brought periods of 2 to 3 inch an hour snowfall. At the Grand Targhee Ski Resort, 57 inches of snow was recorded through the storm. Jackson Hole received 29 inches of new snow. Heavy snow fell in the Jackson Valley as well with 8 to 14 inches around the valley. Lincoln County also saw heavy snow with over 1 foot common in the Star Valley with a maximum of 19 inches near Thayne.
2018	March	Winter Storm	JACKSON HOLE	14	A series of upper level disturbance brought very heavy snow to localized areas of western Wyoming. Across portions of the Tetons, persistent convective banding set up and brought periods of 2 to 3 inch an hour snowfall. At the Grand Targhee Ski Resort, 57 inches of snow was recorded through the storm. Jackson Hole received 29 inches of new snow. Heavy snow fell in the Jackson Valley as well with 8 to 14 inches around the valley. Lincoln County also saw heavy snow with over 1 foot common in the Star Valley with a maximum of 19 inches near Thayne.
2018	April	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A strong cold front moving into northern Wyoming combined with potent jet dynamics to produce heavy snow across portions of northern Wyoming. Over a foot of snow fell in portions of Yellowstone Park, the Tetons and the Absarokas. Heavy snow fell across the lower elevations as well. Up to 8 inches fell around the Cody area and combined with strong winds to produce near zero visibility and road closures. Strong winds and heavy snow also combined to close roads in northern Johnson County. Further south, high winds were the problem in portions of Fremont and Sweetwater Counties. Winds gusted to 71 mph at Fales Rock RAWS site and 63 mph at Bitter Creek along Interstate 80.
2018	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A strong cold front moving into northern Wyoming combined with potent jet dynamics to produce heavy snow across portions of northern Wyoming. Over a foot of snow fell in portions of Yellowstone Park, the Tetons and the Absarokas. Heavy snow fell across the lower elevations as well. Up to 8 inches fell around the Cody area and combined with strong winds to produce near zero visibility and road closures. Strong winds and heavy snow also combined to close roads in northern Johnson County. Further south, high winds were the problem in portions of Fremont and Sweetwater Counties. Winds gusted to 71 mph at Fales Rock RAWS site and 63 mph at Bitter Creek along Interstate 80.
2018	April	Winter Storm	TETON & GROS VENTRE MOUNTAINS	24	A Pacific storm moved into Wyoming and brought locally heavy snow and high wind. The heaviest snow fell in the Tetons where some areas received up to 2 feet of new snow. Locally high winds also occurred in southern Wyoming, where Bitter Creek had sustained winds of over 40 mph for an hour and a half.

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
2018	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A Pacific system crossed Wyoming and brought heavy snow to portions of western Wyoming and high wind to central Wyoming. Over a foot of new snow fell at the Jackson Hole Ski resort with up to 10 inches reported around Alpine. Meanwhile, East of the Divide high winds were the story. The highest wind gusts were the RAWS sites in the Green Mountains where gusts of 73 mph were recorded. In the lower elevations, the highest wind gust recorded was 71 mph along Wyoming Boulevard to the south of Casper.
2018	December	Winter Storm	TETON & GROS VENTRE MOUNTAINS	20	A Pacific weather system moved across western and central Wyoming and brought locally heavy snow and high winds. In the western mountains, the heaviest snow fell in the Tetons where 20 inches of new snow fell at Grand Targhee. The heaviest snow in the lower elevations occurred at Alpine where 10 inches of snow fell. In areas East of the Divide, the heaviest snow fell near Thermopolis where up to a foot of snow fell. Elsewhere, snowfall was lighter. However, in some areas snow combined with wind gusts over 50 mph the bring near zero visibility. The caused the closure of roads in Johnson County for several hours. Other roads were closed in portions of Natrona, Hot Springs and Fremont Counties. Strong winds also occurred ahead of the system in the Cody Foothills, where a wind gust of 81 mph occurred the south of Clark. The winds extended into Cody itself where the Cody airport had a wind gust to 58 mph.
2018	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	16	A Pacific cold front moved across western Wyoming and brought heavy snow to the Tetons as well as the Salt and Wyoming Ranges. Some of the highest snowfall amounts included 16 inches at Grand Targhee and 12 inches at Spring Creek Divide.
2018	November	Winter Storm	YELLOWSTONE NATIONAL PARK	12	A cold front swept across western and central Wyoming from Friday into Saturday and brought heavy snow and difficult travel conditions to many areas. The heaviest snow fell in Absarokas where 21 inches fell in Pahaska. A foot or more of new snow also fell in portions of Yellowstone Park and the Tetons. The heaviest snow in the lower elevations fell in northern Wyoming. Some notable amounts include 10 inches at Bondurant, 9 inches in Cody and 10 inches in Thermopolis. Even in areas that received less snow, the combination of snow, gusty wind and black ice from rapidly falling temperatures brought very difficult travel conditions. Interstates 25 and 80 were shut down for a time, as well South Pass over the Wind River Mountains.
2018	November	Winter Storm	TETON & GROS VENTRE MOUNTAINS	12	A cold front swept across western and central Wyoming from Friday into Saturday and brought heavy snow and difficult travel conditions to many areas. The heaviest snow fell in Absarokas where 21 inches fell in Pahaska. A foot or more of new snow also fell in portions of Yellowstone Park and the Tetons. The heaviest snow in the lower elevations fell in northern Wyoming. Some notable amounts include 10 inches at Bondurant, 9 inches in Cody and 10 inches in Thermopolis. Even in areas that received less snow, the combination of snow, gusty wind and black ice from rapidly falling

YEAR	MONTH	EVENT_TYPE	CZ_NAME	MAX TOTALS	EPISODE_NARRATIVE
					temperatures brought very difficult travel conditions. Interstates 25 and 80 were shut down for a time, as well South Pass over the Wind River Mountains.
2018	November	Winter Storm	JACKSON HOLE	10	A cold front swept across western and central Wyoming from Friday into Saturday and brought heavy snow and difficult travel conditions to many areas. The heaviest snow fell in Absarokas where 21 inches fell in Pahaska. A foot or more of new snow also fell in portions of Yellowstone Park and the Tetons. The heaviest snow in the lower elevations fell in northern Wyoming. Some notable amounts include 10 inches at Bondurant, 9 inches in Cody and 10 inches in Thermopolis. Even in areas that received less snow, the combination of snow, gusty wind and black ice from rapidly falling temperatures brought very difficult travel conditions. Interstates 25 and 80 were shut down for a time, as well South Pass over the Wind River Mountains.
2019	January	Winter Storm	JACKSON HOLE	10	A fast moving system moved through Wyoming. Snowfall amounts were light to moderate for the most part. However, convective banding developed over Teton County and brought locally heavy amounts of snow. The highest amount was 22 inches at the Jackson Hole Ski Resort. In the lower elevations, Teton Village had 10 new inches of snow. Amounts dropped sharply further south.
2019	January	Winter Storm	TETON & GROS VENTRE MOUNTAINS	22	A fast moving system moved through Wyoming. Snowfall amounts were light to moderate for the most part. However, convective banding developed over Teton County and brought locally heavy amounts of snow. The highest amount was 22 inches at the Jackson Hole Ski Resort. In the lower elevations, Teton Village had 10 new inches of snow. Amounts dropped sharply further south.

5.7 Appendix G- Completed Actions

MitigationActivity	Effect	Outcome	AssociatedGoal	ProjectStatus	PotentialFundingRoute	CurrentFundingStatus	BenefitCostScore	Creator	Agency Name	Project Name	Email	Project Start Date	Project End Date
Landslide Mitigation	Install buttresses at base of landslide area to stabilize hillside.	Stabilized hillside to protect homes above, businesses below, and infrastructure around West Broadway.		Mitigation Activity Successfully Completed	Multiple Sources	Completed		Rich Ochs	Town of Jackson	Budge Landslide Stabilization	rochs@tetoncountywy.gov		
Power Outage Mitigation	Move backup generator from Station 1 in Jackson to Station 4 in Moran and connect to facility with automatic transfer switch.	Moran Fire Station can operate during a power outage and serve as an area of refuge for the community.		Mitigation Activity Successfully Completed	Agency Budget	Completed		Rich Ochs	Jackson Hole Fire/EMS	Moran Fire Station Generator	rochs@tetoncountywy.gov		
Lightning Mitigation	Install lightning rods on Teton County Morgue to have lightning protection for Morgue and County EOC which are adjacent.	Lightning protection for the County Morgue and County EOC.		Mitigation Activity Successfully Completed	Agency Budget	Completed		Rich Ochs	Teton County Coroner	Lightning Rods at County Morgue	rochs@tetoncountywy.gov		
Flood Mitigation	Prevent Flat Creek from flooding pathway underneath S Highway 89 south towards Smith's Food & Drug behind Decker's Auto Care.			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Brian Schilling (Rich Ochs entered)	Pathways	Smith's Pathway Flood Barrier	bschilling@tetoncountywy.gov		
Power Outage Mitigation	Bury transmission power lines that ran along Highway 390 for about a mile south of Teton Village that were blown down during a February 2017 winter storm. Burying the lines will make the grid in the area more resilient to power outages.			Mitigation Activity Successfully Completed	HMA Hazard Mitigation Grant Program	Completed		Rich Ochs	Lower Valley Energy	"Windy Mile" Power Line Burial	rochs@tetoncountywy.gov	2/28/2017 23:59	2/28/2018 23:59
Earthquake Mitigation	Distribute water heater straps to the public, raise awareness of fire hazard caused by unsecured water heaters in earthquakes and floods, encourage local hardware stores to carry straps, and encourage contractors to install them.			Mitigation Activity Successfully Completed	Other Grant	Completed		Rich Ochs	Teton County Emergency Management	Water Heater Strap Distribution	rochs@tetoncountywy.gov	1/1/2017 22:36	12/31/2017 22:37
Avalanche Mitigation	Signs posted on both sides of Teton Pass warning the public of planned and ongoing avalanche control operations. Allows backcountry users to know to not go into avalanche control areas when avalanche control is planned.			Mitigation Activity Successfully Completed	Agency Budget	Completed		Rich Ochs	Wyoming Department of Transportation	Avalanche Control Warning Signs - Teton Pass	rochs@tetoncountywy.gov	3/1/2019 22:42	
Landslide Mitigation	Rocks on the roadway, and even several instances of rocks striking vehicles, has occurred along the north entrance to South Park Loop Rd. Town of Jackson Public Works installed retaining walls and netting to stop rocks from falling.			Mitigation Activity Successfully Completed	Agency Budget	Completed		Rich Ochs	Town of Jackson Public Works	North Entrance South Park Loop Rock slide Mitigation	rochs@tetoncountywy.gov		
Landslide Mitigation	Project aimed to stabilize Budge Hillside to protect public assets, including streets, water, and sewer.			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Johnny Ziem	Town of Jackson, WY	Budge Drive Landslide Stabilization	jziem@jacksonwy.gov		12/1/2018 16:15
Landslide Mitigation	Protect water assets related to Budge Landslide			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Johnny Ziem	Town of Jackson, WY	Water Line Upgrade and New Booster Station (related to Budge Stabilization Project)	jziem@jacksonwy.gov		
Power Outage Mitigation	Enable backup power sources at these locations			Mitigation Activity Successfully Completed	Agency Budget	Completed		Johnny Ziem	Town of Jackson	Backup Generators for Spring Gulch Lift Station	jziem@jacksonwy.gov		
Power Outage Mitigation	Provide backup power to the START Bus Facility			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Johnny Ziem	Town of Jackson, WY	Backup Generator installed at START Bus Facility	jziem@jacksonwy.gov		11/26/2015 16:24
Power Outage Mitigation	Renewable power generation at the START Bus Facility that generates power onto the grid.			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Johnny Ziem	Town of Jackson, WY	START Bus Solar Panel Project	jziem@jacksonwy.gov		11/26/2015 17:11
Power Outage Mitigation	To generate renewable power and distribute power onto the grid			Mitigation Activity Successfully Completed	Multiple Sources	Completed		Johnny Ziem	Town of Jackson, WY	Government Agency Shared Solar Project Wastewater Treatment Facility	jziem@jacksonwy.gov	12/5/2018 17:13	
Landslide Mitigation	updated local land development requirements to better prevent landslide issues resulting from construction on/in steep slopes and hill sides			Mitigation Activity Successfully Completed	Agency Budget	Completed		Floren Poliseo	Town of Jackson	Hillside LDR Updates	fpoliseo@jacksonwy.gov	1/1/2018 20:41	1/7/2019 20:45
Miscellaneous / Other	submersible pumps bring fuel tanks online with generators to ensure operable during power outages or other disasters/emergencies. Allows fueled equipment to remain available for dispatch, etc.			Mitigation Activity Successfully Completed	Agency Budget	Completed		Floren Poliseo	Town of Jackson	Fuel tank pumps	fpoliseo@jacksonwy.gov	7/2/2018 20:03	5/31/2019 20:03

5.8 Appendix H- Capabilities Assessment

Community Capabilities Assessment

Assessing capabilities is an important step in the hazard mitigation planning process. This assessment inventories all of a jurisdiction's existing planning and regulatory tools, includes an analysis of their capacity to be used effectively, and identifies any gaps, conflicts, and/or weaknesses that may need to be addressed. It also helps to ensure the proposed mitigation actions are feasible given the capabilities to implement them.

There are four primary types of capabilities:

1. **Planning and Regulatory:** These are based on ordinances, policies, local laws, as well as State statutes. This also includes plans and programs that relate to guiding and managing growth and development. Examples include transportation plans, land use plans and zoning, and building codes.
2. **Administrative and Technical**: This refers to the community's available staff, skills, and tools that can be used to implement mitigation planning and actions. This includes the types of personnel employed, their expertise, and ability to coordinate among jurisdictions.
3. **Financial:** These are the resources a jurisdiction has access to or has available to fund mitigation. Examples include taxes, stormwater utility or development impact fees, or grant funding.
4. **Education and Outreach:** This refers to education and outreach programs, methods, and efforts that are already in palace that could be used to implement mitigation activities and communicate information related to hazards.

Please use the following tabs to assess community capabilities by capability type.

1. Planning and Regulatory Capabilities: Plans, Tools and Programs

This section is broken into two parts, Plans and Tools & Programs. Please indicate which of the following are in place. If there are plans, tools, and/or programs not listed, please add them in the blank rows provided.

Plans	Status			Department or Agency Responsible	Addresses Hazards (Y/N), If so, where?	Projects to include in mitigation strategy (Y/N). If so, which?	Can this plan be used to implement mitigation actions? (Y/N) If so, how?	How can these be expanded or improved to reduce risk?	Other Comments
	In Place	Date Adopted or Most Recently	Under Development						
Jackson/Teton County Comprehensive Plan	X	6-Apr-12		Jackson/Teton County					
Capital Improvement Plan	X	Oct-18		Teton County Administration	Includes capital improvement requests for public safety issues.	could be used to plan funding for future projects.	Yes, by including mitigation projects in CIP.		Updated annually. Planning document only, not a budgeting document.
Economic Development Plan			Sort of	Town, County, and JH Chamber of Commerce					JH Chamber indicates little support for this. May address again with new elected officials.
Teton County Emergency Operations Plan	X	2015		Teton County Emergency Management	Yes, entire plan.	No	No, should be addressed in NHMP.		Due for update.
Integrated Transportation Plan	X	2015		Teton Co/ Jackson Planning and Engineering Depts					
Surface Water Drainage Infrastructure Master Plan	X	2001		Town of Jackson Public Works	Yes, stormwater management/flooding	No, needs update	Yes, flooding and waterway management		
Flat Creek Watershed Management Plan	X	2006	X	Teton Conservation District	Yes, flooding				
Stormwater Management Plan (addressed in LDRs for County)									Any land disturbance has stormwater management and erosion control requirements.
Community Wildfire Protection Plan	X	2014		Teton County, US Forest Service, National Park Service					
International Code Council 2018 Building Code	X	1-Jun-19		Teton County Building Official	Yes, throughout the code		Yes, will need to consult with building officials		
International Code Council 2018 Building Code		1-Jul-19	X	Town of Jackson Building Official	Yes, throughout the code		Yess, will need to consult with building officials		
Natural Resource Protection Plan									
Historic Preservation Plan			X	Teton County Historic Preservation Board					years old must be reviewed by the Hist Pres Board.
Farmland Preservation Plan									Covered by open space regulations in LDRs
Open Space Management Plan (may be addressed in Comp Plan)									
Teton Conservation District Strategic Plan	X			Teton Conservation District					
Community Health Needs Assessment	X	2015		Teton County					
Town/County Training and Exercise Plan	X	2018		Teton County Public Health					
Strategic National Stockpile Plan	X	2012		Teton County Public Health					
Town/County NIMS Training Plan	X	2019		Teton County Emergency Management					
Teton County/Town of Jackson All-Hazards Recovery Plan	X	2018		Teton County Emergency Management					
Town/County Debris Management Plan			X						
Town/County Resource Inventory			X						
Town/County Emergency Alert System (EAS) Plan			X						
TCEM Continuity of Operations Plan (COOP)			X						
Teton County EOC SOP's			X						
Town/County Evacuation Plan			X						
11 Levee System Emergency Action Plans			X						
Teton County/Town of Jackson Hazardous Materials Emergency Response Plan	X	2018							
Town/County Continuity of Government Plan (COG)			X						
AWIA Snake River Basin Flood Prevention Action Plan		2019	X	US Bureau of Reclamation, Upper Snake River Field Office	Yes, entire plan.	Unknown yet, but I don't believe so	Possibly, if they are policy-based.		
Maintenance Biological Assessment	X	2018		US Army Corps of Engineers	Describes operations for flood protection on levee system.	Projects involve mitigating wildlife disturbance.			

Tools and Programs	Status			Department or Agency Responsible	On a scale of low, med, high, how effective for reducing hazard impacts is this? Please describe why.	Is this adequately administered and enforced? (Y/N) Why or why not?	Can this plan be used to implement mitigation actions? (Y/N) If so, how?	How can these be expanded or improved to reduce risk?	Other Comments
	In Place	Date Adopted or Most Recently	Under Development						
Zoning Ordinance									
Subdivision Ordinance									
Floodplain Ordinance (Teton County)	X	9/15/2015		Teton County Public Works - County Floodplain Administrator	High - impacts where things can be built in the floodplain				
Floodplain Ordinance (Town of Jackson)	X	9/8/2015		Town of Jackson Public Works - Town Engineer	High - impacts where things can be built in the floodplain				
Natural Hazard Ordinance (stormwater, steep slope, wildfire)									
Flood Insurance Rate Maps/NFIP	X	9/16/2015			High - impacts flood insurance requirements				
Acquisition of land for open space and public recreation uses	X			Jackson Hole Land Trust, Jackson Hole Conservation Alliance	Low				
Land Development Regulations	X			Town of Jackson and Teton County	High - impacts how the county is developed in relation to areas with hazards				
Flood Insurance Study - Teton County WY (FEMA, 2015)	X	9/16/2015		FEMA	High - basis for FIRMs and floodplain planning	Y	Describes areas that are susceptible to flooding and that should have flood insurance or mitigation		

2. Administrative and Technical

Please identify which of the following administrative and technical capabilities are available. If there are administration, staff, or technical roles not listed, please add them in the blank rows provided

Administration, Staff, and Technical Capabilities	Yes	No	Department or Agency	Describe capability. Is coordination effective? Is staffing adequate? Is staff trained on hazard mitigation? Has the capability been used to access/mitigate risk in the past?	Other Comments
Planning Commission/Board					
Mitigation Planning Committee		X			
Maintenance programs to reduce risk (eg. tree trimming, clearing drainage systems)	X		Parks & Recreation; Town Public Works	Parks & Recreation has an arborist on staff that maintains trees. They have a hazard tree program; also certified as Tree City USA. Town Public Works has a streets division that maintains storm drains when they are blocked. Also working on developing a new stormwater management plan.	
Mutual aid agreements	X		Multiple	TCSO has law enforcement agreement with Grand Teton NP. Jackson PD and TCSO have law enforcement agreement. TCEM maintains the Wyoming Inter-County Mutual Aid Agreement, which is a County Commission-to-County Commission agreement between 20 of the 23 Wyoming counties. Teton County is a signatory to the Annual Operating Plan (AOP), which is a wildland fire mutual aid agreement. TCEM maintains an MOU with American Red Cross to provide sheltering for people, an MOU with PAWS of JH to provide sheltering for pets, and an MOU with Teton County Voluntary Organizations Active in Disasters (VOAD) for other unmet needs.	
Chief Building Official	X		Town of Jackson and Teton County	Can fluctuate depending on available staffing, construction market, and overall economy. Would have a very difficult time with surge staffing during a major disaster.	
Floodplain Administrator	X		Town of Jackson and Teton County	County floodplain administrator is local expert on FEMA floodplain issues. Town Engineer serves as floodplain administrator for the Town of Jackson.	
Emergency Manager	X		Teton County Emergency Management	One named Emergency Management Coordinator for both the Town of Jackson and Teton County. Also have a Program Assistant. Staffing is not adequate to pursue and maintain mitigation project funding for anything beyond updates of Town/County Hazard Mitigation Plan.	
Community Planner					
Civil Engineer	X		Teton County and Town of Jackson	Teton County and the Town of Jackson each have engineering departments that oversee public works projects.	
Land surveyor	X		Teton County Road & Levee	One land surveyor on staff.	
GIS Coordinator		X		The County contracts with an outside vendor for GIS services and has no internal GIS capabilities.	
Warning systems/services (Reverse 911, outdoor warning signals)	X		Teton County Emergency Management	County has network of outdoor warning sirens, Nixle SMS/email notification system, EAS encoder/decoder, agreement with NWS to broadcast on NOAA transmitter in emergencies, and four systems that can push information out through IPAWS/WEA.	
Hazard data and information	X		Teton County Emergency Management	Included in HVA in latest approved version of Hazard Mitigation Plan	
Grant writing		X		Teton County and the Town of Jackson do not have dedicated grant writing staff any longer.	
Hazus analysis	X		Wyoming Office of Homeland Security	WOHS has completed both Flood and Earthquake HAZUS models for Teton County.	
FEMA Flood Risk Report 6/1/2015	X		FEMA	Report finalized with maps on 6/1/15. Uploaded to Teams Files. Includes analysis of flood hazards (HAZUS FLOOD) and landslides with mitigation projects.	Could be good source for mitigation projects.

3. Financial

Identify whether the following funding sources are accessible or eligible to be used for hazard mitigation. If there are funding resources not listed, please add them in the blank rows provided.

Funding Resource	Access/Eligibility (Y/N)	Has the funding resource been used in the past and for what type of activities?	Could the resource be used to fund future mitigation actions?	Other Comments
Capital Improvements project funding	Y	Yes, mainly for public works projects.	Yes	
Authority to levy taxes for specific purposes	Y	Yes, for community wide projects	Yes	New taxes or increases in property taxes would not be viewed favorably. However, putting projects on the slate for 6th penny sales tax (Specific Purpose Excise Tax SPET) for residents to vote for is a possibility.
Fees for water, sewer, gas, or electric services	Y	Yes, Lower Valley Energy tacked on fees to customers who benefitted from burying the transmission lines on Teton Village Rd that collapsed during a winter storm in February 2017.	Yes, if the project was directly related to that utility.	
Impact fees for new development				
Stormwater utility fee				
Community Development Block Grant	Y	Possibly. The State has Consensus Block Grants derived from mineral royalties that can be awarded to communities for various improvement projects.	Yes	
Other federal funding programs	Y	FEMA Pre-Disaster Mitigation Program has funded Mitigation Plan updates. Hazard Mitigation Grant Program has funded several culvert projects and the burying of power lines.	Yes	
State funding programs				
General obligation, revenue, and/or special tax bonds	Y	County and Town budgets fund mitigation projects, especially those related to public works.	Yes	
Natural Resources Conservation Service Grants	Y	Yes	Yes	The Teton Conservation District is the technical expert on the available grants.
Teton Conservation District	Y	Yes	Yes.	Teton Conservation District has several programs to assist property owners with erosion, flooding, and wildfire mitigation.

4. Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. If there are education and outreach resources not listed, please add them in the blank rows provided.

Program/Method	Y/N	Describe the program or method and how it related to disaster resilience and mitigation	Could the program or method help improve future mitigation activities?	Other Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	TCEM manages an active Community Emergency Response Team (CERT) program. There is also an active Voluntary Organizations Active in Disaster (VOAD) in Teton County. Several community organizations (One22, Senior Center of Jackson Hole, Teton County Health Department) have inroads to the AFN populations.	Yes	
Ongoing public education or information program(s) (eg. responsible water use, fire safety, household preparedness, environmental education, etc.)	Yes	TCEM conducts several preparedness outreach events a year, including annual Storm Spotter training by the NWS, Preparedness Day at the Community Health Fair, and several wildfire preparedness outreach events.	Yes	
Natural disaster or safety related school programs	Yes	Jackson Hole Fire/EMS has a good fire prevention program in the schools.	Yes	
StormReady certification	Yes	TCEM maintains our StormReady certification with the National Weather Service.	Yes	
Firewise Communities certification	Sort of	Teton County is not Firewise, but our Teton Area Wildfire Protection Coalition is taking best practices from Firewise and working on incorporating them into our community.	Yes	
Public-private partnership initiatives addressing disaster related issues	Yes	TCEM has a partnership with Jackson Hole Security to staff a firefighter rehabilitation unit that is activated during emergencies. First Western Trust bank is a primary sponsor and member of Teton County VOAD.	Yes	

5. Self-Assessment of Capability

Please provide an approximate measure of each capability type to effectively implement hazard mitigation strategies to reduce hazard vulnerabilities. Use the table below to indicate the most appropriate degree of capability (limited, moderate, or high) by placing an "X" in the corresponding box based upon the responses provided in the previous sections.

Capability Type	Degree of Capability			Other Comments
	Limited	Moderate	High	
Planning and Regulatory			X	I believe that the best chance we have of putting mitigation into action is before people build.
Administrative and Technical	X			With no grant writers and limited, overburdened emergency management staff, this is probably our biggest shortfall.
Financial		X		
Education and Outreach		X		

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: **PRESENTER**: Larry Pardee

MEETING DATE: May 18, 2020

SUBJECT: **Revocation of Delegation of Authority**

STATEMENT/PURPOSE

The Town Council delegates authority and revokes that delegation of authority by resolution.

BACKGROUND/ALTERNATIVES

Teton County and the Town of Jackson follow the Incident Command System of the National Incident Management System. In an emergency, an incident commander is named, or in this response for COVID-19, a unified command was created. The Town Council and County Commission jointly adopted a resolution delegating authority for COVID-19 response to Unified Command on March 30, 2020.

The Unified Command is made up of:

Fire Chief Brady Hansen
Jodie Pond, Director, Teton County Health Department
Sheriff Matt Carr
Police Chief Todd Smith

The Unified Command has been directing the county and town response to COVID-19 since March 16, 2020. The Teton District Heath Officer has been advising and collaborating with the Unified Command throughout the delegation of authority, but retains his own statutory authorities.

The Unified Command has determined after consultation with the Teton District Health Officer, that the Unified Command can stand down as of May 20, 2020. The Unified Command can be re-instated by the Jackson Town Council and Teton County Board of County Commissioners at a later date if needed. Teton County intends to act on this resolution on Tuesday May 19.

The Town Council has several options including:

1. Adopt Resolution 20-14 revoking the delegation of authority for COVID-19 response as presented.
2. Discuss the resolution and conduct a special meeting prior to May 20, 2020.

COMPREHENSIVE PLAN ALIGNMENT

This action is in alignment with overall quality community service provision as it allows us to maintain current, coordinated service delivery.

STAKEHOLDER ANALYSIS

The stakeholders involved in this action include the unified commanders, Town and County leadership, and the residents of the community that rely on the Town and County to protect the health, safety, and welfare of the residents and guests to the community.

FISCAL IMPACT

None.

STAFF IMPACT
The staff impact of standing down unified command will be that it allows each member to focus on the services needed for the community from their individual agency.

LEGAL REVIEW
Complete.

ATTACHMENTS
Resolution 20-14

RECOMMENDATION
Staff recommends the Town Council adopt Resolution 20-14 revoking the delegation of authority for COVID-19 response as presented.

SUGGESTED MOTION
I move to adopt Resolution 20-14 revoking the delegation of authority for COVID-19 response as presented

TETON COUNTY, WYOMING RESOLUTION #20-025
TOWN OF JACKSON, WYOMING RESOLUTION #20-14

REVOCATION OF DELEGATION OF AUTHORITY FOR COVID-19 RESPONSE

WHEREAS, the Teton County Board of County Commissioners and the Jackson Town Council approved a *Delegation of Authority for COVID-19 Response Resolution* on March 30, 2020 which granted the power to oversee the complete management of the COVID-19 Response Incident to a Unified Command whose members are:

Fire Chief Brady Hansen, Jackson Hole Fire/EMS
Jodie Pond, Director, Teton County Health Department
Sheriff Matt Carr, Teton County Sheriff
Police Chief Todd Smith, Jackson Police Chief

WHEREAS, the assumption of command began on March 16, 2020 and has continued until today's date. The *Delegation of Authority of COVID-19 Response Resolution* states in Paragraph 5 that the assumption of command shall continue until such time as this Resolution is revoked or modified; and

WHEREAS, through review of the metrics provided by the State of Wyoming, review of the current data available for Teton County, and through consultation with the Teton District Health Officer, the Unified Command has recommended to the Jackson Town Council and Teton County Board of County Commissioners to revoke the current delegation of authority to the Unified Command; and

WHEREAS, it is recognized by Unified Command that there may be a need in the future to delegate authority to the Unified Command again to respond to COVID-19, and the current Unified Command members are willing and able to accept that delegation of authority if the Jackson Town Council and Teton County Board of County Commissioners decides that is the best course of action.

NOW THEREFORE, be it resolved by the Teton County Board of County Commissioners and the Jackson Town Council that the delegation of authority to the Unified Command to oversee the complete management of the COVID-19

response is revoked and the delegation of authority shall cease at 7:00 p.m. on Wednesday, May 20, 2020.

IT IS FURTHER RESOLVED, that the members of the Unified Command should remain ready for the delegation of authority to be granted again in the future to manage the COVID-19 response if data begins to show a need as determined by the Jackson Town Council and Teton County Board of County Commissioners.

IT IS FURTHER RESOLVED, that the Jackson Town Council and Teton County Board of County Commissioners sincerely thank and praise the efforts of the Unified Command; especially Sheriff Matt Carr, Police Chief Todd Smith, Fire/EMS Chief Brady Hansen, and Public Health Director Jodie Pond; for their work and efforts as the Unified Command.

PASSED, APPROVED, AND ADOPTED this __ day of _____ 2020.

TETON COUNTY, WYOMING

_____
Natalia D. Macker, Chairwoman
Teton County Board of County Commissioners

Attest: _____
Sherry L. Daigle, Teton County Clerk

PASSED, APPROVED, AND ADOPTED this __ day of _____ 2020.

TOWN OF JACKSON

_____
Pete Muldoon, Mayor

Attest: _____
Sandra P. Birdyshaw, Town Clerk

By: _____
Sandra P. Birdyshaw, Town Clerk

ORDINANCE P

AN ORDINANCE AMENDING AND REENACTING SECTION 1 OF TOWN OF JACKSON ORDINANCE NOS. 787, 717, 326, AND 226 AND SECTIONS 1-3 OF TOWN OF JACKSON ORDINANCE NO. 1 AND SECTION 2.08.010 OF THE MUNICIPAL CODE OF THE TOWN OF JACKSON REGARDING COMPENSATION FOR MAYOR AND COUNCILMEN; AND PROVIDING FOR AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT:

SECTION I.

Section 1 of Town of Jackson Ordinance Nos. 787, 717, 326, and 226 and Sections 1-3 of Town of Jackson Ordinance No. 1 and Section 2.08.010 Compensation for Mayor and Councilmen of the Municipal Code of the Town of Jackson is hereby amended and reenacted to read as follows:

2.08.010 Mayor and Council.

A. Commencing on July 1, 2021, with officers sworn into office after January 1, 2021, the compensation of the Mayor of the Town shall be thirty-nine thousand three hundred dollars ($39,300.00) per year, payable in twelve equal monthly installments. The salary for each member of Council shall be thirty-two thousand seven hundred fifty dollars ($32,750.00).

B. The compensation schedule set forth in subsection A of this section shall be effective on July 1, 2021 and apply to the Mayor and members of Council sworn into office after January 1, 2021. In all other instances, the ordinance codified in this section shall not be applied to increase the salary of any officer during the term for which they are elected.

C. Compensation of the Mayor and members of Council shall be reviewed no later than February 28 of each general election year.

(Ord. _____, § 1, 2020); Ord. 787 § 1, 2004; Ord. 717 § 1, 2002; Ord. 326 § 1, 1984; Ord. 226 § 1, 1977; Ord. 1 §§ 1—3, 1926.)

SECTION II.

All ordinances and parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION III.

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions of the ordinance.

SECTION IV.

This Ordinance shall become effective after its passage, approval and publication.

PASSED 1ST READING THE 20TH DAY OF APRIL 2020.
PASSED 2ND READING THE 4TH DAY OF MAY 2020.
PASSED AND APPROVED THE ____ DAY OF ____, 2020.

TOWN OF JACKSON

BY: _____
Pete Muldoon, Mayor

ATTEST:
BY: _____
Sandra P. Birdyshaw, Town Clerk

ATTESTATION OF TOWN CLERK

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

I hereby certify that the foregoing Ordinance _____ was duly published in the Jackson Hole News and Guide, a newspaper of general circulation published in the Town of Jackson, Wyoming, on the ____ day of ____, 2020. I further certify that the foregoing Ordinance was duly recorded on page ____ of Book ___ of Ordinances of the Town of Jackson, Wyoming.

_____
Sandra P. Birdyshaw, Town Clerk

TOWN OF JACKSON
AGENDA DOCUMENTATION

SUBMITTING DEPARTMENT: Administration **PRESENTER**: Roxanne Robinson

WORKSHOP DATE: April 20, 2020

SUBJECT: **Flavored Tobacco Prohibition Ordinance – First Reading**

STATEMENT/PURPOSE

Direction was provided to staff by the Town Council at the May 4, 2020 meeting to bring forward an ordinance for first reading that prohibits the sale of flavored nicotine.

BACKGROUND/ALTERNATIVES

Staff conducted research into the Wyoming State Law that takes effect on July 1 regarding minors to ensure that any ordinance we adopted was in alignment with this new state law. The state law will ban the sale, use and possession of any nicotine product to persons under 21 and this will take effect July 1, 2020. Ordinance Q as presented will prohibit the sale of any flavored nicotine product in the Town of Jackson regardless of age that also includes the prohibition against the sale of 'menthol' or 'mint.' Our ordinance is similar to the ordinance adopted in Pinedale, Wyoming banning the sale of flavored nicotine products. The ordinance also contains a reverse preemption provision that would defer to State law, once adopted, until such time as the Town can repeal our ordinance.

The Town Attorney incorporated appropriate revisions to the ordinance based on input from representatives from the American Heart Association.

State law also allows the Town of Jackson to license nicotine retailers similar to liquor licensing. Requiring a license to sell nicotine and charging a fee for that license may lead to better compliance with underage sales prohibitions for regular nicotine products. Initial research conducted by the Town Clerk with other Wyoming municipalities did not result in much information due to a lack of results. It could be that the lack of response was due to COVID-19 and minimal staffing issues. The Jackson Police Department conducted some initial research and it appears there would be 15 establishments that would be subject to a nicotine license should the Council choose to pursue licensing. Should the Council be interested, it would be appropriate to direct staff to research this possibility, determine the fiscal and staff impacts of such a licensing program, draft a potential ordinance, meet with affected businesses to understand concerns and then report this information back to the Council at an upcoming workshop prior to the presentation of any kind of ordinance for first reading. Please understand that with the current situation of reduced staffing and cutbacks, asking staff to conduct additional research into this issue at this time and/or adding additional enforcement requirements should be given serious consideration prior to moving forward. Impacts of research or additional enforcement requirements would have implications on the Town Attorney, the Police Department, the Town Clerk's office and the Finance staff.

The Council has many options available to them including:

1. Accept the proposed changes to Ordinance Q as presented and approve it on first reading.
2. Discuss Ordinance Q, make changes, and adopt as amended on first reading.
3. Adopt the Ordinance and also direct staff to research nicotine licensing in the Town of Jackson and bring the results of that research back to Council at an upcoming workshop, understanding it may be some time before research is presented due to the current staffing levels and workload.
4. Postpone action until further discussion can occur either at a workshop or regular meeting.
5. Take no action.

6. Other.

COMPREHENSIVE PLAN ALIGNMENT

Prohibiting the sale of flavored tobacco products would support Principle 1.2 – Preserve and enhance water and air quality in that it may reduce the use of flavored tobacco products as they would not be available for sale in the Town of Jackson.

STAKEHOLDER ANALYSIS

The stakeholders involved with this type of action would include retailers that sell these products, consumers of these products, health care providers serving patients that develop health issues as a result of using these products, parents of youth that will be assured the products cannot be obtained within Town limits, educators responsible for teaching youth that have nicotine in their system as a result of using this product, public health officials invested in protecting and improving the overall health of the community, etc.

FISCAL IMPACT

The fiscal impact of banning these sales may result in a marginal decrease in sales and use taxes. Ordinance passage has fiscal impacts associated with advertising. Upon passage of an ordinance, retailers would need to be educated about the change and this would be accomplished in the most cost effective manner possible.

STAFF IMPACT

Staff impact of preparing the ordinance was notable and involved work from the Lea Colasuonno, Town Attorney, Todd Smith, Chief of Police, Michelle Weber, Support/Training Sergeant and Roxanne Robinson, Assistant Town Manager. Passage of the ordinance on third reading will require codification, education of the public, and enforcement by the Jackson Police Department. Should the Council also direct staff to research nicotine licensing, it would have a notable impact on staff. Additional hours would be required by the Town Attorney, Asst Town Manager, Town Clerk, Chief of Police, Support Sergeant and others. It may result in a combined additional 20-40 hours of staff time.

LEGAL ISSUES

Ongoing.

ATTACHMENTS

Ordinance Q redline version.

RECOMMENDATION

Staff recommends Council accept the proposed changes to Ordinance Q as presented and approve it on first reading.

SUGGESTED MOTION

I move to accept the proposed changes to Ordinance Q as presented and approve it on first reading.

ORDINANCE Q

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AN ORDINANCE ADDING CHAPTER 8.35 TO THE MUNICIPAL CODE OF THE TOWN OF JACKSON PROHIBITING THE SALE OF FLAVORED TOBACCO PRODUCTS AND PROVIDING FOR AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT

SECTION I.

There is hereby added Chapter 8.35 of Title 8 Sale of Flavored Tobacco Products Prohibited of the Municipal Code of the Town of Jackson as follows:

CHAPTER 8.35
SALE OF FLAVORED TOBACCO PRODUCTS PROHIBITED

Sections:

8.35.010 Legislative Findings
8.35.020 Purpose
8.35.030 Definitions
8.35.040 Sale of Flavored Tobacco Products Prohibited
8.35.050 Reverse Preemption

8.35.010 Legislative Findings

WHEREAS, the Town of Jackson, Wyoming ("Town") is a municipal corporation existing pursuant to the laws of the Wyoming Constitution, the Wyoming Statutes, and the Town Charter; and

WHEREAS, the Town has a responsibility to protect the health of its youth, citizens and guests; and

WHEREAS, the use of tobacco products by the children is a pediatric disease of considerable proportions that results in new generations of tobacco-dependent children and adults; and

WHEREAS, a consensus exists within the scientific and medical communities that tobacco products are inherently dangerous and cause cancer, heart disease, and other serious adverse health effects; and

WHEREAS, nicotine is an addictive drug; and

WHEREAS, the Town Council finds and determines that prohibiting the sale of flavored tobacco products would help address the health problems associated with such use by youth in the community, and would be in the best interest of the public health, safety, and welfare of the Town.

8.35.020 Purpose

This chapter is enacted to prohibit the sale of flavored tobacco products within the Town of Jackson.

8.35.030 Definitions

As used in this Chapter the following definitions apply:

A. ***Cigarette*** means any product that contains nicotine, is intended to be burned or heated under ordinary conditions of use, and consists of or contains: (1) any roll of tobacco wrapped in paper or in any substance not containing tobacco; (2) tobacco, in any form, that is functional in the product, which, because of its appearance, the type of tobacco used in the filler, or its packaging and labeling, is likely to be offered to, or purchased by, consumers as a cigarette; or (3) any roll of tobacco wrapped in any

First Reading

substance containing tobacco which, because of its appearance, the type of tobacco used in the filler, or its packaging and labeling, is likely to be offered to or purchased by, consumers as a cigarette described in clause (1) of this definition.

B. ***Characterizing Flavor*** means any distinguishable taste or aroma, other than the taste or aroma of tobacco ~~or menthol~~, imparted either prior to or, during consumption of a tobacco product or Component Part thereof, including, but not limited to, tastes or aromas relating to any fruit, mint, menthol, chocolate, vanilla, honey, candy, cocoa, dessert, alcoholic beverage, herb or spice and concepts such as spicy, arctic, ice, cool, warm, hot, mellow, fresh, and breeze; provided, however, that no tobacco product shall be determined to have a Characterizing Flavor solely because of the use of additives or flavorings or the provision of ingredient information.

C. ***Component Part*** means any element of a Tobacco Product, including, but not limited to, the tobacco, filter and paper, but not including any Constituent.

D. ***Constituent*** means any ingredient, substance, chemical or compound, other than tobacco, water or reconstituted tobacco sheet, that is added by the manufacturer to a Tobacco Product during the processing, manufacture or packing of the Tobacco Product. Such term shall include a smoke constituent.

E. ***Flavored Tobacco Product*** means any Tobacco Product, or any Component Part thereof, that contains a Constituent that imparts a Characterizing Flavor. A public statement or claim made or disseminated by the manufacturer of a Tobacco Product or by any person authorized or permitted by the manufacturer to make or disseminate public statements concerning such Tobacco Product, that such Tobacco Product has or produces a Characterizing Flavor shall constitute presumptive evidence that the Tobacco Product is a Flavored Tobacco Product.

~~F. ***Smoke Constituent*** means any chemical or chemical compound in main stream or side stream tobacco smoke that either transfers from any component of the tobacco product to the smoke or that is formed by the combustion or heating of tobacco, additives or other component of the tobacco product.~~

~~G.~~F. ***Tobacco Product*** means any product containing tobacco or nicotine, be it natural, synthetic or derived from plant based inputs and regardless of the method of derivation, including but not limited to cigars, pipe tobacco, snuff, chewing tobacco, dipping tobacco, bidis, snus, dissolvable tobacco products, and electronic cigarette; provided, however, that such term shall not include: (1) cigarettes, including those cigarettes subject to the Special Rule for Cigarettes relating to characterizing flavors of the federal Family Smoking and Tobacco Prevention Act and (2) any ~~product that has been approved by the U.S. Food and Drug Administration pursuant to its authority over drugs.~~drugs, devices, or combination products authorized for sale by the U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug, and Cosmetic Act.

8.35.040 Sale of Flavored Tobacco Products Prohibited

It shall be unlawful for any person to sell or offer for sale or provide free manufacturer-provided samples of any Flavored Tobacco Product to a person.

8.35.050 Reverse Preemption

This Chapter shall be null and void on the day that statewide or federal legislation goes into effect, incorporating either the same or substantially similar provisions as are contained in this Chapter, or in the event that a pertinent state or federal administrative agency issues and promulgates regulations preempting such action by the Town of Jackson.

Commented [LC1]: Given how soon federal legislation is likely to come down the pike on this, I think it is prudent to include this. It protects us a bit.

First Reading

SECTION II

All ordinances and parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION III

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions of the ordinance.

SECTION IV

This Ordinance shall become effective after its passage, approval, and publication.

PASSED 1ST READING THE _____ DAY OF _____, 2020.
PASSED 2ND READING THE _____ DAY OF _____, 2020.
PASSED AND APPROVED THE _____ DAY OF _____ 2020.

TOWN OF JACKSON

BY: _____
Pete Muldoon, Mayor

ATTEST:

BY: _____
Sandra P. Birdyshaw, Town Clerk

ATTESTATION OF TOWN CLERK

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

I hereby certify that the foregoing Ordinance No. _____ was duly published in the Jackson Hole News and Guide, a newspaper of general circulation published in the Town of Jackson, Wyoming, on the _____ day of _____, 2020.
I further certify that the foregoing Ordinance was duly recorded on page ____ of Book ____ of Ordinances of the Town of Jackson, Wyoming.

_____
Sandra P. Birdyshaw, Town Clerk

First Reading

May 18 2nd Reading

ORDINANCE R

AN ORDINANCE AMENDING AND REENACTING SECTION 1 OF ORDINANCE NO. 461 (PART), AND CHAPTER 8.34 TO THE MUNICIPAL CODE OF THE TOWN OF JACKSON PROHIBITING SMOKING AND ECIGARETTE USAGE IN PUBLIC BUILDINGS AND PROVIDING FOR AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED THAT

SECTION I.

Section 1 of Town of Jackson Ordinance No. 461 (part) and Chapter 8.34 Smoking in Public Buildings of the Municipal Code of the Town of Jackson is hereby amended and reenacted to read as follows:

CHAPTER 8.34
SMOKING IN PUBLIC FACILITIES PROHIBITED

Sections:

8.34.010 Definition.
8.34.020 Prohibition.
8.34.030 Repealed.
8.34.040 Repealed.

8.34.010 Definition.

A. ***Smoke or smoking*** means the act of burning any nicotine products, weed, filler or plant of any kind in a cigarette, cigarette paper, cigar, pipe or in any other device whatsoever and/or actively using, inhaling or exhaling any electronic cigarettes, vapor material or flavored tobacco products of any kind.

B. ***Public Facility*** means any facility, including, but not limited to, buildings, property, recreation areas and public parks which are owned, leased, or otherwise operationally controlled, or wholly funded by the Town of Jackson or the Jackson Hole Airport, with the exception of public sidewalks, public streets, public alleys, or public surface parking lots.

(Ord. _§1, 2020; Ord. 461 § 1 (part), 1993.)

8.34.020 Prohibition.

A. It shall be unlawful to smoke or carry lighted nicotine products, electronic cigarettes, vapor material or flavored tobacco products in any form in any Public Facilities of the Town of Jackson or the Jackson Hole Airport, including but not limited to all interior spaces, courtyards, atriums, balconies, and bus stops.

B. Smoking nicotine products, electronic cigarettes, vapor material or flavored tobacco products is prohibited within 25 feet of all doorways, outdoor air intakes, and operable windows of Public Facilities.

C. Smoking nicotine products, electronic cigarettes, vapor material or flavored tobacco products is prohibited in all outdoor seating areas, picnic tables, patios and foot paths of Public Facilities, even if beyond the 25-foot limit.

(Ord. §1; Ord. 461 § 1 (part), 1993.)

8.34.030 Repealed. (Ord. §1; Ord. 461 § 1 (part), 1993.)

8.34.040 Repealed. (Ord. §1; Ord. 461 § 1 (part), 1993.)

SECTION II.

All ordinances and parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION III.

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions of the ordinance.

SECTION IV.

This Ordinance shall become effective after its passage, approval and publication.

PASSED 1ST READING THE ____ DAY OF ____, 2020.
PASSED 2ND READING THE ____ DAY OF ____, 2020.
PASSED AND APPROVED THE ____ DAY OF ____, 2020.

TOWN OF JACKSON

BY: _____
Pete Muldoon, Mayor

ATTEST:
BY: _____
Sandra P. Birdyshaw, Town Clerk

ATTESTATION OF TOWN CLERK

STATE OF WYOMING)
) ss.
COUNTY OF TETON)

I hereby certify that the foregoing Ordinance _____ was duly published in the Jackson Hole News and Guide, a newspaper of general circulation published in the Town of Jackson, Wyoming,

on the ____ day of ____, 2020. I further certify that the foregoing Ordinance was duly recorded on page ____ of Book ___ of Ordinances of the Town of Jackson, Wyoming.

_____
Sandra P. Birdyshaw, Town Clerk

May 18 - 2nd Reading

ORDINANCE S

AN ORDINANCE AMENDING AND REENACTING SECTION 2 OF TOWN OF JACKSON ORDINANCE NO. 313, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 325, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 413, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 633, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 706, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 803, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 886, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 899, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 990, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1057, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1101, SECTION 1 OF TOWN OF JACKSON ORDINANCE NO. 1171 AND SECTION 15.20.010 OF THE MUNICIPAL CODE OF THE TOWN OF JACKSON BY CHANGING THE VERSION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY REFERENCE FROM THE 2017 EDITION TO THE 2020 EDITION, WITH CERTAIN AMENDMENTS AND FOR ALLOWING ELECTRICAL PERMIT FEES TO BE SET BY RESOLUTION OF THE TOWN COUNCIL; AND PROVIDING FOR AN EFFECTIVE DATE.

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF JACKSON, WYOMING, IN REGULAR SESSION DULY ASSEMBLED, THAT:

SECTION I.

Section 2 of Town of Jackson Ordinance No. 313, Section 1 of Town of Jackson Ordinance No. 325, Section 1 of Town of Jackson Ordinance No. 413, Section 1 of Town of Jackson Ordinance No. 633, Section 1 of Town of Jackson Ordinance No. 706, Section 1 of Town of Jackson Ordinance No. 803, Section 1 of Town of Jackson Ordinance No. 886, Section 1 of Town of Jackson Ordinance No. 899, Section 1 of Town of Jackson Ordinance No. 990, Section 1 of Town of Jackson Ordinance No. 1057, Section 1 of Town of Jackson Ordinance No. 1101, Section 1 of Town of Jackson Ordinance No. 1171 and Section 15.20.010 of the Municipal Code of the Town Of Jackson are hereby amended and reenacted to read as follows:

15.20.010 Adoption of the National Electrical Code

A. The National Electrical Code, including Tables, Appendices and Uniform Administrative Code Provisions, by references, 2020 Edition, NFPA 70 (a document of the National Fire Protection Association, Inc.) with the following amendments:

1. **ARTICLE 230, Services, SECTION VI, Service Equipment – Disconnecting Means, SUBSECTION 230.7, (A), (1) Readily Accessible Location**, replace with:

   The service disconnecting means shall be installed outside of the building or structure at a readily accessible location. Exception: Services of 300 amp or less with line to line meter sockets with the service disconnect directly behind the meter base and connected to the meter base with rigid conduit are allowed to have service disconnect inside the building. Feeders to other buildings or structures are required to have a disconnect on the exterior.

2. **ARTICLE 250, Grounding, SECTION III, Grounding Electrode System and Grounding Electrode Conductor, SUBSECTION 250.52, (A), (3) Concrete-Encased Electrode**, Add sentence:

   All services over 200 amperes in size shall have at least 20 ft in length of bare copper conductor sized in accordance with Table 250-66 installed in the foundation footers and with enough length added to connect in the main disconnect.

3. **ARTICLE 300, Wiring Methods, SECTION I, General Requirements, SUBSECTION 300.1, Scope, SUBSECTION (A) All Wiring Installations**, Add:

   All electrical wiring installed in buildings, structures or premises designed using the International Building Code located in Teton County shall be installed in accordance with the following wiring methods:
   1. Article 320, Armored Cable: Type AC
   2. Article 330, Metal-Clad Cable: Type MC
   3. Article 332, Mineral-Insulated, Metal-Sheathed Cable: Type MI
   4. Article 342, Intermediate Metal Conduit: Type IMC
   5. Article 344, Rigid Metal Conduit, Type RMC

6. Article 348, Flexible Metal Conduit, Type FMC
7. Article 350, Liquid-tight Flexible Metal Conduit: Type LFMC
8. Article 358, Electrical metallic Tubing: Type EMT

Electrical Fee Schedule

Valuation of Electrical Work			Fee
1.00	to	500.00	27.23
500.01	to	600.00	30.75
600.01	to	700.00	34.32
700.01	to	800.00	37.84
800.01	to	900.00	41.36
900.01	to	1,000.00	44.94
1,000.01	to	1,100.00	48.46
1,100.01	to	1,200.00	51.98
1,200.01	to	1,300.00	55.55
1,300.01	to	1,400.00	59.07
1,400.01	to	1,500.00	62.59
1,500.01	to	1,600.00	66.17
1,600.01	to	1,700.00	69.69
1,700.01	to	1,800.00	73.21
1,800.01	to	1,900.00	76.78
19,00.01	to	2,000.00	80.30
2,000.01	to	3,000.00	90.86
3,000.01	to	4,000.00	105.00
4,000.01	to	5,000.00	119.13
5,000.01	to	6,000.00	133.32
6,000.01	to	7,000.00	147.46
7,000.01	to	8,000.00	161.65
8,000.01	to	9,000.00	175.78
9,000.01	to	10,000.00	189.92
10,000.01	to	11,000.00	204.11
11,000.01	to	12,000.00	218.24
12,000.01	to	13,000.00	232.43
13,000.01	to	14,000.00	246.57
14,000.01	to	15,000.00	260.70
15,000.01	to	16,000.00	274.89
16,000.01	to	17,000.00	303.22
17,000.01	to	18,000.00	317.35
18,000.01	to	19,000.00	331.49
19,000.01	to	20,000.00	345.68
20,000.01	to	21,000.00	359.81
21,000.01	to	22,000.00	374.00
22,000.01	to	23,000.00	388.14
23,000.01	to	24,000.00	402.27
24,000.01	to	25,000.00	416.96

25,000.01 to 50,000.00 $416.96 for the first $25,000.00 plus $10.62 for each additional $1,000.00 or fraction thereof, to and including $50,000.00.

50,000.01 to 100,000.00 $682.33 for the first $50,000.00 plus $7.10 for each additional $1,000.00 or fraction thereof, to and including $100,000.00.

100,000.01 and up $1,037.08 for the $100,000.00 plus $5.89 for each additional $1,000.00 or fraction thereof.

Temporary Services – a fee of $25.00 will be charged for all temporary services to be connected.

SECTION II.

All ordinances and parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION III.

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate distinct and independent provision and such holding shall not affect the validity of the remaining portions of the ordinance.

SECTION IV.

This Ordinance shall take effect from and after the date of its publication following approval and adoption.

PASSED 1ST READING THE __ DAY OF __, 2020.
PASSED 2ND READING THE __ DAY OF __, 2020.
PASSED AND APPROVED THE __ DAY OF __, 2020.

TOWN OF JACKSON

BY: _ _____
Pete Muldoon, Mayor

ATTEST:

BY: _____
Sandra P. Birdyshaw, Town Clerk

ATTESTATION OF TOWN CLERK

STATE OF WYOMING)
COUNTY OF TETON)ss.
TOWN OF JACKSON)

I hereby certify that the foregoing Ordinance No. _____was duly published in the Jackson Hole News and Guide, a newspaper of general circulation published in the Town of Jackson, Wyoming, on the ____ day of ____, 2020.

I further certify that the foregoing ordinance was duly recorded on Page _____ of Book _____ of the Ordinances of the Town of Jackson, Wyoming.

_____
Sandra P. Birdyshaw, Town Clerk

MEMORANDUM

TO: Mayor and Town Council

FR: Larry Pardee, Town Manager

DT: May 18, 2020

RE: Town Manager's Report

165/185 N Glenwood Project

Construction is intended to begin at 165/185 N Glenwood by the end of May. The permit is expected to be approved within the next couple weeks. Construction plans do not require Council approval but staff wanted to make the Council aware of the upcoming action being taken.

May Sales and Lodging Tax

The Town budgeted a total of $1,161,493 in lodging tax revenues for FY20 from the 30% visitor impact portion combined with the 10% general fund portion. We have collected $1,113,335 thus far for FY20 which is 95.9% of total projected collections. Accumulated collections are up 2.3% over this same time last year. However, please note that we are expecting a dramatic fall in lodging tax revenue for June and it is likely that we will fall significantly short of our projected FY20 goal for the fiscal year. May 2020 revenue represents March, 2020. These amounts are tracked through the Special Revenue Fund for the Lodging Tax.

The Town budgeted a total of $16,249,500 in sales tax for FY20. May collections are down 23.2% over the same collection period last year. Collections are currently tracking at $168,222 more than budgeted. However, please note that we are expecting an unprecedented decrease in sales tax revenue for the month of June and we will fall significantly short of our projected FY20 goal for the fiscal year. This $168,222 will disappear and the number will be a negative number for the fiscal year. May 2020 revenue represents collections from March 2020.

Build Grant Application

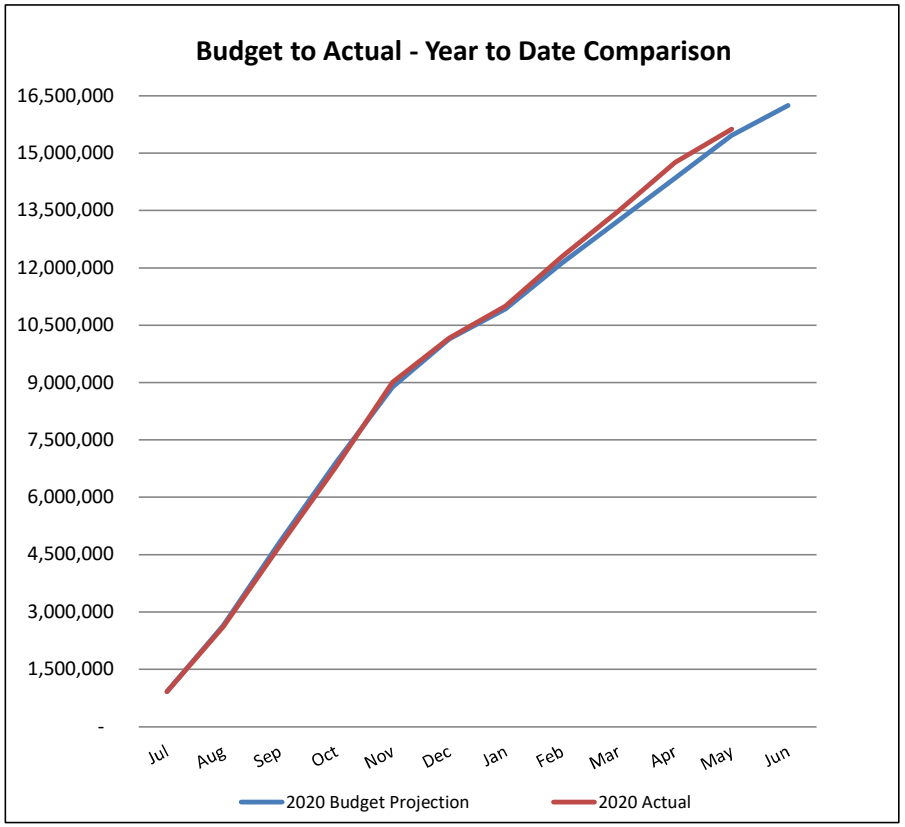
The 2020 Build Transportation Discretionary Grant Application is completed and ready for submittal. The Board of County Commissioners will be reviewing it for final submittal but we wanted to make the Council aware. If you would like to review the comprehensive application, please contact Darren Brugmann, Transit Director. The Teton Mobility Corridor Improvements (TMCI) will implement a series of multimodal improvements along the ID-33/WY-22 corridor between Driggs, ID and Jackson, WY, connecting residents and visitors to many of the region's economic generators, including Grand Targhee Resort, City of Driggs, City of Victor, Jackson Hole Mountain Resort, and the Town of Jackson. The project will include the development of two transit centers; a park-and-ride facility; completion of 8.5 miles of missing links in the pathway network; optimization of signals for transit vehicles; purchase of four regional commuter

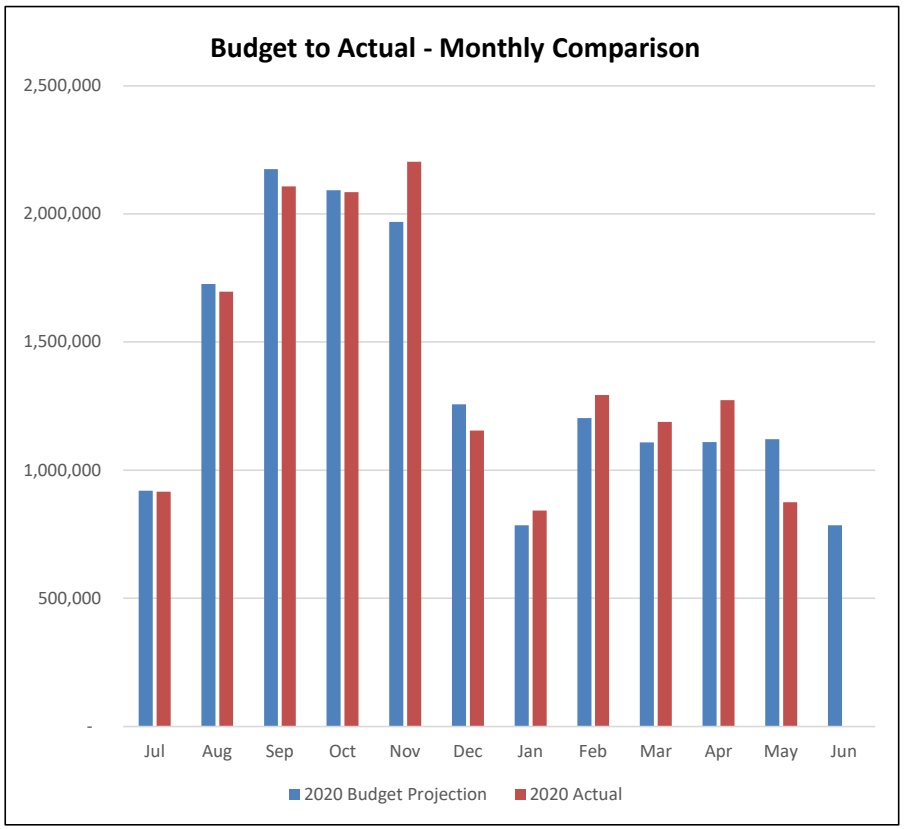
buses and two electric local buses for the transit fleet; and development of rural regional highway upgrades to improve safety and operations.

TOWN OF JACKSON, WYOMING
SALES TAX COLLECTIONS (4% and 1%)
May-20

Receipt Month	FY2016	FY2017	16/17 Change	16/17 Percent Change	FY2018	17/18 Change	17/18 Percent Change	FY2019	18/19 Change	18/19 Percent Change	FY2020	19/20 Change	19/20 Percent Change	12 Mth Rolling Avg	Sales Month
Jul	$ 713,141	$ 807,564	$ 94,423	13.2%	$ 807,972	$ 408	0.1%	$ 890,746	$ 82,774	10.2%	$ 916,280	$ 25,534	2.9%	5.5%	May
Aug	1,287,639	1,411,501	123,863	9.6%	1,551,376	139,875	9.9%	1,711,050	159,674	10.3%	1,695,936	(15,114)	-0.9%	4.3%	Jun
Sep	1,705,468	1,920,244	214,777	12.6%	1,971,647	51,402	2.7%	1,979,587	7,941	0.4%	2,106,619	127,032	6.4%	5.1%	Jul
Oct	1,750,353	1,665,117	(85,236)	-4.9%	1,897,973	232,856	14.0%	1,868,746	(29,227)	-1.5%	2,084,456	215,710	11.5%	6.7%	Aug
Nov	1,420,820	1,533,746	112,925	7.9%	1,850,527	316,781	20.7%	1,877,983	27,456	1.5%	2,203,274	325,291	17.3%	8.7%	Sep
Dec	1,002,143	1,046,289	44,146	4.4%	1,054,095	7,806	0.7%	1,335,327	281,232	26.7%	1,154,908	(180,419)	-13.5%	5.5%	Oct
Jan	600,037	655,026	54,989	9.2%	680,672	25,645	3.9%	745,047	64,375	9.5%	842,559	97,512	13.1%	5.7%	Nov
Feb	831,587	1,032,128	200,542	24.1%	1,166,026	133,898	13.0%	1,195,892	29,866	2.6%	1,293,430	97,538	8.2%	6.1%	Dec
Mar	850,550	947,188	96,639	11.4%	1,066,105	118,917	12.6%	1,110,735	44,630	4.2%	1,188,379	77,644	7.0%	6.3%	Jan
Apr	915,256	859,580	(55,676)	-6.1%	1,041,459	181,879	21.2%	1,120,136	78,677	7.6%	1,272,892	152,756	13.6%	6.8%	Feb
May	842,792	874,371	31,579	3.7%	1,010,453	136,082	15.6%	1,138,194	127,740	12.6%	874,624	(263,570)	-23.2%	4.2%	Mar
Jun	610,312	660,771	50,459	8.3%	728,398	67,628	10.2%	730,042	1,644	0.2%	-	----	---	----	Apr
Totals	$ 12,530,098	$ 13,413,526	$ 883,428	**7.1%**	$ 14,826,704	$ 1,413,178	**10.5%**	$ 15,703,484	$ 876,780	**5.9%**	$ 15,633,356	$ 659,914	**4.4%**		

Budgeted Sales Tax for FY 2020	3.50%	$ 16,249,500
Budgeted Sales Tax Year-to-Date		15,465,133
Actual Sales Tax Collected Year-to-Date		15,633,356
Leading (Lagging) Budget - through May		$ 168,222

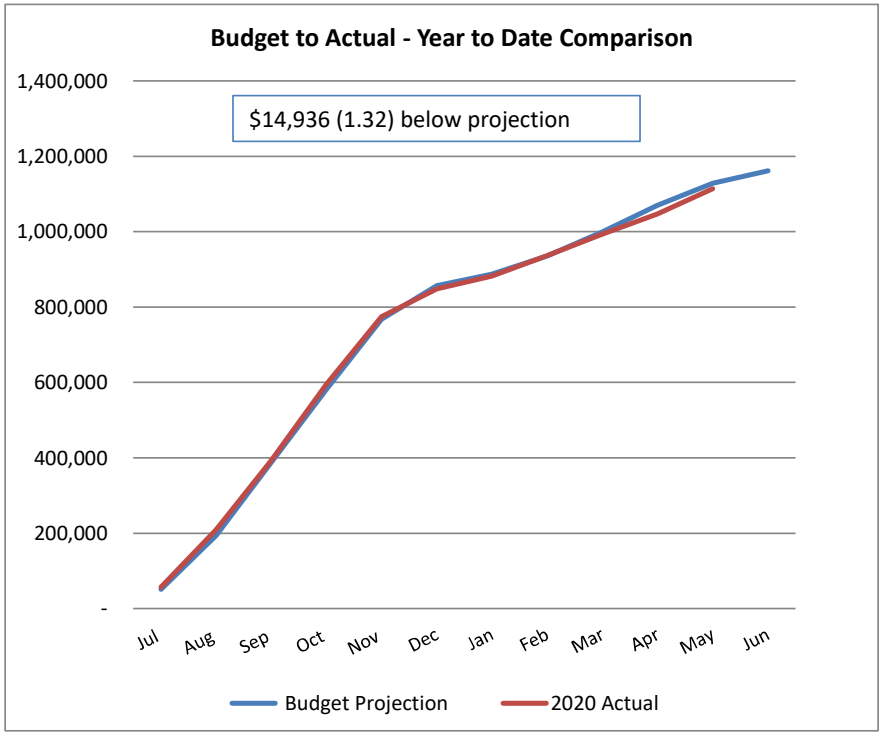
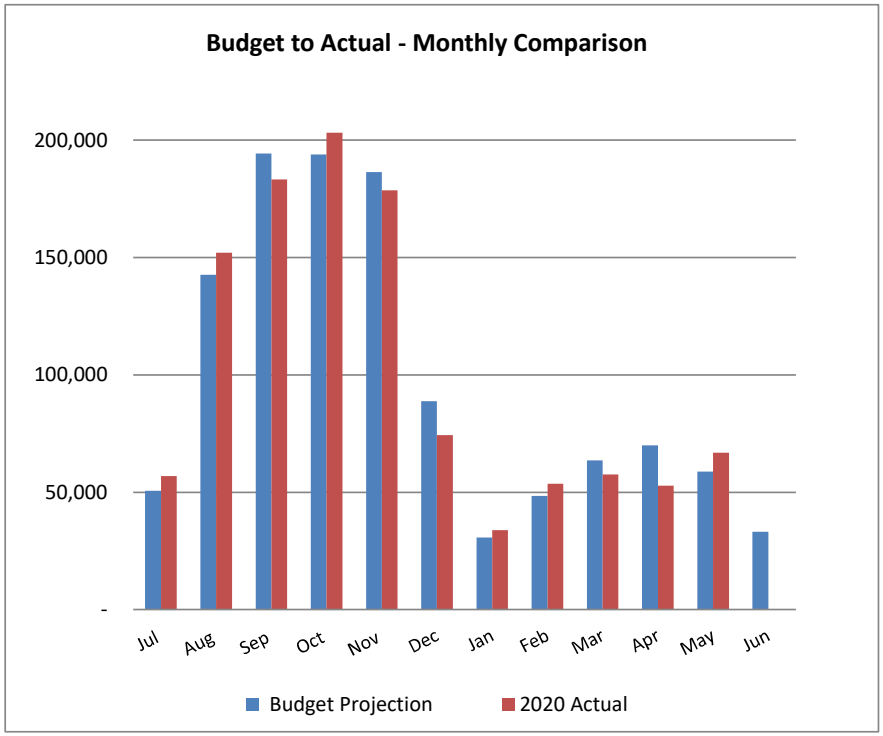




TOWN OF JACKSON, WYOMING
LODGING TAX REPORT
May-20

Month Received (2 mos. lag)	Lodging Tax - Total				Town				County			
	Total	Promotion T&T Board	Visitor Impact	General Fund	Visitor Impact	General Fund	Total	T/C Split Percent	Visitor Impact	General Fund	Total	T/C Split Percent
FY2020:												
July	$ 309,428	$ 185,657	$ 92,828	$ 30,943	$ 42,720	$ 14,240	$ 56,959	46.0%	$ 50,109	$ 16,703	$ 66,812	54.0%
August	987,736	592,641	296,321	98,774	114,054	38,018	152,072	38.5%	182,267	60,756	243,023	61.5%
September	1,247,568	748,541	374,270	124,757	137,432	45,811	183,243	36.7%	236,838	78,946	315,784	63.3%
October	1,300,062	780,037	390,019	130,006	152,419	50,806	203,226	39.1%	237,599	79,200	316,799	60.9%
November	1,411,814	847,088	423,544	141,181	134,009	44,670	178,679	31.6%	289,535	96,512	386,046	68.4%
December	383,766	230,259	115,130	38,377	55,769	18,590	74,358	48.4%	59,361	19,787	79,148	51.6%
January	134,644	80,786	40,393	13,464	25,391	8,464	33,855	62.9%	15,002	5,001	20,003	37.1%
February	385,640	231,384	115,692	38,564	40,284	13,428	53,712	34.8%	75,408	25,136	100,544	65.2%
March	477,381	286,429	143,214	47,738	43,165	14,388	57,553	30.1%	100,050	33,350	133,399	69.9%
April	630,160	378,096	189,048	63,016	39,606	13,202	52,807	20.9%	149,443	49,814	199,257	79.1%
May	325,181	195,109	97,554	32,518	50,153	16,718	66,870	51.4%	47,402	15,801	63,202	48.6%
June	-		-	-			-	---			-	---
Totals	$ 7,593,379	$ 4,556,027	$ 2,278,014	$ 759,338	$ 835,001	$ 278,334	$ 1,113,335	36.7%	$ 1,443,013	$ 481,004	$ 1,924,017	63.3%

	Visitor Impact	General Fund	Total
TOJ Budget	$ 871,120	$ 290,373	$ 1,161,493
Budget Remain	$ 36,119	$ 12,039	$ 48,158
Earned			95.9%
Remaining			4.1%

12 Month Rolling Avg
3.2%

	FY2019 Year-to-Date	FY2020 Year-to-Date	Increase (Decrease)	
T&T 60%:	$ 4,530,685	$ 4,556,027	$ 25,342	0.6%
TOJ 30% Visitor:	816,291	835,001	18,710	2.3%
TOJ 10% General:	272,097	278,334	6,237