Fremont County

Community Wildfire Protection Plan 2019

Update

June 30, 2019

Fremont County, Wyoming

This plan developed by the Fremont County CWPP Operating Group in cooperation with:

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Acknowledgements

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1.0 Executive Summary

This document is an update to the 2014 Fremont County Community Wildfire Protection Plan (2014 Fremont Co CWPP). The 2014 CWPP analysis was developed to provide for wildfire protection planning for thirty-four (34) at-risk communities in Fremont County. Funding for this 2019 update has come in the form of a grant through the National Fire Plan. The grant was awarded to Fremont County and is administered by the Wyoming State Forestry Division (WSFD). A portion of this grant funding has been used to contract Technical Forestry Services, LLC (TFS) to develop this 2019 Update. A digital version of this plan is available for download and printing at the Wyoming State Forestry Fuels Mitigation web page at: (Wyoming Community Wildfire Protection Plans).

This document addresses "at-risk" communities in Fremont County as defined by the Fremont County CWPP Operating Group (OG). The purpose of this document, which is entitled *Fremont County Community Wildfire Protection Plan 2019 Update* (2019 FCCWPP), is to identify at-risk communities, prioritize these communities on the basis of fire risk, and make recommendations for reducing the impacts of catastrophic fire threatening these communities. Federal and state funding sources consider an approved CWPP when appropriating monies for fuels reduction and other wildfire preparedness projects. This document will help coordinate activities across jurisdictions and ownerships through the CWPP process **before** an emergency occurs in order to reduce the chance of loss of life, and damage to infrastructure, homes, and natural resources as a result of unforeseen and catastrophic wildfire. The 2019 FCCWPP further addresses a need for the restoration of fire-adapted ecosystems, and improved forest and rangeland health.

Using the CWPP guidelines, an Operating Group was formed made up of representatives from local governments, local firefighting agencies, and state, county, municipal, and federal agencies. A list of Operating Group members can be seen in Appendix 2. The 2019 FCCWPP Update has been developed through the collaborative efforts of this group.

This Operating Group has completed the following activities to date:

- Review of previously completed documents analyzing the at-risk communities in Fremont County.

- Development of a working Base Map (Fig. 2-2) of the overall assessment area.
- Use of spatial data and fire modeling programs to assess fire behavior and determine risk ratings.
- Analysis, through Operating Group discussions, of road access, road characteristics, building construction, utilities, water supplies, local firefighting capabilities, historical fire occurrence, topography, and emergency response times within the at-risk communities.

Information generated through the two (2) Operating Group meetings in Lander and Riverton, Wyoming, on 3/21/19, and 4/16/19, and through electronic communication throughout the spring and summer of 2019, forms the basis of this document.

Section 2.0 provides a description of the CWPP project area and includes an Area Map (Figure 2-1) and the CWPP Base Map (Figure 2-2). Section 2.0 also provides background on the CWPP process in Fremont County, definitions of terms used in this document, a summary of insect and disease concerns, a description of Fire Regimes and Vegetation Condition Class (VCC), relevant state, county, and federal policies relevant to this process; geography and climate information; and other significant characteristics.

Section 3.0 describes the project area in general, the specific at-risk communities within Fremont County, and the process used in delineating those communities.

Section 4.0 describes the at-risk community assessment process for prioritizing communities on the basis of risk from wildfire and provides a table of the identified Communities-at-risk and risk ratings (Table 4-1).

Recommendations for reducing the risk of devastating wildfire within at-risk communities are given in Section 5.0. Recommendations address the following considerations: structural ignitability, public outreach, fire suppression, training, emergency equipment needs, response times, wildland fuels treatments (prescribed fire, fuels treatments and slash disposal), defensible space, and planning and zoning.

2.0 Introduction

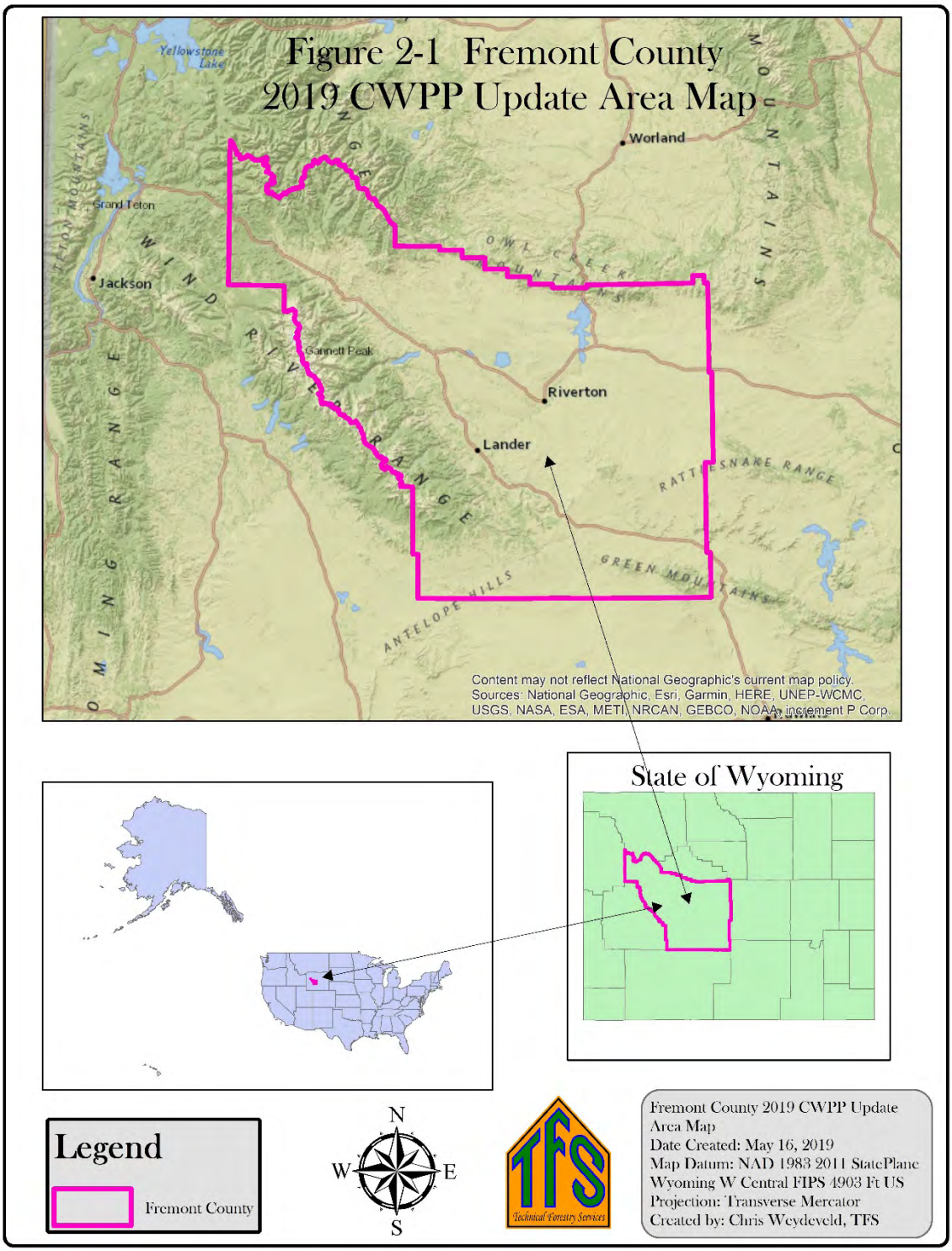
The Fremont County Community Wildfire Protection Plan 2019 Update (2019 FCCWPP) is an analysis of the threat of wildfire to at-risk communities in Fremont County, Wyoming. Fremont County is in the north central portion of Wyoming (see Area Map Figure 2-1). It is the intent of Fremont County and the 2019 FCCWPP cooperators to continue the work toward achieving the goals of the 2014 Fremont Co CWPP. Further, the 2019 FCCWPP serves to identify newly recognized at-risk communities and evaluate and classify these communities on the basis of overall risk of catastrophic fire destroying structures, natural resources, wildlife habitat, critical infrastructure, municipal watersheds, and human welfare, including loss of life. Applying a collaborative process, at-risk communities were identified, then prioritized based on a risk analysis, in order of need to initiate fuels reduction treatments to reduce fire risk.

The Healthy Forests Restoration Act of 2003 (HFRA) legislation established incentives for communities to develop comprehensive wildfire protection plans in collaboration with local governments, local firefighting authorities, and state, county, municipal, and federal agencies. Furthermore, this legislation gives direction to the Department of the Interior and Department of Agriculture to address community priorities for fuel reduction treatments on federal and non-federal lands.

Fremont County supports the tenants of the National Cohesive Strategy which establishes a national vision for wildland fire management, defines national goals, describes the wildland fire challenges, identifies opportunities to reduce wildfire risks, and establishes national priorities focused on achieving the national goals. The National Cohesive Strategy identifies three primary factors as presenting the greatest challenges and opportunities in addressing wildland fire:

1. Restoring and maintaining resilient landscapes
2. Creating fire-adapted communities
3. Responding to wildfires

Figure 2-1. Area Map



Thirty-four (34) communities were identified as being "at-risk" from wildfire, and are identified on the 2019 FCCWPP Base Map (see Figure 2-2).

The process used to classify these communities involved a *relative comparison* assigning risk ratings of high, moderate, and low. A final priority list of at-risk communities (Table 4-1) is ultimately produced for use in scheduling effective fuels reduction projects. Classification criterion includes: wildland fire hazard and risk, structure ignitability, and community layout.

All thirty-four (34) of the identified at-risk communities are within or adjacent to the Shoshone National Forest, or are within or adjacent to Bureau of Land Management or Bureau of Indian Affairs administered lands. Over 75% of lands in Fremont County are under public administration (See Figure 2-3). The Shoshone National Forest lies in west central Wyoming. The Shoshone National Forest was set aside in 1891 as part of the Yellowstone Timberland Reserve, making the Shoshone the first national forest in the United States. It consists of some 2.4 million acres of varied terrain ranging from sagebrush flats to rugged mountains. The higher mountains are snow-clad most of the year. Immense areas of exposed rock are interspersed with meadows and forests. With Yellowstone National Park on its western border, the Shoshone encompasses the area from the Montana state line south to Lander, Wyoming, and includes portions of the Absaroka, Wind River, and Beartooth Mountains.

Recognizing that the condition of the vegetation (fuel) on the landscape is dynamic, and that the resilience of communities to wildfires varies widely and changes over time, it is not only important and necessary to complete community assessments, but also to periodically complete re-assessments. Finally, it is worthy to note that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk over time.

This 2019 FCCWPP, though providing general recommendations for reducing risk of catastrophic fire, is not a mitigation plan. *This plan does not include any strategic operational objectives or tactics to protect communities.* Following the implementation of the CWPP, the next step in the process toward reducing risk in the at-risk communities is the development of mitigation plans. These mitigation plans should each recommend specific actions that will reduce the risk of wildfire to communities.

Figure 2-2. 2019 FCCWPP Base Map

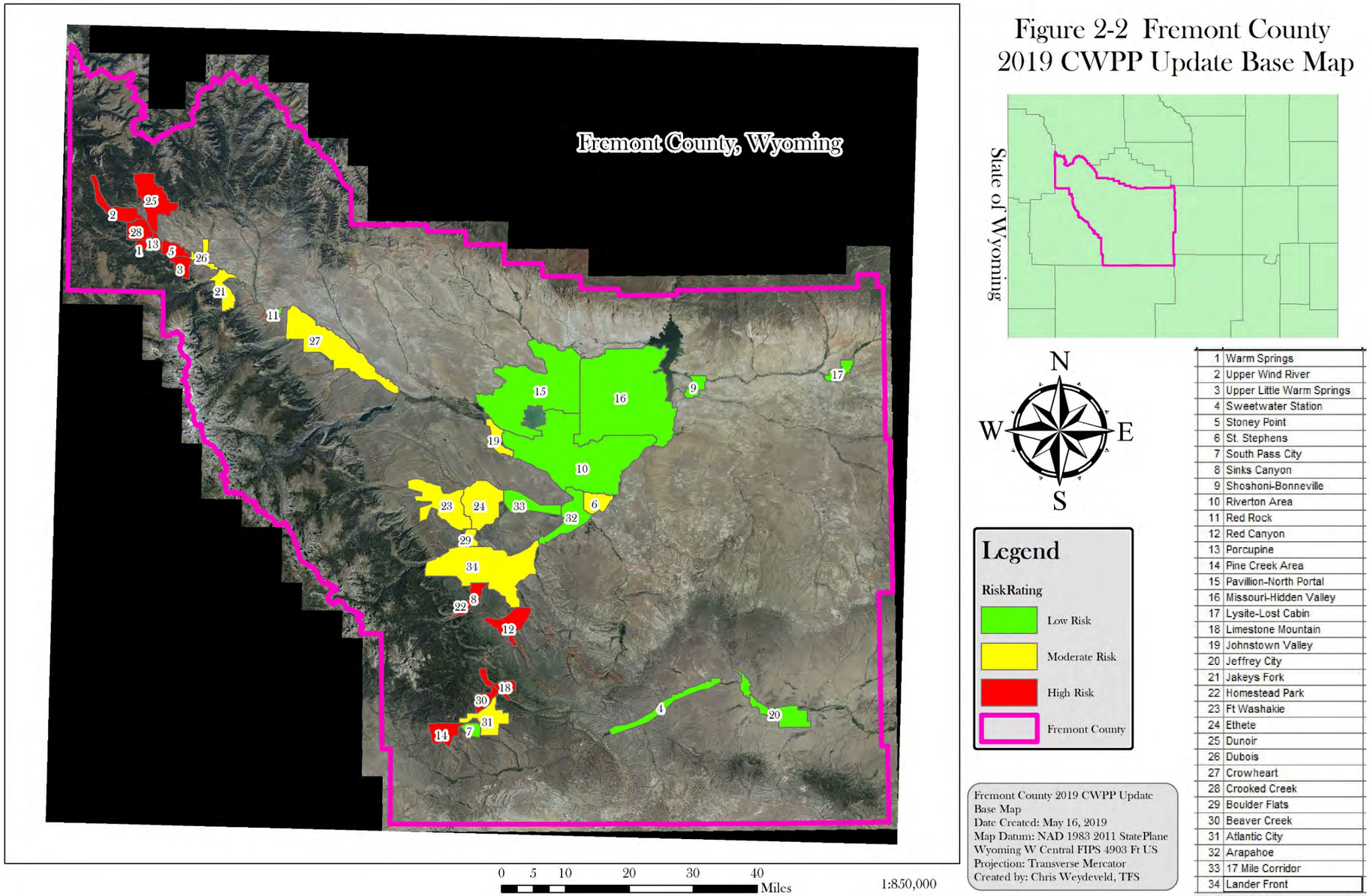
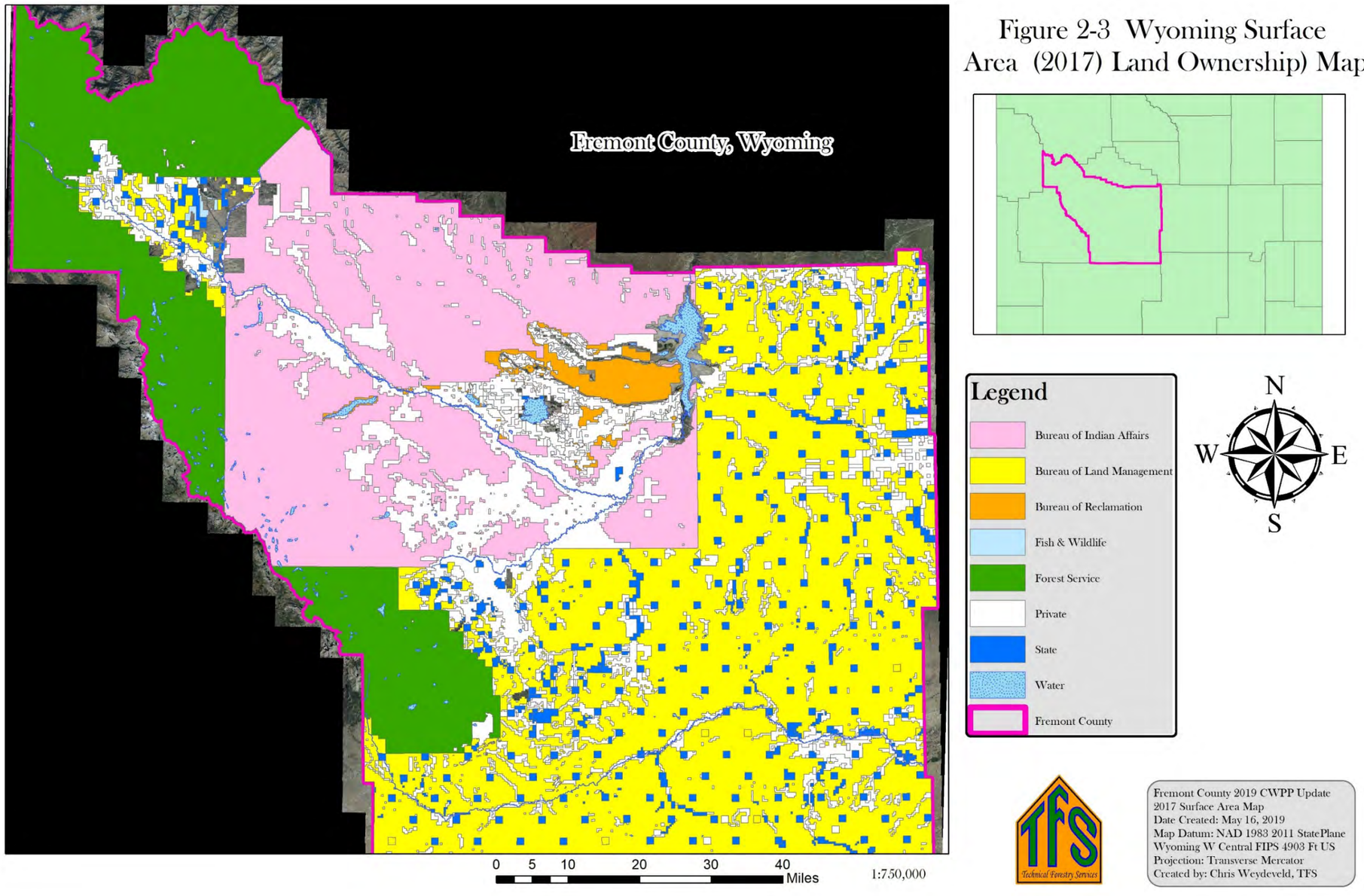


Figure 2-3. Fremont County Surface Area Map (Land ownership 2017)



2.1 Background

Fremont County originally drafted a Community Wildfire Protection Plan in 2005 through a partnership with the Fremont County Hazard Mitigation Planning Committee, with project facilitation and support provided by Northwest Management, Inc. The 2012 update of the Community Wildfire Protection Plan is a full review of the document with funding provided through the Title III Secure Rural Schools program. The 2014 Community Wildfire Protection Plan 2014 Fremont Co CWPP was developed by the Fremont County Hazardous Fuels Mitigation Program Coordinator and Operating Group. This document is a good analysis of WUI areas in the mountain and lowlands, and provides recommendations for reducing the threat of catastrophic wildfire destroying life and property. This document is still relevant for the communities addressed, and may be utilized during planning efforts, and can be found as a pdf file at the Wyoming State Forestry Division website (Wyoming CWPPs).[1] Mitigation planning and fuels treatment projects have already taken place for many of the communities in the assessment area, including work by the USFS, BLM, Conservation Districts, and the County through the ongoing Hazard Fuels Mitigation Program.

Fremont County has been awarded National Fire Plan Western States WUI Grants which have been used for funding the Hazard Fuels Mitigation Program (Fremont County Wildfire) including public outreach, wildfire mitigation planning to address hazardous fuel loading in the WUI, and cost/share funding for the implementation of hazardous fuels projects. Funding from these grants have been used to facilitate the development of this 2019 CWPP Update.

2.1.1 Public Outreach in Fremont County

Fremont County has an ongoing Hazard Fuels Mitigation program aimed at educating residents about protecting their homes and property from wildland fire, and facilitating the layout, implementation, and inspection of defensible space projects around homes and cabins within the at-risk communities. National Fire Plan Western States WUI Grant funding has allowed cost/share funding to assist in this

[1] Find the 2014 Fremont County CWPP at: 2014 Fremont Co CWPP

effort. The Wyoming State Forestry District and local Conservation Districts have also been active in public outreach.

2.1.2 Emergency Management Capabilities

Fremont County has a strong volunteer fire force with a capable emergency management infrastructure. The county consists of the Dubois Fire Protection District, Fremont County Fire Protection District, Riverton Fire Protection District, Lander City Fire, and the Jeffrey City Fire Protection District. The County shares mutual aid agreements with state and federal partners and neighboring counties. The county has access to all available resources including air tankers, helicopters, engines, crews, and incident management teams.

2.2 Definitions

Definitions vary when describing fire and fuels risk analysis and can mislead the reviewer in some cases. For purposes of this document, 2019 FCCWPP at-risk communities (CARs) are adjacent to federal lands, and are consistent with the commonly used definitions of an intermix, interface, occluded, or rural community associated with a "wildland-urban interface" (WUI). At-risk communities may also include other values at-risk, as defined by the Fremont County CWPP Operating Group (OG). Other values at-risk may include Wildland-Industrial Interface (WII), municipal watersheds, and natural resources, (wildlife and threatened, endangered, and sensitive habitats, rehabilitated and restored forests), Research Natural Areas (RNA)[2], and cultural or archaeological sites.

2.2.1 Wildland-Urban Interface

The WUI is defined in: *Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire*, issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with Title IV of the Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001).

[2] A Research Natural Area (RNA) is any tract of land or water which supports high quality examples of terrestrial or aquatic ecosystems, habitats, and populations of rare or endangered plant or animal species, or unique geological study of the features, and is managed in a way that allows **natural** processes to predominate. There are no RNAs in Fremont County though the Forest Plan identified a potential RNA up Leigh Canyon.

For purposes of this document, a Wildland Urban Interface (WUI) area is defined as an area where structures and other human development meet and intermingle with the undeveloped vegetative fuels. A WUI area is an identified location that poses tremendous risk to life, property, and infrastructure as well as surrounding communities. See Appendix 4 for a map of the WUI in Fremont County.

In Fremont County, the WUI is also defined to account for income-related values, such as timber, grazing, agricultural properties, and hunting/recreation leases. The public's attitudes and values towards the use and management of natural resources such as scenery, wildlife viewing, and privacy are also important.

These analyses do not buffer at a fixed distance from structures, they represent the density of structures within the county or Wind River Reservation area and therefore represent unique, along with logically defined, graphical representations of WUI areas based on the local values.

Reducing the hazard in the wildland-urban interface requires the efforts of federal, state, and local agencies and private individuals. Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures. With treatment, a wildland-urban interface can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a wildland-urban interface that is properly treated will be less likely to sustain a crown fire that enters or originates within it.

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing existing defensible space, landowners can protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity ground or crown fires entering or leaving the area;
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires over 1 mile away during periods of extreme fire weather and fire behavior.

- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Four wildland-urban interface conditions have been identified for use in wildfire control efforts in Fremont County. These include the Intermix Condition, Interface Condition, Occluded Condition, and Rural Condition. Descriptions of each are as follows:

Intermix Condition – a situation where structures are scattered throughout a wildland area. There is no clear line of demarcation; the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres.[3]

Figure 2-4. This structure occurs in what is described here as an "intermix" community.

[3] Forest recreation "cabin leases" are privately owned cabins located within the National Forest. Protection of structures from wildfire is the responsibility of county and state emergency management resources. Federal wildland firefighters are not trained in structure protection and are not responsible for protection of these values.

- **Interface Condition (Classic)** – a situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;

Figure 2-5. Example of an "Interface Community".

- **Occluded Condition FCCWPP (Isolated)** – a situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size.[4]

[4] An example of occluded communities in Fremont County would be the Wind River corridor as it passes through the residential areas of Dubois and Riverton, Wyoming.

- **Rural Condition** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.

The WUI as defined above addresses areas that may exist in the county, not just identified communities at risk. It is a planning tool showing where homes, businesses, and infrastructure are located and the density of those structures leading to identified WUI categories.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the county or reservation when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. In addition to a formal WUI map for use with the federal agencies, it is hoped that it will serve as a planning tool for the county, the Wyoming State Forestry Division, and local fire districts.

By definition, a Wildland Urban Interface (WUI) area is defined as the area where structures and other human development meet and intermingle with the undeveloped vegetative fuels. A WUI area is an identified location that poses tremendous risk to life, property, and infrastructure as well as surrounding communities.

In Fremont County, the WUI is also defined to account for income-related values, such as timber, grazing, agricultural properties, and hunting/recreation leases. The public's attitudes and values towards the use and management of natural resources such as scenery, wildlife viewing, and privacy are also important.

These analyses do not buffer at a fixed distance from structures, they represent the density of structures within the county or reservation area and therefore represent unique, along with logically defined graphical representations of WUI areas based on the local values.

2.2.2 Other Values at-risk

Other values at-risk may include Wildland-Industrial Interface (WII), municipal watersheds, and natural resources, (wildlife and threatened, endangered, and sensitive habitats, rehabilitated and restored forests), Research Natural Areas (RNA), and cultural or archaeological sites.

Example of Wildland-Industrial Interface (WII). BLM Photo.

2.2.3 Fuels Hazard

Fuels Hazard is defined herein as the existence of a fuel complex that constitutes a threat of wildland fire ignition, unacceptable fire behavior and severity, or suppression difficulty.

2.2.4 Fuels

Fuels include dead or down wood, live vegetation, and human developments when those developments are capable of ignition and arranged in a manner that will affect fire behavior and severity.

2.3 Insect and Diseases (Forest Health)

Wyoming's 2018 forest health Aerial Detection Survey (ADS) revealed few current insect and disease concerns. [5] Small clumps of declining subalpine fir were frequently mapped. Infrequent aspen discoloration and defoliation was mapped. Limber pine affected by mountain pine beetle was infrequently mapped. Western spruce budworm presently may be the most concerning forest health issue, considering the amount of damage and its preference for Douglas-fir. Between 2010-2018, mapped acres affected by what are typically the most damaging agents, including mountain pine beetle and spruce beetle, have generally declined. It is important to note that fluctuations from year to year are to be expected.

Bark beetles

There are many native bark beetles found in Fremont County. **Western balsam bark beetle** (*Dryocoetes confuses*) mainly affects subalpine fir and other true firs. According to 2018 ADS data, western balsam bark beetle killed subalpine fir on only 40 acres in Fremont County. *Armillaria* root disease, which along with western balsam bark beetle, comprises subalpine fir decline complex, was rare.[6] **Mountain pine beetle** (*Dendroctonus ponderosae*) primarily affects pine species. Fremont County acres affected by mountain pine beetle decreased from 600 to 30 acres from 2017 to 2018.[7] **Spruce beetle** (*Dendroctonus rufipennis*) affects Engelmann and blue spruce. During very large

[5] ADS has been used for over 70 years to detect broad-scale forest health. Trained surveyors fly over forest land, noting the location of forest damage as well as the damage size, tree type, damage agent, approximate percent of tree and trees affected.

[6] The code used by ADS program for the subalpine fir decline in this instance is WBBB (Western balsam bark beetle). Oher pathogens are likely involved but, without more ground checking, it is not possible to be certain of the exact cause of the mortality observed. "SFD" (subalpine fir decline) may be a better way to describe the decline seen in the subalpine fir. In some places it could be entirely WBBB, in others *Armillaria* could be involved, and it is also possible Balsam wooly adelgid could be a factor, although it has still not been positively identified within Wyoming.

[7] However, it is important to note that all acreages and damage agents are currently minor and fluctuations from year to year are to be expected.

outbreaks it has also attacked lodgepole pine, although such occurrences are not common.[8] Fremont County acres affected by spruce beetle increased from 7300 to 8600 from 2017 to 2018. Spruce beetle continues to be very active in high-elevation spruce stands in the northern extent of the Wind River Range, particularly near Togwotee Pass (Ryan DeSantis, WSFD, pers. Comm., 05/24/2019). **Douglas-fir beetle** (*Dendroctonus pseudotsugae*) affects Douglas-fir and shows very low mortality levels in recent surveys.

Other insect pests

Western spruce budworm (*Choristoneura occidentalis*) is continuing to cause significant damage statewide and presently may be the most concerning forest health issue, considering the amount of damage and its preference for Douglas-fir and secondarily, Engelmann spruce. Fremont County acres affected increased from 590 to 1200 from 2017 to 2018. However, aerial detection of western spruce budworm damage continues to be difficult and likely underdiagnosed from poor visibility due to shadows, smoke and haze. Symptoms are more challenging to detect and diagnose by ADS because early on in the progression of infestation they appear as a subtle foliar color change. From the air, affected Douglas-fir foliage, which is normally dark green, appears dull or faded. This can be difficult to see with moderate to poor visibility. Later in the progression of infestation, sparser foliage characterizes trees as dead needles fall off. Management recommendations range from aerial application of *Bacillus thuringiensis* (Bt) to thinning overstory and understory trees. Thinning overstory trees can help increase residual tree vigor and removing a contiguous understory of Douglas-fir seedlings can help reduce a readily available resource for future western spruce budworm populations.

Diseases

Diseases mostly operate within stands and influence growth and structure of individual trees. **Dwarf mistletoe** is noted for reducing tree growth and ultimately the supply of forest products. Dwarf mistletoe frequently works more slowly than insects, and may take decades to change forest stand composition or structure. Infections occur primarily on unharvested stands or stands which were

[8] This was documented in Colorado.

selectively cut. Recent surveys show mistletoe can be problematic in lodgepole pine, but forest treatments are slowly improving conditions. No ADS acreage number available from the 2018 survey.

White pine blister rust, caused by a fungus (*Cronartium ribicola)*, is an exotic disease introduced from Eurasia around 1910. White pine blister rust has spread across the forests of the western United States. Five-needle pine populations (limber pine and whitebark pine in Wyoming) are not widespread and therefore the impact of the disease on those populations could be significant. No ADS acreage number available from the 2018 survey.

2.4 Fire Regime and Condition Class

The historical role of fire in the assessment area is best described in terms of its fire regime. A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of stand replacement) of the fire on the dominant overstory vegetation. The table below describes the fire regimes (taken from Interagency Fire Regime Condition Class Guidebook September 2010).

Group	Frequency	Severity	Severity description
I	0 – 35 years	Low / mixed	Generally low-severity fires replacing less than 25% of the dominant overstory vegetation; can include mixed-severity fires that replace up to 75% of the overstory
II	0 – 35 years	Replacement	High-severity fires replacing greater than 75% of the dominant overstory vegetation
III	35 – 200 years	Mixed / low	Generally mixed-severity; can also include low-severity fires
IV	35 – 200 years	Replacement	High-severity fires
V	200+ years	Replacement / any severity	Generally replacement-severity; can include any severity type in this frequency range

Note: These regime groups have been modified slightly from earlier versions (Hardy and others 2001; Schmidt and others 2002; FRCC Guidebook Version 1.2.0) to remain consistent with the ongoing LANDFIRE Project (specifically, Fire Regime III now includes low-severity fires and Fire Regime V includes fires of any severity type).

The vegetation condition class (VCC) of wildland habitats describes the degree to which the current fire regime has been altered from its historical range, the risk of losing key ecosystem components, and the vegetative attribute changes from historical conditions. There are three VCCs, which are classified according to degree of departure from the historical fire regime: low departure (VCC 1), moderate departure (VCC 2), and high departure (VCC 3). VCC is calculated based on changes to vegetation composition, structural stage, and canopy closure using methods described in the Interagency Fire Regime Condition Class Guidebook September 2010 (see Figures 2-6, 2-7 and 2-8).

Figure 2-6. Wyoming big sagebrush community in a pristine condition (VCC 1). BLM photo.

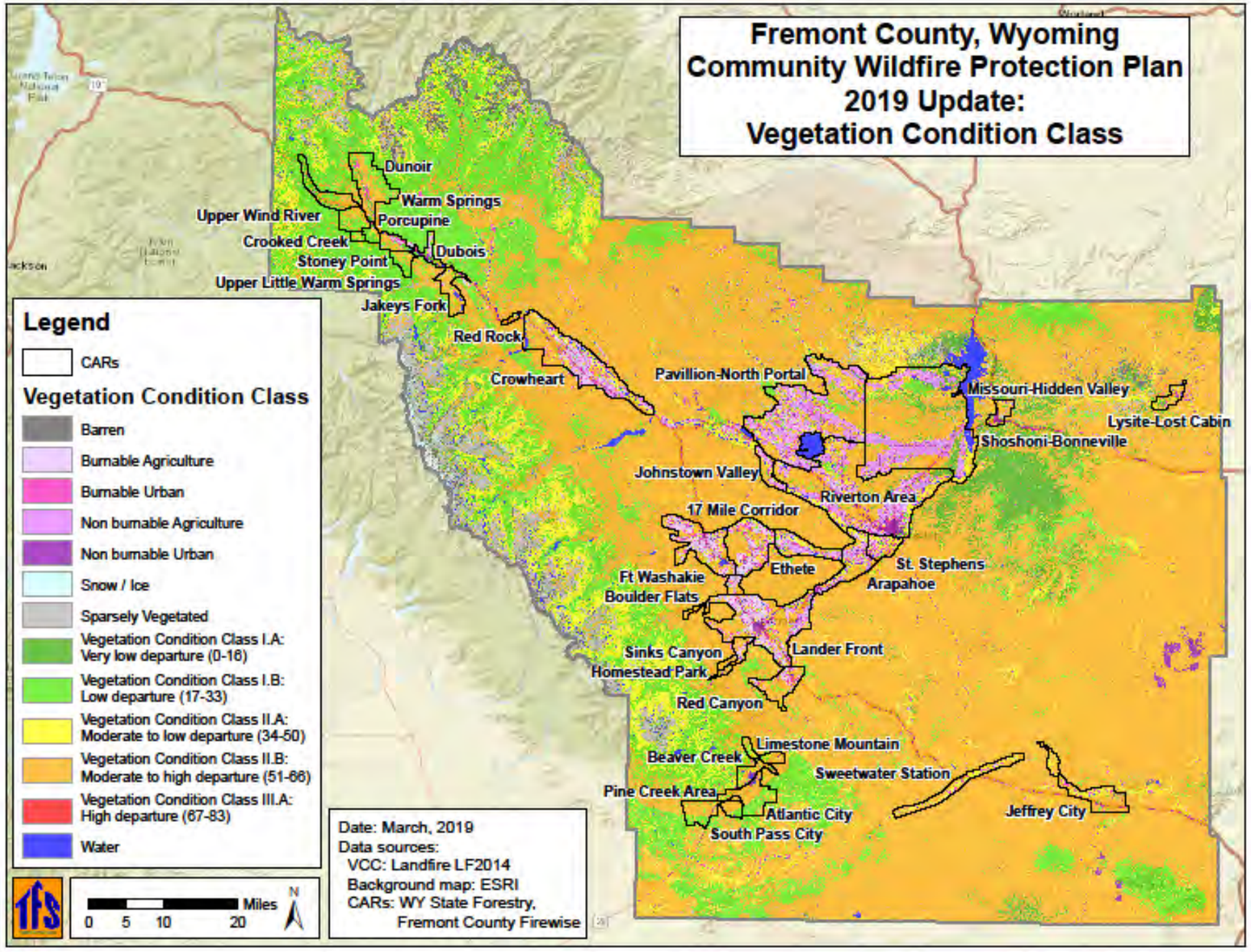


Figure 2-7. Vegetation Condition Class analysis for Fremont County (2014 data).

LANDFIRE VCC is based on departure of current vegetation conditions from reference vegetation conditions only, whereas the Fire Regime Guidebook approach includes departure of current fire regimes from those of the reference period. Data obtained from LANDFIRE.gov (LANDFIRE, accessed August 2017) simulates historical vegetation reference conditions using the Vegetation Dynamics Development Tool, which is a vegetation and disturbance dynamics model. A current vegetation condition is then derived from a classification of existing vegetation type, cover, and height, and is current to the vegetative landcover that existed on the landscape in 2014.[9]

Vegetation Condition Class (VCC) represents a simple categorization of the associated Vegetation Departure (VDEP) layer and indicates the general level to which current vegetation is different from the simulated historical vegetation reference conditions. VDEP and VCC are based upon methods originally described in Interagency Fire Regime Condition Class Guidebook September 2010, but are not identical to those methods. Full descriptions of the methods used can be found in the VDEP product description.

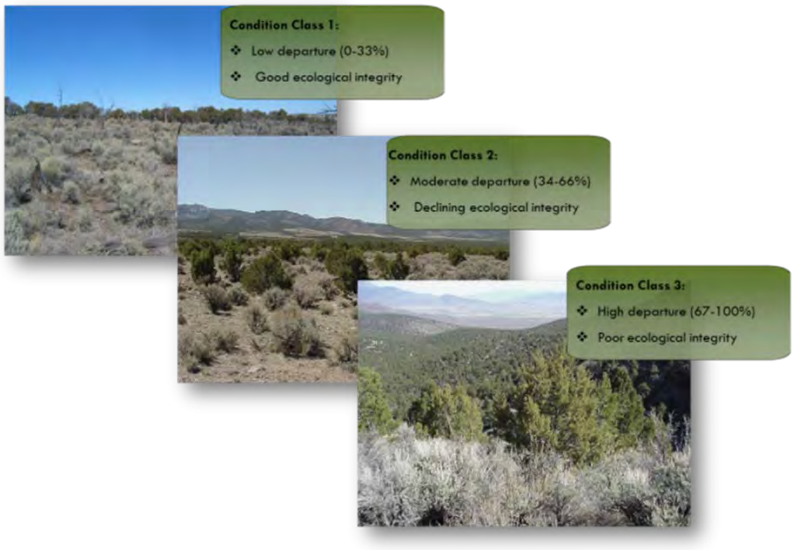


Figure 2-8. Examples of landscapes in conditions representative of a departure from historical reference conditions. Reference conditions describe historical seral stages, vegetation patterns, and fire regimes. VCC uses reference conditions to define pre-settlement landscapes. These conditions represent a baseline against which current conditions are compared.

[9] 2014 data are the most current available at time of analysis for this report.

In LANDFIRE 2012 (LF 2012), the original three VCC classes were divided in half to create six VCC classes to provide additional precision. The table describes the classes:

LF 2012	LF 2001 National, LF 2001, LF 2008
VCC Ia: Very Low, VDEP 0 - 16	VCC I: Low departure, VDEP 0 - 33
VCC Ib: Low, VDEP 17 - 33	
VCC IIa: Moderate to Low, VDEP 34 - 50	VCC II: Moderate departure, VDEP 34 - 66
VCC IIb: Moderate to High, VDEP 51 - 66	
VCC IIIa: High, VDEP 67 – 83	VCC III: High departure, VDEP 67 - 100
VCC IIIb: Very High, VDEP 84 - 100	

Condition Class

Condition Class 1

Within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances

Condition Class 2

(A) fire regimes on the land have been moderately altered from historical ranges;

(B) there exists a moderate risk of losing key ecosystem components from fire;

(C) fire frequencies have increased or decreased from historical frequencies by 1 or more return intervals, resulting in moderate changes to--

(i) the size, frequency, intensity, or severity of fires; or

(ii) landscape patterns; and

(D) vegetation attributes have been moderately altered from the historical range of the attributes.

Condition Class 3

(A) fire regimes on land have been significantly altered from historical ranges;

(B) there exists a high risk of losing key ecosystem components from fire;

(C) fire frequencies have departed from historical frequencies by multiple return intervals, resulting in dramatic changes to--

2.5 Relevant Fire Policies

2.5.1 State Policies

2.5.1.1 Wildland Fire Management Annual Operating Plan for Fremont, Big Horn, Park, Hot Springs, and Fremont counties (WSFD, District 3)

Each year an Interagency Group convenes to review and develop this document which provides an annual update of policies governing wildland fires in WSFD District which includes Fremont County. The Annual Operating Plan is available by contacting the Wyoming State Forestry Division at (307) 777-7586.[10] Initial suppression action on State land will be taken by the Fire Districts within their capability. This initial action will be reported to the Wyoming State Forestry Division.

2.5.1.2 Title III Funding

A change (shown in italics) was made to category (4) to develop *and carry out* community wildfire protection plans. With this change, the county may use Title III funds to carry out community wildfire protection plans (CWPPs), including but not limited to paying for the cost of:

- Hazardous fuels reduction projects such as creating fuel breaks outside the home ignition zone, creating water sources for fire-fighting purposes, and establishing a 911 emergency response system.
- Wildfire mitigation assessments of the homes in an at-risk neighborhood identified in the CWPP.
- Tree removal, tree trimming, or removal of dried grass and brush and other such vegetation identified as contributing to fire risk in the CWPP.
- Removing hazardous fuels along powerline rights-of-way identified in the CWPP, regardless of the person or entity responsible for the removal.
- Conducting a community volunteer work day focused on implementing fire mitigation measures outlined in a CWPP.

[10] https://drive.google.com/file/d/0B8XeycIbVsLRYXFGaVdLbE5GR0E/view

2.5.1.3 Forest Action Plan

The Statewide Assessment of Forest Resources identifies important forest landscapes across all ownerships based on an analysis of key data layers.[11] Products of the Assessment include a map of important forest landscapes and a description of the threats and priorities for those areas. The Assessment identifies 15 threats/priorities including forest health, wildfire management, the need for a viable forest products industry, the decline of riparian forests, the challenge of community forestry in Wyoming, protection of water quality and quantity, and more.

The Statewide Resource Strategy describes the strategies and tactics that can be used by landowners and land managers to address the threats and priorities identified by the Assessment.[12] The Strategy also identifies stakeholders, partners, and resources needed for implementation. The Strategy provides management direction that should help land managers plan activities and allocate limited state, private, and federal resources.

2.5.1.4 Wyoming State Forestry Division Statewide Forest Resource Assessment

To ensure that federal and state resources are being focused on important landscape areas with the greatest opportunity to address shared management priorities and achieve measurable outcomes, each state and territory will work collaboratively with key partners and stakeholders to develop a statewide forest resource assessment. The state forest resource assessment should provide a comprehensive analysis of the forest-related conditions, trends, threats, and opportunities within the state. This plan can be found online at:
http://slf-web.state.wy.us/forestrydivision/StatewideAssessment.pdf

2.5.1.5 Wyoming State Forestry Division Statewide Forest Resource Strategy

Following completion of the statewide assessment, states are to complete a statewide forest resource strategy to detail how priority forest landscapes will be addressed and how State and Private Forestry (S&PF) funds can contribute to that effort. A state's forest resource strategy will provide a long-term, comprehensive, coordinated strategy for investing state, federal, and leveraged partner resources to

[11] http://slf-web.state.wy.us/forestrydivision/StatewideAssessment.pdf

[12] http://slf-web.state.wy.us/forestrydivision/Resource_Strategy.pdf

address the management and landscape priorities identified in its assessment. The resource strategy should incorporate existing statewide forest and resource management plans and provide the basis for future program, agency, and partner coordination. This plan can be found online at: http://slf-web.state.wy.us/forestrydivision/Resource_Strategy.pdf

2.5.2 Federal Policies

2.5.2.1 USDA United State Forest Service

Shoshone National Forest Land Management Plan 2015: Regional Forester Dan Jirón signed the Record of Decision (ROD) for the Shoshone National Forest's Land Management Plan on May 6, 2015. The following web link shows a site with documents produced during this process and contains the permanent signed plan (Shoshone National Forest Land Management Plan).

Shoshone National Forest 2012 Fire Management Plan (Shoshone NF Fire Management Plan 2012):[13] National Forest Fire Plans had traditionally been updated on a yearly basis. Forests have since adopted a "spatial" approach to fire management planning and changes to planning are now made in the Wildland Fire Decision and Support System (WFDSS).

Shoshone National Forest South Zone:[14]

Management Approach: Wildfire receives an appropriate management response based on the ecological, social, economic, and legal consequences of the fire. Wildland fire plays a role within and outside wilderness where appropriate and desirable. Protection of human life (firefighter and public safety) is the most important consideration when managing fire. Once firefighters and support personnel have been assigned to a fire, their safety becomes the highest value to be protected. The primary goal of every fire event is no loss of human life and no serious injury. The second goal is to limit significant damage to or loss of high value resources, developments, facilities, and property. The

[13] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5365252.pdf

[14] Information from document provided by Jay Slagowski, USFS South Zone FMO, to Ron Wempen with the Fremont County Fire Protection District on April 25, 2019.

third goal is to keep wildfire management cost commensurate with potential benefits and values to be protected. The fourth goal is to allow fire to be used to accomplish resource benefits (USFS 2019).

Staffing Summary: In Fremont County, the USDA Forest Service, Shoshone National Forest maintains and staffs two Type 6 engine modules. Those modules include one ICT4/foreman, assistant foreman, and a lead fire fighter with two seasonal crew members. There is also an 8-10 person Fuels crew consisting of one crew boss/ ICT4, an assistant crew boss and squad boss with five to seven firefighters. Initial attack resources are stationed at two duty stations located in Lander and Dubois. The Fire Management Officer (FMO) on the zone is located in Dubois. The Assistant Fire Management Officer for operations (AFMO) And (AFMO) fuels specialist are stationed in Lander.

PREPAREDNESS PROGRAM

Mission: The primary mission of the fire preparedness program is to be ready for and respond to wildfire incidents on the Shoshone National Forest, other jurisdictions within the Cody Interagency Dispatch area, Region 2 and other portions of the Country as needed. Secondary is to support implementation of prescribed fire, hazardous fuels reduction projects, and other program work on the Forest as assigned.

Priorities:

1. Preparation and response to wildfire locally, regionally and nationally.

2. Hazardous fuels projects and other integrated vegetation management projects shared with timber, wildlife, and range.

FUELS PROGRAM

Mission: The primary mission of the hazardous fuels program is implementation of prescribed fire, hazardous fuels reduction, and other integrated vegetation management projects. This includes direct support to the timber sale preparation program at times. Secondary, is to be ready for and respond to wildfire incidents on the Shoshone National Forest and other locations as needed as well as supporting other program work on the Forest as assigned.

Priorities:

1. Hazardous fuels projects and other integrated vegetation management projects shared with timber, wildlife, and range.

2. Preparation and response to wildfire locally, regionally and nationally.

3. Projects in support of other program areas.

2.5.2.2 USDI Bureau of Land Management

Resource Management Plan: Fremont County occurs within the Wind River/Bighorn Basin District (WRBBD). In May 2015 the Bureau of Land Management signed the Bighorn Basin Resource Management Plan Revision Project RMP for the area administered by the Worland Field Office, including Fremont County (see Figure 2-9).[15]

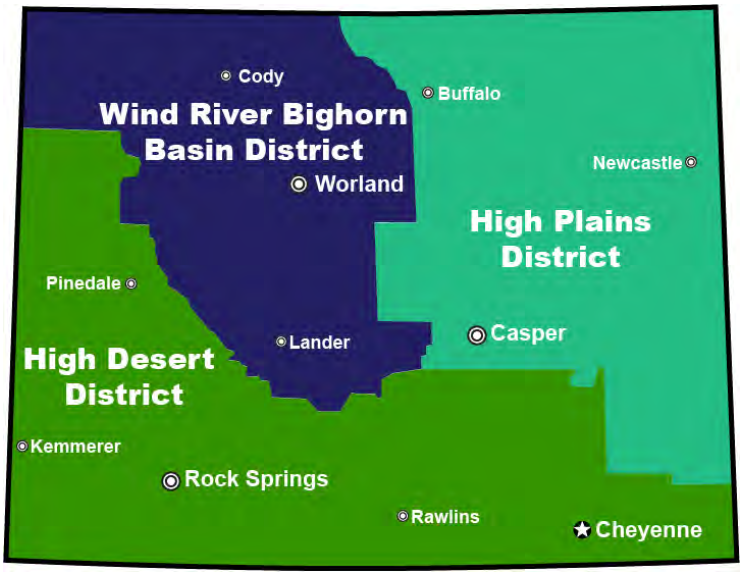


Figure 2-9. Wyoming BLM Districts map.

In 2008, the BLM published a "Notice of Intent" to revise the resource management plans for both the BLM Cody and BLM Worland field offices (the Lander field office had not been incorporated yet into the WRBBD). As part of this combined effort, a proposed RMP and single environmental impact statement (EIS) were prepared. Both the RMP and EIS were developed concurrently with a full range of public participation. The Cody and Worland Resource Management Plans were approved and the record of decision signed on September 21, 2015.

[15] https://eplanning.blm.gov/epl-front-office/projects/lup/9506/58518/63310/BB_PRMP_FEIS.pdf

The revised plans provide future direction for approximately 3.2 million surface acres and 4.2 million acres of federal mineral estate in north-west Wyoming. The revised plans establish goals and objectives for resource management; identify lands that are open or available for certain uses, including any restrictions and lands that are administratively unavailable to certain uses; provide comprehensive management direction for all resources and uses; and make broad scale decisions guiding future site-specific implementation decisions. The planning area includes part of Hot Springs County and all of Park, Washakie and Big Horn counties.

Public lands within the field offices were previously managed according to three RMPs: the Washakie RMP (1988) and Grass Creek RMP (1998) for the Worland Field Office; and the Cody RMP (1990).

2.5.2.3 National Fire Plan

The National Fire Plan (NFP) was funded by the U.S. Congress in 2001 to reduce hazardous fuels and restore the ecological health of forests and rangeland. In response, the Secretaries of Agriculture and the Interior, along with Western Governors and other interested parties, developed a 10-year strategy and implementation plan for protecting communities and the environment (NFP). The NFP, coupled with the Federal Wildland Fire Management Policy (2001), forms a framework for Federal agencies, States, Tribes, local governments, and communities to reduce the threat of fire, improve the condition of the land, restore forest and rangeland health, and reduce risk to communities.

Since the inception of the NFP, administrative procedures and processes governing preparation of projects to reduce hazardous fuel and restore healthy ecological conditions on Federal land have undergone many changes. Many of these changes have occurred as a result of directives stated in the Healthy Forests Initiative (HFI) launched in 2002, and the Healthy Forests Restoration Act (HFRA) passed in December 2003. The HFRA provides improved statutory processes for hazardous-fuel reduction projects on certain types of at-risk National Forest System (NFS) and Bureau of Land Management (BLM) lands, and also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships (USDA Forest Service and Bureau of Land Management 2004).

The four components of the HFI and HFRA which help to implement fire protection projects at the local level are:

1. On lands in or adjacent to the wildland-urban interfaces of at-risk communities and other at-risk federal lands, work in collaboration with communities in setting priorities and, as appropriate, in developing Community Wildfire Protection Plans;
2. Develop the project information needed to determine whether proposed projects can use the improved HFI and HFRA authorities;
3. Use the National Environmental Policy Act of 1969 (NEPA) process identified for HFI and HFRA projects; and
4. Fund, implement, and monitor the HFI and HFRA projects.

2.5.2.4 National Forest Landscapes for Priority Attention

The Agriculture Act of 2014, commonly referred to as the "Farm Bill," sets forth a process where the Governor of a state may nominate area landscapes that are impacted by insects and disease, to the Secretary of Agriculture. If those landscapes are then designated by the Secretary, forest management in those areas will be pursuant to an efficient and prioritized planning process, with rigorous science and allowing for full public involvement. Only those areas characterized by declining forest health, a risk of substantially increased tree mortality, or an imminent risk to public infrastructure, health, or safety, may be nominated.

2.5.3 Other Polices and Coordinating Groups

Other policies and groups include: the Wyoming Interagency Cooperative Fire Protection Agreement, Wyoming Interagency Fire Restriction Plan, and the Wyoming State Forestry Division *Mini Fire Mobilization Plan* 2017 (2017 Mini Mob Guide).[16]

2.5.4 Fremont County

2.5.4.1 Fremont County Land Use Plan - The Fremont County Land Use Plan was developed in fulfillment of the requirements of the Wyoming Land use Planning Act of 1975. It is intended to be a guide for the citizens of Fremont County in identifying and respecting the customs,

[16] https://gacc.nifc.gov/rmcc/dispatch_centers/r2rwc/Administrative/Plans_Guides/2017%20WY%20State%20Forestry%20Mob%20Guide.pdf

economic viability, social stability and quality of life found in this unique area, and then applying those values to growth and development as they occur in the County. Land use in Fremont County intertwines with federal land management that covers approximately 77% of the county. This impacts the ability of private citizens to pursue activities according to traditional and historic customs and cultures, and affects private property rights. It is the intent of County Land Use Plan to be a mechanism whereby the general public and particularly federal and State land managers can recognize, understand, and honor the customs, culture, economic viability, social structure and quality of life of the citizens of Fremont County.

This Wildland-Urban Interface Wildfire Mitigation Plan maintains consistency with fulfilling the stated objectives of the Fremont County Land Use Plan, by respecting the customs, culture, management practices and quality of life found in the County.

2.5.4.2 Wyoming Region 5-Hazard Mitigation Plan (2018)

The Wyoming Region 5-Hazard Mitigation Plan (2018) covers each of the major natural and human-caused hazards that pose risks to the County. The primary objectives of the plan are to reduce the negative impacts of future disasters on the community, to enhance life safety, increase public awareness, protect natural systems, and build partnerships. The Plan is a planning document, not a regulatory document.

The Wyoming Region 5-Hazard Mitigation Plan (2018) meets FEMA's planning requirements by addressing hazards, vulnerability and risk. Hazard means the frequency and severity of disaster events. Vulnerability means the value, importance, and fragility of buildings and infrastructure. Risk means the threat to people, buildings and infrastructure, taking into account the probabilities of disaster events. Adoption of a mitigation plan is required for communities to remain eligible for future FEMA mitigation grant funds.

2.5.5 Guidance Documents

Early guidance documents, following the 2001 National Fire Plan and 2003 HFRA, were referenced in the development of the 2019 FCCWPP. Guidance documents that have assisted development of this CWPP include:

- *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee, Society of American Foresters, National Association of Counties, and National Association of State Foresters 2004).
- *The Healthy Forests Initiative and Healthy Forests Restoration Act Interim Field Guide* (USDA Forest Service and Bureau of Land Management 2004).
- Field Guidance. *Identifying and Prioritizing Communities at Risk, National Association of State Foresters*, 2003.

As additional guidance documents become available, any changes or amendments will be incorporated into this CWPP.

During analyses for the update of the 2014 Fremont Co CWPP the Operating Group recognized that, in addition to guidance documents utilized during development of the 2014 Fremont Co CWPP, advancements in wildfire fire risk assessments, responses and public education have been made. The Operating Group has therefore reviewed the following documents as part of updating and revising the 2014 CWPP:

- *A National Cohesive Wildland Fire Management Strategy-Final Phase National Report* (WFLC 2012). WFLC 2014.
- *Community Guide to Preparing and Implementing a Community Wildfire Protection Plan. A supplemental guide to Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee et al. 2008) 2008 CWPP Guidance Report
- *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Strategy Implementation Plan, December 2006* (10-yearstrategyfinal_dec2006.pdf).
- Fire Adapted Communities (FAC) Toolkit (International Association of Fire Chiefs, (http://www.iafc.org/facToolkit).
- Ready, Set, Go! (RSG) Program (International Association of Fire Chiefs, (http://www.wildlandfirersg.org/)
- National Fire Protection Association Firewise Communities (http://www.firewise.org)
- Fire Adapted Communities (http://www.fireadapted.org/)
- Fire Adapted Communities Learning Network (http://www.wildlandfirersg.org/)

2.6 Fremont County Characteristics

Over the past century, employment through agricultural farming and livestock ranching has been significant in the region. Livestock ranching has been and continues to be an important component of the economy of the County. Livestock grazing has provided stable employment while serving to keep rangelands maintained at a lower wildfire risk than if they had not been managed.

Irrigated farming has been conducted throughout the last century. Using a system of canals and sprinkler systems, farmers have grown mostly grass and alfalfa hay over the years. Nevertheless, high elevation, short growing seasons, and late frosts limit opportunities for crop diversification.

Cattle ranching has been more successful. Supported by high quality, locally grown hay and abundant range land, cattle operations continue to be a significant component of the local economy.

2.6.1 Population and Demographics

Fremont County reported a total population of 40,123 in 2010 with approximately 16,328 housing units. Fremont County has six incorporated communities; Dubois (pop. 971), Hudson (pop. 458), Lander (pop. 7,487), Pavillion (pop. 231), Riverton (pop. 10,615) and Shoshoni (pop. 649). The total land area of the county is roughly 9,267.6 square miles (5,931,287 acres).

The Cities of Riverton and Lander contain more than 45% of Fremont County's total population. Other incorporated cities/towns in Fremont County contain approximately 5.75% of the County's population. The remaining population (approximately 50%) is scattered in small unincorporated communities and in rural areas throughout the area.

2.6.2 Geography and Climate

According to NOAA, Riverton has four distinct seasons, but at times, spring and fall can be rather abbreviated. Summers are rather long and actually quite warm with normal highs in the mid to upper 80s and lows around 50. However, the mercury frequently tops 90 degrees, about 36 times on average per year, with readings near the century mark occasionally occurring. Summers are generally quite dry except during periods when the "monsoon flow" develops and draws moisture up from the desert southwest. During this period, intense thunderstorms can develop producing flash flooding along with damaging wind, hail, and isolated tornadoes. Winds are generally light but can become quite strong in

the afternoon and early evening with thunderstorms in the area. Often, thunderstorms are high based and produce strong winds but little rainfall.

Fall is a variable length transition period before the relatively harsh winter sets in. Snow can fall as early as September or on rare occasion as late as November. Temperatures at the beginning of the season are typically in the 70s but decrease rapidly to near 30 degrees by the average first day of winter. Snowfall amounts are generally light but one or two heavy storms are possible. Winds become more noticeable at times as more frequent weather systems move through the state. Stronger winds generally blow from the southwest in advance of a storm and from the north to northwest behind a storm.

Winter can set in earlier than the calendar indicates, especially if a relatively deep snow cover develops from early fall storms, allowing an early start to the infamous basin temperature inversion. Overall, the winter storms produce light snowfall and generally light wind in town. The frequency of winter storms is erratic with several consecutive weeks without any snow, then a period of more active weather where light snow falls off and on for a week or two. Snowstorms over a foot are rare with less than 24 cases in recorded history. Areas closer to the Wind River Mountains, such as Lander, receive significantly more snow than the town of Riverton. During most winters the snow cover in the basin results in strong temperature inversions with very cold overnight lows and chilly afternoon highs. During extreme cases, the nearby mountains can be 30 to 40 degrees warmer than the basin floor or nearby cities in the state where the wind is blowing; the positive side is the absence of any wind during these periods. Once or twice a year on average, bitter arctic air slides south out of Canada providing the coldest temperatures of the season. These intrusions of arctic air are most prevalent during January and early February. Overnight lows of 20 to 30 below zero are common during this period in the normally colder low lying areas, especially near the Wind River. In extreme cases readings of 40 below zero can occur; thankfully, these periods only occur every few decades. The last episode with these extreme readings was observed during the winter of 1983-84.

Spring usually comes quickly in March. The spring period is a transition period of frequent change and can produce some record breaking snowstorms due to the availability of more moisture and frequent favorable weather patterns. However, temperatures are moderating throughout the period and the snow melts much more rapidly than the winter season. Cold snaps can still persist early in the period but are usually confined to a few days rather than a few weeks, which is more common during

the winter. Windy conditions are most noticeable during this period with frequent storms moving through the region. Winds react similar to fall systems.

MONTHLY NORMALS[17]

LANDER, WYOMING

PERIOD OF RECORD: 1981-2010

Month	Max	Min	Avg	PCPN	SNOW	Month	Max	Min	Avg	PCPN	SNOW
JAN	52	-11	22.9	0.41	7.6	JUL	98	45	78.7	0.78	0
FEB	54	-15	20.9	0.58	10.3	AUG	98	44	84.5	0.61	0
MAR	64	12	36.3	1.16	16.1	SEP	90	32	78.2	1.05	2.7
APR	76	13	43.9	1.87	16.8	OCT	81	13	57.5	1.29	9.8
MAY	83	26	55.3	2.20	4.8	NOV	62	1	40.3	0.86	13.1
JUN	92	28	64	1.27	0.1	DEC	48	-5	33.2	0.58	10.1
						ANN	98	-15	58.5	12.66	91.4

All units of measurement in this document are defined as follows:

TEMPERATURES are in degrees Fahrenheit, PRECIPITATION and SNOWFALL are in inches

[17] https://www.weather.gov/riw/Lander_2018AnnualSummary

2.6.3 Land Ownership

A relatively large percentage of the county is federally owned. Private parcels are becoming more and more expensive as the population grows and more property is developed. This factor combined with the large amount of acres locked up in federal ownership throughout the county is expected to produce significantly higher demands on privately held land in the future.

Table 2-1. . Ownership Categories in Fremont County

Landowner	Acres	Percent
Private	1,096,061	19%
Bureau of Indian Affairs	1,320,498	22%
Bureau of Reclamation	125,629	2%
State	252,199	4%
WY Game and Fish	48,383	<1%
U.S. Fish and Wildlife	3,468	<1%
Department of Defense	1,340	<1%
Water	41,068	<1%
Bureau of Land Management	2,108,523	36%
Forest Service	982,502	17%

2.6.4 Natural Resources

Fremont County is a diverse ecosystem with a complex array of vegetation, wildlife, and fisheries that have developed with, and adapted to, fire as a natural disturbance process. Nearly a century of wildland fire suppression coupled with past land-use practices (primarily timber harvesting and grazing) has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. As a result, some forests in Fremont County have become more susceptible

to large-scale, high-intensity fires posing a threat to life, property, and natural resources including wildlife and plant populations. High-intensity, stand-replacing fires have the potential to seriously damage soils, native vegetation, and fish and wildlife populations. In addition, an increase in the number of large, high-intensity fires throughout the nation's forest and rangelands has resulted in significant safety risks to firefighters and higher costs for fire suppression.

2.6.5 Biota

Fish and Wildlife – Brook, rainbow, brown, lake, golden and cutthroat trout, grayling, whitefish, splake, sager, walleye, northern pike, catfish, largemouth bass, crappie, perch and freshwater ling cod can all be found in Fremont County waters.

Big game including deer, elk, bear, antelope, mountain lions, and bighorn sheep make their homes throughout the varied habitat types of the county.

Vegetation - Vegetation in Fremont County is a mix of rangeland, forestland, and agricultural ecosystems. An evaluation of satellite imagery of the region provides some insight to the composition of the vegetation of the area. The full extent of the county was evaluated for cover type as determined from Landsat 7 ETM+ imagery in tabular format, Table2.2.

The most represented vegetated cover type is Sagebrush/steppe at approximately 62% of the total area. The next most common vegetation cover type represented is mixed-conifer at 13%. Grasslands represent approximately 10% of the total area as well (Table 2.2).

Vegetative communities within the county follow the strong moisture and temperature gradient related to the major river drainages. Scarce precipitation and soil conditions result in a relatively arid environment. As moisture availability increases, so does the abundance of hardwood and conifer species.

Table 2-2. Vegetative Cover Types in Fremont County

Land Cover	Acres	Percent of Total Area
Agriculture	181,249.90	3%
Conifer	787,44.90	13%
Conifer-Hardwood	18,283.00	<1%
Developed	36,327.70	<1%
Exotic Herbaceous	152,503.30	3%
Exotic Tree-Shrub	45,457.50	<1%
Grassland	618,488.80	10%
Hardwood	40,613.20	<1%
Non-Vegetated	129,254.40	2%
Riparian	194,939.90	3%
Shrubland	3,691,218.00	62%
Sparsely Vegetated	35,506.40	<1%
Total	**5,931,287.00**	**100%**

2.6.6 Hydrology

The geology and soils of this region lead to slow to moderate moisture infiltration. Soils that have a clay pan or clay layer near the surface inhibit downward water transmission; thus, have a high potential for overland flow. Clay soils also have a high shrink swell potential. Disrupted vegetation patterns from logging or agriculture (soil compaction) and wildland fire (especially hot fires that increase soil hydrophobic characteristics), can lead to increased surface runoff and debris flow to stream channels.

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented for the central Wyoming region. Burned vegetation can result in changes in soil

moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

2.6.7 Air Quality

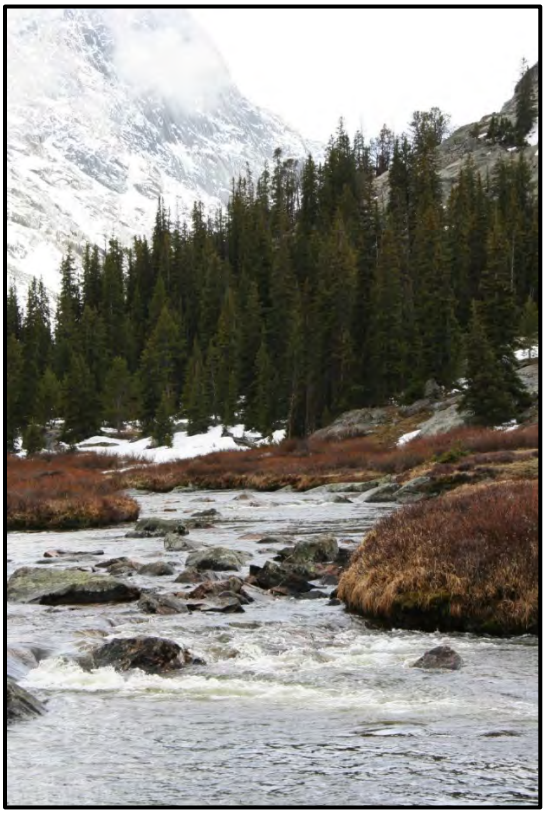
The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (USDA Forest Service 2000). In 2004, the State of Wyoming revised the Wyoming Air Quality Standards & Regulations Chapter 10, and developed a new Section 4, Smoke management requirements. Chapter 10, Section 4 regulates large-scale vegetative burning, specifically vegetative burns in excess of 0.25 tons of PM10 emissions per day, for the management of air quality emissions and impacts from smoke on public health and visibility. The changes to Chapter 10 were adopted by the Environmental Quality Council on April 13, 2004, and were filed by the Secretary of State and became effective on May 14, 2004. The specific smoke management requirements within Chapter 10, Section 4 were implemented on January 1, 2005.

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in Central Wyoming are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. Air quality in the area and surrounding airshed is generally good to excellent. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions which trap smoke and affect dispersion, causing local air quality problems.

The Clean Air Act passed in 1963 and amended in 1977, 1990, and 1999 is the primary legal authority governing air resource management. The act established a process for designation of Class I and Class II areas for air quality management. Class I areas receive the highest level of protection and lowest thresholds for pollutants (Class I Airsheds).

Residents and resources in Fremont County could be affected by smoke or regional haze from burning activities in the region. Wyoming Department of Environmental Quality maintains Air Pollution Monitoring Sites throughout Wyoming. The Air Pollution Monitoring program monitors all of the six criteria pollutants. Measurements are taken to assess areas where there may be a problem, and to monitor areas that already have problems. The goal of this program is to control areas where problems exist and to try to keep other areas from becoming problem air pollution areas (Louks 2001).

The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, OAQPS (Organization for Air Quality Protection Standards) is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).



Dinwoody Creek, Fremont County, Wyoming. TFS Photo.

3.0 Community Description

The assessment area is contained entirely in Fremont County, Wyoming. High elevation forests consist of lodgepole pine, Engelmann spruce and subalpine fir. Low elevation forests consist of woodlands and savannas composed of ponderosa pine, limber pine, and Douglas-fir. In these lower areas, when trees grow densely enough to be considered forests, the stands are small and located in ravines or on north slopes. In general, lowlands include a mixture of salt desert shrubland, short grass prairie, sagebrush shrubland, juniper woodland, and riparian area vegetation communities. Russian olive and tamarisk have invaded and become established in some of the lower elevation riparian areas of Fremont County. These Russian olive and tamarisk stands are rapidly pushing out native vegetation, and greatly complicate the wildland fire and fuels complex. Aspen stands are older than was typical of the past, and increased amounts of conifer species have invaded the stands. Montane riparian areas have less aspen as a result of being crowded out by conifers. Understory herbaceous vegetation is reduced in stands encroached on by conifers, because of the increase in canopy cover.

3.1 "At-risk" Community (CAR) Delineation Process

Wildland-urban interface areas and other values-at-risk, were determined using criteria specified in the 2003 Healthy Forest Restoration Act (HFRA). After areas were identified, boundaries around these areas were established based generally on topographic and vegetative features considered capable of affecting fire behavior. These areas are defined herein as Communities-at-risk (CARs). The process of delineating CAR boundaries involved collaboration between the Fremont County Fire Warden and local fire officials, USFS and BLM fire specialists, the Wyoming State Forestry Division (WSFD), planners, and natural resource specialists. The resulting Base Map underwent revisions by the Operating Group (OG) before the final draft was adopted. The guiding document for determination of at-risk communities and the consequent prioritization process is titled: Field Guidance. Identifying and Prioritizing Communities at Risk, prepared by the National Association of State Foresters, July 27, 2003 (CAR Field Guidance). Boundaries were adjusted as needed in response to direction from the Operating Group.

Figure 3-1. Home located in a Wyoming mountain community. Funded by the National Fire Plan Authority, the Fremont County Hazard Fuels Mitigation Coordinator develops defensible space plans and provides cost-share assistance for implementing fuels treatments in the Home Ignition Zone (HIZ). These efforts have resulted in numerous ownerships improving chances of surviving potential wildfire.

3.2 Community Description

The assessment area contains Thirty-four (34) communities and comprises approximately 670,545 acres. Table 3-1 below lists the Communities by land classification.

Table 3-1. Communities-at risk by land classification

Sagebrush / Steppe	**Community**
	Jeffrey City
	Lysite / Lost Cabin
	Red Rocks
	Shoshoni / Bonneville
	South Pass City
	Sweetwater Station
Agricultural	**Community**
	Arapahoe
	St. Stephens
	Fort Washakie
	Boulder Flats
	Crowheart
	Ethete
	Lander
	Johnstown / River Bottom
	Riverton
	17 Mile Corridor

	Pavillion, North Portal
	Missouri Valley, Hidden Valley
Timber	**Community**
	Atlantic City
	Pine Creek Area
	Homestead Park / Lander Mountain Road
	Red Canyon
	Pass Creek / Limestone Area
	Warm Springs Mountain
	Porcupine
	Stoney Point
	Upper Wind River
	Dunoir
	Crooked Creek
	Warm Springs (ULWS)
	Jakey's Fork
	Dubois
	Sinks Canyon
	Beaver Creek Area

● Sagebrush/ Steppe

Fire Potential

The wildland fuels surrounding these communities consist of sparse sagebrush and random clusters of bunchgrasses. Much of the ground is void of vegetation with only a thin layer of bare dirt or rock. Privately-owned parcels are also generally dominated by native vegetation except for a few areas cleared for livestock pasture or irrigated fields. The immediate banks of drainages support denser riparian vegetation including black cottonwood, larger sagebrush, and several grasses and forbs. Fuel Models 1 and 2 (FM1 and FM2) describe sagebrush-dominated ecosystems. In areas where continuous fuels are present, fires tend to spread rapidly, but burn at relatively low intensity. The increase of wildfire frequency and size in the lower basin over the last few decades has taken a toll on the sagebrush community in some areas. As more fires burn, the native sagebrush-steppe ecosystem is being replaced by annual invasive species, primarily cheatgrass, which dominates up to 100 million acres in the West.

Firefighters and managers understand the cheatgrass cycle. Cheatgrass thrives in disturbed areas, such as those that have recently burned. It cures early in the spring and can form a mat of continuous fuel, which carries fire fast and far. Cheatgrass is highly flammable. So the more fire, the more cheatgrass. And the more cheatgrass, the more fire.

Denser fuels of riparian areas may burn more intensely than surrounding fuels with higher flame lengths. Where grasses and sage become less consistent, wind is needed to push fires. Without the influence of wind, the fire will drop to the ground. In the absence of fine fuels, fire spread will stop. Burn time in these fuel types is usually short and burned areas cool quickly after passage of the fire front.

Although lightning events are common in Fremont County, the flat topography and inconsistent fuels are more prone to man-caused ignitions than lightning strikes. Debris fires and vehicle use are much more common ignition sources. Fires rarely occur at the nearby oil and gas fields; however, their presence significantly increases the potential fire risk to the communities. The operating company generally easily suppresses this type of industrial fire at the site, and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fuels or on unimproved trails. Railroad fires are common near Bonneville. ATV's and pick-ups are regularly used off-road in industrial operations. Recreation activities around Boysen Reservoir have a high probability of starting a wildfire. Recreational vehicles, propane and gas tanks, and campfires are a just a few of the potential ignition sources.

Risk Assessment

Residents of these sagebrush/steppe communities may have a moderate risk of experiencing a wildland fire due primarily to the abundance of ignition sources. Industrial operations associated with the nearby oil and gas fields, train traffic, and a high density of recreational traffic in public areas such as, Boysen State Park, heighten the likelihood of an ignition and therefore increase the risk of communities becoming threatened by wildfire. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

Some homeowners maintain a clean and green lawn throughout the year; however, due to the xeric nature of the environment, many structures lack an adequate defensible space. This attribute significantly increases the potential fire hazard to homes and other structures. Homes and other structures near riparian fuels are at higher risk. Ignitions within these fuels may result in a higher intensity fire moving rapidly throughout the drainage. This type of fire may be limited to fuels near the creek; however, they have the ability to threaten many homes in a short amount of time. Homeowners near riparian areas should maintain a defensible space between denser fuels in the creek bottom and structures or other valued property.

Jeffrey City

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Municipal & Sweetwater River**

Vegetation Condition Class: **Class IIA, and IIB**

Description

Jeffrey City is located in the southeastern corner of Fremont County along U.S. Highway 287. Crooks Mountain and Green Mountain rise out of the flatlands to the south with the northern ridge of the Great Divide Basin just beyond. The Beaver Divide and Granite Mountain Range lie more distantly to the north. The landscape surrounding Jeffrey City is characterized by species adapted to a very xeric environment. Sagebrush is the dominant vegetation with some bunchgrasses scattered throughout. Some areas are completely void of vegetation due to a lack of suitable soil or rock. Mountain slopes are typically steep sided rock formations with very little vegetation. Conversely, dense conifer vegetation, low-growing juniper and lodgepole pine, inhabit the upper slopes of Crooks Mountain and Green Mountain.

Recommendations

- Encourage grazing to maintain grass vegetation in condition classes.
- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and identify drafting sites on area rivers.

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

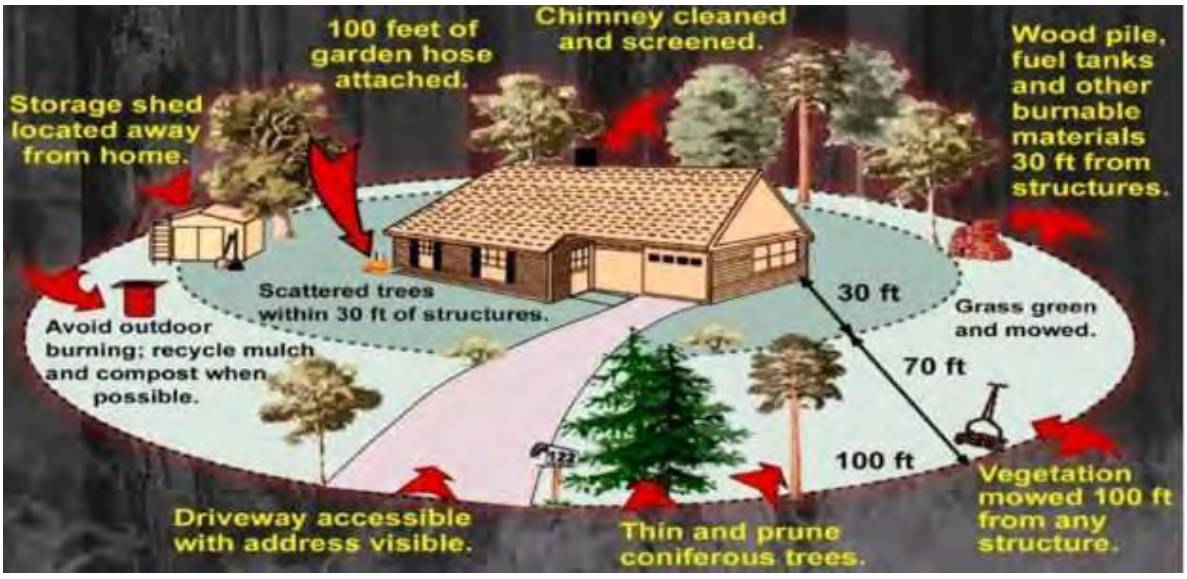


Figure 3-2. The Home Ignition Zone (HIZ) extends 100 feet out from the structure. If a structure is on a steep slope the HIZ should extend out to 200 feet depending on the steepness of the slope. Other actions include: grazing to maintain grass height and reduce surface fire hazard; contact a qualified fire specialist to implement prescribed burning in sagebrush areas to remove decadent fuels and maintain healthy vigorous plants; post and replace reflective address markers on area homes; post and replace street name signs; establish and identify drafting sites at nearby rivers, ponds or lakes and sign and label locations; conduct fuels treatments along roads to thins stands for improved access;

Lysite and Lost Cabin

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Reservoirs & Fire Dept. Storage Tanks**

Hazards: **Natural Gas Infrastructure**

Vegetation Condition Class: **Class IIA & IIB**

Description

This industrial based community is located in the northeastern corner of Fremont County. The Lysite town center sits at the junction of Badwater Road and the Lysite-Moneta Road. This area is very dry and mostly flat with several creek beds and dry gulches. The landscape to the north rises gently to the distant slopes of Copper Mountain and Lysite Mountain. Much of the Lysite and Lost Cabin area is devoid of continuous vegetation. Bare dirt and rock commonly shows through the scattered sagebrush and cured grasses. The Lost Cabin town site is about 3 miles northeast of Lysite on Badwater Road. There are a few more homes in Lost Cabin; however, this area is vastly dominated by industrial operations.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Some actions may include: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Encourage grazing to maintain grass vegetation in condition classes.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

Red Rocks

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **NO - Some non-improved**

Average lot size: **1.5 to 400 acres**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Wind River**

Vegetation Condition Class: **Class IIA & IIB**

Description

The Red Rocks Community is a small area containing almost two dozen houses and a small restaurant/motel. Red Rocks is at the confluence of Red Creek and the Wind River in the extreme northwest corner of the reservation along highway 26/287. Surrounding the community is red rock geological formations covered with sparse juniper and sagebrush vegetation. The community is accessed by dirt roads that begin at highway 26/287. Homes in the area are single family, widely separated from their neighbor, and generally surrounded by dirt or sparse vegetation. Some homes are surrounded by yards that extend to the natural surroundings.

Access to individual houses is by dirt roads with good ingress and egress along with road signs and addressing at the driveway entrance. The scattered development in the community takes on the appearance of a resort or summer home area.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.

- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.

- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites for fire apparatus, and sign label locations.

Shoshoni and Bonneville

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **NO - Some unimproved**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6, and 8**

Water supply: **Municipal and Reservoir**

Vegetation Condition Class: **Class IA, IIA, & IIB**

Description

The small community of Shoshoni is located at the junction of U.S. Highway 20 and U.S. Highway 26 approximately 3 miles east of the Wind River Reservation boundary and Boysen State Park. Flat plains dominated by sparse sagebrush and bunchgrasses surround Shoshoni. The small community of

Bonneville is about 3 ½ miles northeast of Shoshoni on Bonneville Road. Most of the homes and other structures associated with the area lie within the bounds of the Badwater Creek drainage; thus, riparian vegetation including Black Cottonwoods, mature sagebrush, and several grass species are more abundant than in the surrounding xeric landscape. Outside of the creek bed, sparse sagebrush makes up the vegetative community; however, much of the ground is bare dirt and rock. Both Shoshoni and Bonneville are almost completely surrounded by land administered by the Bureau of Land Management.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Encourage grazing to maintain grass vegetation in condition classes.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

South Pass City

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **NO**

Are all access roads of adequate width? **NO - Some Unimproved**

Average lot size: **10 acres and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Rock Creek, Reservoirs, FD Storage Tank**

Hazards: **Mine Shafts, Steep Slopes, Chimneys**

Vegetation Condition Class: **Class IB & IIB**

Description

South Pass City is a remnant mining town and historic site. It was the last stop for western migrants before heading over the Continental Divide. This small tourist town is located about 1 mile south of the southeastern tip of the Shoshone National Forest just east of State Highway 28. The South Pass City State Historic Site makes up about half of the structures at the town site. There are several old mining structures still erect near the town site.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning in the area to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

Sweetwater Station

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **NO - Some Unimproved**

Average lot size: **40 Acres and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Sweetwater River**

Vegetation Condition Class: **Class IIA & IIB**

Description

Sweetwater Station is located at the junction of State Route 135 and U.S. Highway 287. There are very few permanent residents of Sweetwater Station; however, there is a large rest area and scattered ranches near the junction. The Sweetwater River runs through the town site; however, the water is generally hard to access in this channel. There are a few cleared fields used for pasture, but mostly the area is dominated by sagebrush and scattered bunchgrasses. The rocky, steep sided slopes of Crooks Mountain rise somewhat distantly to the southeast and the Beaver Divide Range lies to the northwest.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Conduct Fuel Treatments in river bottoms to thin stands and develop fuel breaks for improved safety.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.

- Consider prescribed burning the sagebrush and river areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.

- Encourage grazing to maintain grass vegetation in condition classes.

- Post and replace reflective address markers on area homes.

- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

● Agriculture

Fire Potential

Much of the rolling landscape within and immediately surrounding these communities has been converted to irrigated pasture or agricultural fields. Homes surrounded by irrigated cropland or developed pastures have a reduced risk of experiencing a wildland fire. However, in the event of a wildfire, these more productive fine fuels would support a very rapidly spreading, but typically lower intensity fire. The ability of landowners to easily modify surrounding vegetation with available farming equipment decreases the probability that a wildfire will reach a structure.

Native rangeland fuels consist of sparse, low growing sagebrush and random clusters of bunchgrasses. Fires in sagebrush dominated ecosystems tend to spread very rapidly, but burn at relatively low intensities. Where grasses and sage become less consistent, wind is needed to push fires. Without the influence of wind, the fire will drop to the ground. In the absence of fine fuels, fire spread will stop. Burn time in these fuel types is usually short and burned areas cool quickly after passage of the fire front.

The riparian fuels within the river channels and along some irrigation canals support a much more productive vegetative ecosystem. Fuel loading in these areas is often significantly greater than rangeland fuels and possesses a dead and down component. Due to the increased moisture levels, ignitions are not commonplace; however, once started, fires in these fuels can burn very intensely and move extremely rapidly. A continuous fuel bed allows the fire to be carried significant distances within the river bottom. This may increase the potential for more structures or other valued resources to be threatened.

Risk Assessment

Residents of these agricultural communities may have low to moderate risk of experiencing a wildland fire due to the extensive agricultural development and relatively gentle topography. Nevertheless, in the event of wildfire, the light fuels would likely support a very fast-moving rangeland fire. Fires within the river corridors have the potential to burn very intensely and the capacity to threaten many structures along either bank. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

As the communities grow, more and more homes are being built in the wildland urban interface. Many of these new homes abut native rangeland fuels and are accessed by one-way in and one-way out driveways, which dramatically increases the likelihood of loss of life or property in the event of a wildland fire. These homes and other buildings are at much higher risk of experiencing a damaging fire.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry, flashy fuels. The receptive nature of these fuels increases the likelihood of a fire start. Most homeowners maintain an adequate defensible space around structures by watering their yards or mowing grass and weeds.

Arapahoe

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Municipal, Irrigation, Industrial Tank**

Vegetation Condition Class: **Class Burnable Agricultural, IIA & IIB**

Description

The community of Arapahoe lies near the confluence of the Little Wind River and the Popo Agie River approximately 5 miles southwest of Riverton, WY on the southeastern extent of the reservation. Many roads including Highway 137/17 Mile Road access the area. The community is made up of Arapahoe and the surrounding rural homes and ranches. The town of Arapahoe consists of tribal and government administrative offices, schools, businesses and cluster housing in addition to numerous single-family dwellings. The town has a system of fire hydrants servicing portions of the community.

Outside the town area is randomly distributed cluster housing units mixed with widely spaced allotment ownerships developed into irrigated agricultural and pastureland with intermittent strips of shrub land

along the river bottoms. Surrounding and interspersed throughout the community is arid grass and sage covered hills, wooded valley bottoms and rolling plateaus.

There are several new and older cluster housing developments in the Arapahoe community. Some of these units have paved access roads, good ingress and egress along with road signs and addressing on the individual housing units.

The scattered rural development in the community is a condition of the allotment ownership pattern that developed into individual ranches and farmsteads. Most of the older developed home site areas are surrounded by yards and shade trees. Surrounding the developed home sites in the rural landscape is pasture or irrigated fields.

Access throughout the community is by way of well-maintained paved and unpaved roads. A rural addressing system has been developed for the rural properties and is displayed at the driveway entrance on the main roads accessing the property. Ingress and egress for large fire equipment off of the main access roads is well developed to the driveways of rural residences in many areas. Access is restrictive to individual home sites with limited turn around areas for large emergency equipment.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.

- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.

- Conduct Fuel Treatments in river bottoms to thin stands and develop fuel breaks for improved safety.

- Encourage grazing to maintain grass vegetation in condition classes.

- Post and replace reflective address markers on area homes.

- Post and replace street name signs.

St. Stephens

Hazard Rating	**MODERATE**
Does the neighborhood have dual access roads?	**Yes**
Are all the road grades less than 10 percent?	**Yes**
Are all access roads of adequate width?	**Yes**
Average lot size:	**City Lot and Greater**
Fuel models found in the neighborhood:	**2, & 6**
Water supply:	**Municipal, Irrigation, Industrial Tank**
Hazards:	**Industrial Facilities**
FRCC: Rating	**Class Burnable Agricultural, IB, IIA, & IIB**

Description

The community of St. Stephens lies approximately 4 miles south of Riverton, Wyoming on the Little Wind River, in the southeastern extent of the reservation. The community is built up around the St. Stephens Mission and School and includes administrative offices, schools, churches, businesses and cluster housing in addition to numerous single-family dwellings. Highways 138, 789, 135 and 136 and many other paved and non-paved roads crisscross the community.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.

- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.

- Conduct Fuel Treatments in river bottoms to thin stands for improved safety.

- Encourage grazing to maintain grass vegetation in condition classes.

- Post and replace reflective address markers on area homes.

- Post and replace street name signs.

- Conduct Fuel Treatments in river bottoms to thin stands for improved safety.

Fort Washakie

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6 & Agricultural**

Water supply: **Municipal, Little Wind River**

Vegetation Condition Class: **Class Burnable Agricultural, IIA, & IIB**

Description

Fort Washakie community lies near the confluence of the North and South Fork of Little Wind River on the south central extent of the reservation. Highway 287, the main highway between Lander and Dubois, WY, accessed the area. The community is made up of Fort Washakie and the surrounding rural homes and ranches. The town of Fort Washakie consists of tribal and government administrative offices, businesses and cluster housing in addition to numerous single-family dwellings and structures. The town has a system of fire hydrants that extends to the outer edges of the business district and includes several cluster housing developments.

Outside the town area is randomly distributed cluster housing units mixed with widely spaced allotment ownerships developed into irrigated agricultural and pastureland with intermittent strips of shrub land along the river bottoms. Surrounding all of the community is arid grass and sage covered hills, valley bottoms and rolling plateaus.

There are several new and older cluster housing developments in the Fort Washakie community. Most of these units have paved access roads, good ingress and egress along with road signs and addressing on the individual housing units.

The scattered rural development in the community is a condition of the allotment ownership pattern that developed into individual ranches and farmsteads. Most of the older developed home site areas are surrounded by yards and shade trees. Surrounding the developed home sites in the rural landscape is pasture or irrigated fields. Irrigation ditches are common throughout the rural areas.

Access throughout the community is by way of well-maintained paved and unpaved roads. A rural addressing system has been developed for the individual properties. The address is usually displayed at the driveway entrance on the main road accessing the property. Ingress and egress for large fire equipment off of the main access roads is well developed to the driveways of rural residences in many areas. Access is restrictive to individual home sites with limited turn around areas for large emergency equipment.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Conduct Fuel Treatments in river bottoms to thin stands for improved safety.
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Account for protected sage grouse habitat (see Figure 4-6).

Boulder Flats

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **20 Acres and Greater**

Fuel models found in the neighborhood: **2**

Water supply: **North Fork, Irrigation**

Vegetation Condition Class: **Class Burnable Agriculture, & IIB**

Description

The Boulder Flats Community is an area of rural farms and cluster-housing units located between Plunkett Road and Milford along highway 287 north of Lander, WY. Sand Hills cluster housing unit is located on the east side of the highway, and Boulder Flats lies on the west side. This community is located in the southern extent of the reservation. Surrounding the community is arid grass and sage covered hills, and rolling plateaus. The Boulder Flats Community lies in a broad flat plain surrounded by low rolling hills. Sand Hills is located on prominent high ground.

The cluster housing in the community contains many homes widely dispersed along paved and unpaved roads with variable ingress and egress for emergency vehicles. Homes are surrounded by yards that extend to grass or sagebrush land. A well-developed system of fire hydrants is present to the newly developed areas.

Several of the side roads in the area are paved to the last ranch and then turn into improved dirt roads. Access to individual ranches is on dirt roads with good ingress and egress along with road signs and addressing at the driveway entrance. The scattered rural development in the community is a condition of the allotment ownership pattern that developed into individual ranches and farmsteads. Most of the older developed home site areas are surrounded by yards and shade trees. The outlying open non-improved grazing land is primarily sagebrush and grass mixed with other arid brush species.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Account for protected sage grouse habitat (see Figure 4-6).

Crowheart

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **40 acres and Greater**

Fuel models found in the neighborhood: **2, 6, and 8**

Water supply: **Wind River, Irrigation**

Vegetation Condition Class: **Class Burnable Agricultural, IIA, & IIB**

Description

The community of Crowheart lies in the Wind River Valley on the west central extent of the reservation. Highway 26/287, the main highway between Riverton and Dubois, WY accesses the area. The community consists of mostly scattered homes and ranches lying primarily in the broad river valley, with scattered dwellings on the valley edge and along tributary streams of Wind River. The Wind River Valley where Crowheart lies is dominated by irrigated agricultural and pastureland with intermittent strips of heavily wooded draws and stream channels giving way to grass and sage covered hills and plateaus in the distance. Access throughout the community is via well-maintained narrow dirt roads with turnouts. The community has a rural addressing system displayed on the main roads that access individual properties. Ingress and egress for large fire equipment off of the main access roads is restricted in many areas.

Homes lie scattered throughout the valley with only a few areas made up of cluster housing. Scattered development is a condition of the tribal allotment ownership pattern that developed into individual

ranches and farmsteads. Most developed home site areas are surrounded by yards and shade trees. Outside the developed home sites, the landscape is pasture or irrigated fields. Irrigation ditches are common throughout the developed landscape.

Dwellings present along the wooded stream channels tend to be more secluded and out of sight, nestled between the larger cottonwoods and riparian vegetation. Many structures are surrounded by a yard or defensible space; however a large wind driven fire event in the heavily wooded fuels has the potential to create devastating crown fires that can bridge fuel breaks with destructive results.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Account for protected sage grouse habitat (see Figure 4-6).
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Account for protected sage grouse habitat prior. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

Ethete

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Municipal, Little Wind River, Irrigation**

Vegetation Condition Class: **Class Burnable Agricultural, IIA, & IIB**

Description

Ethete community lies approximately 5 miles northeast of Fort Washakie near the confluence of Sage Creek and Trout Creek, tributaries of the Little Wind River. Ethete lies in the south central extent of the reservation and is accessed via highways 132 and Ethete Road. The community is made up of the town of Ethete, which lies at the crossroads, and the surrounding rural homes and ranches. The town of Ethete consists of community administrative offices, Wyoming Indian Schools, St. Michael Mission, small businesses and numerous single-family dwellings and structures.

Outside the town area are the Indian Schools, and more newly developed housing areas mixed with small ranchetts and farms. Surrounding the community is arid grass and sage covered hills, and rolling plateaus. Ethete lies in a flat basin surrounded by hills, a prominent river valley feature noticeable in the area.

Access to individual homes is on improved dirt roads with fair ingress and egress along with road signs and addressing on the individual housing units. Two large water tanks are located south of Ethete on a high plateau.

The scattered rural development in the community is a condition of the tribal allotment ownership pattern that developed into individual ranches and farmsteads. Most of the older developed home site areas are surrounded by yards and shade trees. Surrounding the developed home sites in the rural landscape is pasture and agricultural land.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Conduct Fuel Treatments in river bottoms to thin stands for improved safety.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Account for protected sage grouse habitat (see Figure 4-6).

Lander Front

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Municipal, Irrigation, Creeks**

Vegetation Condition Class: **Class Burnable Agricultural, IB, & IIB**

Description

The community of Lander is situated just south of the Wind River Reservation boundary on the eastern edge of the Shoshone National Forest at the junction of U.S. Highway 287 and State Route 789. Lander is the largest off-reservation community in Fremont County. Several small tributaries feed the North Popo Agie River, which forms the reservation boundary to the north, and the Middle Popo Agie River which runs along the east side of the community making the immediate Lander area relatively green and well irrigated. The landscape is characterized by mostly rolling hills with the mountains of the Shoshone National Forest as a backdrop to the west. There are several subdivisions scattered around the outskirts

of town and along State Route 28 heading south. Much of the Bureau of Land Management and state-owned ground surrounding the community is leased as grazing allotments and is dominated by sagebrush and bunchgrasses.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

Johnstown

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? No

Are all the road grades less than 10 percent? Yes

Are all access roads of adequate width? No

Average lot size: 80 Acres and Greater

Fuel models found in the neighborhood: 2, 6 & 8

Water supply: Wind River, Irrigation

Vegetation Condition Class: Class Burnable Agricultural, IA, IIA, & IIB

Description

The Johnstown Community is an area of rural ranchetts and single dwellings located in the Johnstown Valley along the Wind River, approximately 18 miles northwest of Riverton, WY. Surrounding the community is arid grass and sage covered hills, wooded river bottoms and high plateaus. The community is accessed by paved road that begins at highway 132. Homes in the community are widely scattered throughout the area. Some homes are surrounded by yards that extend to grass or sagebrush land, others lie in the natural rangeland. Most streets are clearly signed and individual housing units are marked with address numbers.

Several of the side roads are paved to the last ranch and then turn into dirt roads. Access to individual ranches and houses are on dirt roads with good ingress and egress along with road signs and addressing at the driveway entrance. The scattered rural development in the community is a condition of the tribal allotment ownership pattern that developed into individual ranches and farmsteads. The outlying open non-improved grazing land is primarily sagebrush and grass mixed with other arid brush species.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Account for protected sage grouse habitat (see Figure 4-6).
- Work with Weed and Pest District and stakeholders to develop plan for cheat grass control or eradicating.

- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.

- Encourage grazing to maintain grass vegetation in condition classes.

- Post and replace reflective address markers on area homes.

- Post and replace street name signs

Riverton

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Municipal, Irrigation, Wind River**

Vegetation Condition Class: **Class Burnable Agricultural, IB, IIA, & IIB**

Description

The community of Riverton is located at the junction of the Wind River and the Little Wind River. The main channel flows directly through the town site, while the Little Wind River flanks around the eastern city limit. Much of the community lies within the boundaries of the Wind River Reservation; however, a small portion on the north side is not included. The Riverton area has been developed extensively for agricultural purposes and due to the availability of water resources is well irrigated. The surrounding landscape is relatively flat with a few rolling hills.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

17 Mile

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No**

Average lot size: **40 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Municipal, Wind River, Industrial**

Vegetation Condition Class: **Class Burnable Agricultural, IIA, & IIB**

Description

The 17 Mile Community is an area of rural farms and a cluster-housing unit located along 17 Mile Road. The community lies along the Little Wind River, west of Arapahoe, Wyoming. The cluster-housing unit is near the intersection of 17 Mile Road and Ethete Road. 17 Mile is located in the south central extent of the reservation. Surrounding the community is arid grass and sage covered hills, and rolling plateaus. The 17 Mile Community lies in a broad flat river valley surrounded by low rolling hills.

The cluster-housing unit along 17 Mile Road contains many homes. The homes are surrounded by yards that extend to grassland. The housing unit is accessed by paved road with good ingress and egress for emergency vehicles.

Several of the side roads in the area are paved to the last residence and then turn into improved dirt roads. Access to individual homes is on dirt roads with good ingress and egress along with road signs and addressing at the driveway entrance. The scattered rural development in the community is a condition of the tribal allotment ownership pattern that developed into individual ranches and farmsteads. Most of the older developed home site areas are surrounded by yards and shade trees. Tall willow and cottonwood trees line irrigation ditches and waterways throughout the community. The outlying open non-improved grazing land is primarily sagebrush and grass mixed with other arid brush species.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Account for protected sage grouse habitat (see Figure 4-6).
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

Pavillion, Missouri Valley, North Portal, and Hidden Valley

Hazard Rating **LOW**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6, 8, and Agricultural**

Water supply: **Municipal, Irrigation, Lakes, Streams**

Vegetation Condition Class: **Class Burnable/Non Burnable Agricultural**

IA, IB, IIA, & IIB

Description

These areas are all agricultural based communities with Pavillion being the only established municipality in the area. All of these areas are within the vast Midvale Irrigation District, and are all serviced by a series of canals, ditches and drains to carry water to and from the agricultural lands. This area spans from the Pilot Butte Reservoir down through the valleys to the Boysen Reservoir. The town of Pavillion has a system of fire hydrants serving the community of small homes, businesses, and the area school.

The valleys consist of randomly dispersed homes and ranches with various ownerships of the area lands. The surrounding area is interspersed with grass/sage covered hills, while the valley bottoms contain a timber component. Two of the larger drainages in the area are Five Mile Creek and Muddy Creek, both of which could present significant fire dangers due to fuel arrangements and topography alignment.

Access to the entire area is by way of well-maintained asphalt and gravel roads which provide good ingress and egress for firefighting equipment. A rural addressing system is in place at the majority of the residences in the area, however some residences do have limited turn around and entry access for large fire equipment.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- See sections 5.1.1 through 5.1.7 for treatment recommendations appropriate for vegetation types in this area.
- Encourage grazing to maintain grass vegetation in condition classes.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

• Timber

Fire Potential

Many homes and subdivisions in these areas are located within or abutting the timber-type fuels of the Shoshone National Forest and surrounding lands. The predominantly northeast and southwest aspects of the upper portion of the Wind River corridor are characterized by Douglas fir, limber pine, and lodgepole pine transitioning to spruce and subalpine fir at slightly higher and wetter elevations. Large aspen clones are found in many of the shallow draws or where moister is more available. In some areas, the closed canopy of the overstory limits regeneration or other vegetative growth in the understory. In other areas; however, the understory is overladen with dense brush, conifer regeneration, and hardwoods. Dog hair stands of lodgepole pine are common, particularly in areas that have not burned or been otherwise managed for many years. Large meadows along the highway are used for pasture and livestock grazing; thus helping to keep the fuel loading to a minimum.

Fires in these mixed fuel types are highly variable ranging from low intensity surface fires to very destructive, stand replacing wildfires. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions.

Both natural and man-caused fires occur in this area. The high density of recreational activity increases potential ignition sources significantly. Off-road vehicles, debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can also spark fires, especially during windy conditions.

Lightning events are common across Fremont County; but are especially common in the mountainous regions encompassed by national forest lands and in the foothills regions. In the late summer and early fall, the cured grasses, sagebrush, and drier forest conditions are very receptive to ignition.

The abundance of human and natural ignition sources and the nature of fuels in these areas increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity and strong winds can quickly lead to fast-moving, destructive wildfires.

Risk Assessment

Most of the populated timbered areas have a high risk of experiencing a wildland fire. Homes with timber directly abutting or overhanging structures are at the highest risk. Fires in timber fuel types are generally much more intense and difficult to control than rangeland fires. Fires ignited in the grassland and pasture areas near the Wind River would likely spread very rapidly upslope into the timber fuels. Denser riparian vegetation along the riverbed would also support an intense fire that could easily spread throughout the drainage, threatening many homes along its path. Additionally, the abundance of recreational and other human activities in the area drastically increases potential ignition sources. Preparing a home prior to a wildfire event and having an evacuation plan in place will significantly decrease the potential for loss of life and property.

As these rural communities grow, more and more homes are being built in high fire risk areas. Many of these new homes abut native rangeland or forest fuels and are accessed by one-way in and one-way out driveways, which dramatically increase the likelihood of loss of life or property in the event of a wildland fire. Additionally, most rural homes have been constructed with wood siding and decking and have propane or firewood positioned in close proximity to the home. These homes and other buildings are at much higher risk of experiencing a fire. The county needs to address minimizing risk in existing and future subdivisions as well as individual home sites by means of regulation or code. The lack of an alternate escape routes also significantly increase the risk to the community.

Some landowners have decreased the fire risk to their property by conducting thinning, pruning, and slashing operations around structures. Others graze livestock in pastures surrounding the home site. Both management methods help create a defensible space around the structures, which drastically reduces the risk of a wildfire threatening the home.

- ## Lander/South Pass

Atlantic City

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **NO - Some Streets Not**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Rock Creek & Reservoirs**

Hazards: **Mine Shafts, Steep Slopes, Chimneys**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

Atlantic City is an historic mining boomtown turned tourist attraction. There are currently only about 60 permanent residents, yet this little community has several rooms or cabins for rent and a handful of general stores, gift shops, and restaurants. Atlantic City is located about 2 miles east of State Route 28 near the southeast corner of the Shoshone National Forest. Rock Creek, which flows through the town site, forms a small valley bottom flanked by a relatively steep rock wall on the south side. The north side of the creek, where most of the town structures are located, falls away more gently forming rolling sagebrush covered hills. Recreation and tourism are the main economic influences in this historic community. There are several established subdivisions located in the greater Atlantic City area. These subdivisions typically consist of scattered recreational properties. Besides the townsite, there currently are not any well recognized subdivisions with many established structures present, but there is notable new construction. There are also a few plated subdivisions including Spring Gulch Cabins and Stambaugh Cabins; however, there is currently no construction occurring on these sites.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Complete area projects to restore a wildfire resilient landscape.
- Continued fuel treatments on state and federal lands surrounding the area.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

Pine Creek

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No**

Average lot size: **15 to 80 Acres**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Pine Creek**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

The Pine Creek area is located on the west side of South Pass approximately 10 miles east of Sublette County. The vegetation consists of sagebrush and native grasses on the prairie with small stands of juniper and limber pine. The drainages are characterized by aspen and willow with lodgepole pine as the dominant tree species. High elevation forests consist of lodgepole pine and aspen as the dominant

tree species and subalpine-fir, Douglas fir and Engelmann Spruce occurring at a much lesser extent. Homes primarily extend through the forested Pine Creek and Little Pine Creek drainages north of Wyoming Highway 28. A few scattered houses and ranch buildings exist on the prairie. Landownership consists of US Forest Service, Shoshone National Forest and BLM as major landowners with state and private lands intertwined. The area has been heavily impacted by mountain pine beetle the recent past. Fire mitigation activities are currently in progress on State Land and a few private land ownerships. Plans are in the process for additional Wyoming State lands, USFS and BLM lands.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Complete area projects in Pine and Willow Creek drainages to restore a wildfire resilient landscape.
- Continue fuel treatments on state and federal lands surrounding the private areas.
- Develop collaboration with stakeholders for area access to conduct future fuel treatments on all ownerships.
- Complete area projects in Pine and Willow Creek drainages to restore a wildfire resilient landscape.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

Homestead Park and Lander Mountain Road

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No**

Average lot size: **5 to 40 Acres**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Sheep Creek Seasonally**

Vegetation Condition Class: **Class IIA & IIB**

Description

Homestead Park is a gated subdivision and community 3 miles south of the incorporated city limits of Lander, and nestled on the north rim of Sinks Canyon and the Middle Fork of the Popo Agie. Lander Mountain Road is the only access to the growing, mainly recreational home community nestled in a decadent lodgepole Pine, Douglas fir, and Engelmann spruce forest. The community is nearly surrounded by the Shoshone National Forest and Bureau of Land Management lands.

The subdivision is characterized by a one-way in / one-way out unimproved road, steep slopes and canyons, vertical rock faces, and a fire prone history. Just in the last few years, there have been six wildfires and an escaped prescribed fire, directly threatened the homes in the subdivision. The only water access on Lander Mountain is Sheep Creek in the bottom of Sheep Creek Canyon. This small creek is only accessible by truck in two places, and could be threatened by a fire itself.

Homestead Park is one of two recognized Firewise Communities in Fremont County Wyoming. Property owners continue to work diligently to prepare their properties in event of wildfire.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- When planning prescribed fire, consideration must be given to invasive weeds species, and mitigation of fuels hazard conditions before initiation of burns.
- Complete treatment of private land in southern core of the subdivision to restore a wildfire resilient landscape.
- Continued fuel treatments on state and federal lands surrounding the area.
- Maintain community organization with Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration must be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Work with Weed and Pest District and stakeholders to develop plan for cheat grass control or eradicating.
- Complete treatment of private land in southern core of the subdivision to restore a wildfire resilient landscape.
- Develop collaboration with stakeholders for area access to conduct future fuel treatments on all ownerships.

- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Continued fuel treatments on state and federal lands surrounding the area.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Identify and establish drafting sites, and sign label locations.

Red Canyon

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No - Some Streets Narrow**

Average lot size: **3-6 Acres**

Fuel models found in the neighborhood: **2, & 6**

Water supply: **Popo Agie River**

Hazards: **Steep Slopes, Chimneys**

Vegetation Condition Class: **Class Burnable Agriculture, IB, IIA, & IIB**

Description

The Red Canyon Community is a grouping of subdivisions 9 miles south of Lander scattered across the climbing slopes on the lower end of scenic Red Canyon. There are well over sixty (60) homes existing in the local area today, with many new lots laid out for sale. All these residences are permanent, year around homes, some with improved county gravel road access.

The landscape is defined by a variety of small native grasses, mountain sage brush, bitter brush, and areas of dense pinion juniper stands. The larger subdivisions, such as Red Canyon Retreat, are nestled in steep drainages that drop to the South Fork of the Popo Agie River at the bottom of Red Canyon, and are perfectly aligned with fuel, weather patterns, and topography for catastrophic wildfire.

Several of the larger draws, drain from the west, and culminate from the Willow Creek Drainage where most of the new and planned subdivisions are. The ownership of the area is a vast mix of private, State of Wyoming Trust Lands, and Bureau of Land Management lands, all of which neighbor U.S. Forest Service Land to the south and west.

One of the biggest private land stake holders in the area is the Nature Conservancy who manages a large ranch in the mouth of Red Canyon.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Juniper/Limber Pine forest. See Secion 5-1 for prescription recommendations in this fuel type.
- Initiate large area projects where possible to restore a wildfire resilient landscape.
- When planning prescribed fire, consideration should be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk. Consult with a prescribed fire specialist when planning and implementing burns.

- Continued fuel treatments on state and federal lands surrounding the area.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Identify and maintain drafting sites, and sign label locations.
- Develop community organization to form Firewise Community to further efforts.

Pass Creek / Limestone

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **½ to 2 Acres**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Rock Creek & Reservoirs**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

Pass Creek is a forty (40) acre subdivision with 29 parcels located on the west side of Limestone Mountain off Hwy 28. The subdivision is accessed by U.S. Forest Service maintained gravel road, 5-1/2 miles from the main highway.

This development of all summer homes is positioned on a bench of Limestone Mountain as the topography drops down into the Pass Creek Drainage. Landscape in the area is comprised of a lodgepole pine forest, broken patches of aspen stands, and open meadows of native grasses and mountain sage. The forest has been impacted by the mountain pine beetle epidemic, and several other diseases commonly found in the pine forests. The forest stand immediately west and north of the subdivision is a regenerating stand that was burned in 2002 during the 13,000 acre Pass Creek Fire.

Besides the private ownership of the subdivision, the only other land in the immediate area is U.S. Forest Service land which completely surrounds the subdivision.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Maintain completed area projects to provide a wildfire resilient landscape.
- Continued fuel treatments on state and federal lands surrounding the area.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

- Develop community organization to form Firewise Community to further efforts.
- Conduct Fuel Treatments along main roads to thin stands for improved safe access and egress.
- Encourage grazing to maintain grass vegetation in condition classes.

The Dubois / Togwatee Pass Area has numerous subdivisions mainly on the south side of U.S. 26/287 just outside of Dubois. Homes extend from the highway through the foothills area and into the forestlands. Although many are permanent residences, there is also a high density of recreational or seasonal homes. In addition, there are several outfitting businesses, lodges, and even a few restaurants to cater the growing population and flourishing tourist industry. Much of the surrounding forestlands are administered by the U.S. Forest Service, Shoshone National Forest. The foothills area is characterized primarily by grasslands and scattered sagebrush, which transitions to forestlands as the elevation increases. High elevation coniferous species including limber pine, lodgepole pine, Douglas fir, Engelmann spruce, sub alpine fir and large clumps of quaking aspen dominate the overstory on both the private forestlands and the surrounding National Forest lands. The Porcupine Subdivision Area has been designated as one of the highest fire risk areas in the county; however fire mitigation activities are not occurring around many of the homes.

Warm Springs Mountain

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **3-5 Acres**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Warm Springs Creek & FD Tanks**

Vegetation Condition Class: **Class IB & IIB**

Description

The Warm Springs Mountain Area is a cluster of subdivisions on the west side on Warm Springs Mountain that are all located in a large saddle at the 8000' elevation. Homes and businesses here are grouped tightly together on small acreages, and are a mix of permanent, full time residences, and summer vacation homes.

The predominate vegetation species found here are Lodgepole Pine and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory. The Warm Springs Mountain Area has had considerable fuels treatment initiated and completed in the past ten years, but ongoing treatment is still required in face of lodgepole regeneration. This area is still considered one of the highest fire risk areas in Fremont County.

The 2016 Lava Mountain Fire directly impacted the community, burning vegetation within the boundary. Luckily, only minor damage was caused to area structures.

The Warm Springs Mountain Area is surrounded by U.S. Forest Service property to the south and west, and Bureau of Land Management property to the west and northwest.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Continued fuel treatments on state and federal lands surrounding the area.
- Maintain complete area projects to provide a wildfire resilient landscape.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.

- Maintain community organization with Firewise Community to further efforts.
- Creation of fuel break along north Warm Springs subdivision boundary on private ranches to provide protection from fire to the north in Crooked Creek area.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.

Porcupine

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No**

Average lot size: **2-5 Acres**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Fire Department Tank @ Union Pass**

Hazards: **Steep Slopes, Chimneys, Fuel Loads, Access**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

The Porcupine Area is a cluster of subdivisions on the east side on Warm Springs Mountain that are all located in a large chimney around the 8000’ elevation. Homes here are grouped tightly together on small acreages, and are a mix of permanent full time residences, and summer vacation homes.

The predominate vegetation species found here are Douglas fir, Lodgepole Pine and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory. The Porcupine Area has had few fuel treatments initiated or completed, and considerable treatment is still required in face of recent insect outbreaks and fuel density in hazardous terrain. Road access in these subdivisions are not to standards and allows for poor access/egress with only one access point. This area is considered one of the highest fire risk areas in Fremont County.

The Porcupine Area is surrounded by U.S. Forest Service property along the entire south property line.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Douglas Fir forest. See Section 5-1 for prescription recommendations in this fuel type.
- Consider road surface improvement for the narrow unimproved access road to provide safe ingress and egress.
- Work with all area stakeholders to develop egress and access for evacuation, fire response, and future fuel treatment. Subdivision needs more than one way in and out.
- Work with area stakeholders to develop access right of way for USFS to conduct project work on south boundary of subdivision.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Fuel treatments on USFS lands to the south of the Porcupine subdivisions needs to be completed to provide buffer in case of wildfire.
- Complete more area projects on private land within the Porcupine subdivisions to restore a wildfire resilient landscape. These projects should be defensible space and fuels treatment, contiguous across the subdivisions.
- Creation of fuel break along south subdivision boundary extending from Lookout Mountain running to the east for protection from wildfire on inaccessible federal lands parallel the Warm Springs Creek drainage.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.

Stoney Point

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No**

Average lot size: **2-10 Acres**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Wind River**

Vegetation Condition Class: **Class Burnable Agriculture, IB, & IIB**

Description

The Stoney Point Area is a grouping of subdivisions starting 3 miles west of Dubois, on the south side of U.S. 26/287. Homes extend from the highway, across the Wind River, through the foothills area and into the forestlands. Although many are permanent residences, there are some seasonal homes and recreational camps.

The predominate vegetation species found here are Douglas fir, Cottonwood and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory.

Much of the surrounding forestlands to the south are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management property. The foothills area is characterized primarily by grasslands and scattered sagebrush, intermixed river bottom overstory, and meadows which transitions to forestlands as the elevation increases.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Douglas fir forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on federal lands surrounding the area.
- Complete additional area projects to restore a wildfire resilient landscape.
- Establish a drafting site at the Wind River, and sign label location.
- Develop community organization to form Firewise Community to further efforts.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish a drafting site at the Wind River, and sign label location.
- Develop community organization to form Firewise Community to further efforts.

Upper Wind River

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No**

Average lot size: **1-5 Acres**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Wind River**

Vegetation Condition Class: **Class IB & IIB**

Description

The Upper Wind River Area is a grouping of subdivisions and properties, starting 10 miles west of Dubois following the U.S. 26/287 corridor. Homes extend from the highway on both sides, across the Wind River to the south, and into the forestlands. Although many are permanent residences, there is also seasonal homes and businesses located here.

The predominate vegetation species found here are Lodgepole Pine, Douglas Fir, Englemann Spruce, and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory.

Much of the surrounding forestlands to the south and north are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management property in areas to the south. Some open areas are characterized primarily by grasslands and scattered sagebrush, the river bottom with willows, and meadows which transitions to forestlands as the elevation increases.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Douglas Fir forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on federal lands surrounding the area.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Complete area projects to restore a wildfire resilient landscape in the Roaring River, Titterington Acres, Buck and Rail, and Buckboard Subdivisions. Projects must include fuel treatment and defensible space creations.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Identify and establish drafting site, and sign label locations.
- Develop community organization to form Firewise Community to further efforts.

Dunoir

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No - Some Roads Unimproved**

Average lot size: **5-15 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Dunoir River & Area Reservoirs**

Vegetation Condition Class: **Class Burnable Agriculture, IB, & IIB**

Description

The Dunoir Area is a grouping of subdivisions and ranches west of Dubois, on the northside of U.S. 26/287 in the Dunoir River drainage. Ranches extend from the highway all the way up river to the Shoshone Forest Boundary. Many residences are permanent homes and active ranching operations, but there are also a few seasonal homes scattered throughout the area.

The predominate vegetation species found here are Lodgepole Pine, Cottonwood and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory.

Much of the surrounding forestlands to the west and east are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management property. The foothills area is characterized

primarily by grasslands and scattered sagebrush, intermixed river bottom overstory, and meadows which transitions to forestlands as the elevation increases.

The area is accessed by a private road which provides only one means of ingress and egress.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on state and federal lands surrounding the area.
- Complete and maintain area projects to restore a wildfire resilient landscape.
- Create fuel break on north edge of Ramshorn Ranch Subdivision to protect from wildfire approaching from wilderness to the north.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration must be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.
- Develop community organization to form Firewise Community to further efforts.

Crooked Creek

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No - Some Roads Unimproved**

Average lot size: **500 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Wind River**

Hazards: **Steep Slopes, Chimneys, Access**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

The Crooked Creek Area is an area west side of Hat Butte, lying mostly in the Crooked Creek Drainage. Residences here are widely dispersed on large acreages, and are a mix of permanent full time residences, and summer vacation homes, ranches, and youth camps.

The predominate vegetation species found here are Douglas Fir, Lodgepole Pine and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory. The Crooked Creek Area has had fuel treatments initiated or completed, but treatment is still required along the western aspect of Hat Butte to reduce fuel density in hazardous terrain.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Douglas Fir forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on state and federal lands surrounding the area.
- Complete additional treatment acres on east side of TVRC driveway in the east-central part of the community to restore a wildfire resilient landscape. Additionally, these fuels projects will provide critical protection to adjoining communities of Warm Springs, Porcupine, and Stoney Point.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Work with area landowners to address fire killed timber stands to reduce dead fuel loading prior to stand regeneration.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Continued fuel treatments on state and federal lands surrounding the area.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites as possible, and sign label locations.

Warm Springs (ULWS)

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **No**

Are all access roads of adequate width? **No - Some Roads Unimproved**

Average lot size: **5-10 Acres**

Fuel models found in the neighborhood: **2, 6, 8, and 10**

Water supply: **Municipal Hydrants, Little Warm Springs**

Vegetation Condition Class: **Class IB, and IIB**

Description

The Warm Springs Area (ULWS-Upper Little Warm Springs) is a grouping of homes starting at the west edge of Dubois, on the south side of U.S. 26/287. Homes extend from the highway, across the Wind River, through the foothills area and into the forestlands. Although many are permanent residences, there are also a few seasonal homes. These homes are scattered over the climbing foothills and drainages

in the Little Warm Springs Creek area. Foothills are characterized by open areas of grass, sagebrush, and limber pine. The drainage of Little Warm Springs Creek has mostly an Englemann Spruce overstory.

The predominate vegetation species found here are Douglas Fir, Englemann Spruce,Limber Pine, Cottonwood and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory.

Much of the surrounding forestlands to the south and west are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management.

Recommendations

- Continue thinning and dead removal in the Lodgepole/Limber Pine and Spruce forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on federal lands surrounding the area.
- Complete area projects to restore a wildfire resilient landscape in the area of Spring Creek Trail, Soda Springs Drive, Spruce Creek Court, and Bachelor Creek Court.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Foster cooperation for access to complete fuel/timber projects adjacent to the subdivision.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting site(s), and sign label locations.

Jakey's Fork

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **No**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **Yes**

Average lot size: **100 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Jakeys Fork & Lakes(Trail, Ring, Torrey)**

Vegetation Condition Class: **Class Mostly IIB**

Description

The Jakey's Fork Area is a dispersed homes and ranches about 1 mile east of Dubois, on the south side of U.S. 26/287. Homes extend from the highway, and up both the Jakey's Fork and Torrey Creek drainages, through the foothills area and into the forestlands. Most are permanent residences, but there are also a few seasonal homes and guest ranches. Additionally, the Wyoming Game and Fish Department maintains the Dubois Fish Hatchery about 3 miles up Jakey's Fork. The majority of structures are scattered over the climbing foothills and drainages in the area. Foothills are characterized by open areas of grass, sagebrush, and limber pine. The drainages both have mixes of limber, lodgepole pine, cottonwood, quaking aspen and willows.

Much of the surrounding forestlands to the south and west are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management.

This area has a very active recreational population in the summer months due to area guest ranches, lakes, and back country trail heads.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Continued fuel treatments on state and federal lands surrounding the area.
- Complete and maintain area projects to restore a wildfire resilient landscape, with emphasis of areas surrounding and within guest ranches.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration must be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

Dubois

Hazard Rating **MODERATE**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **NO - Some Streets Unimproved**

Average lot size: **City Lot and Greater**

Fuel models found in the neighborhood: **2, 6, & 8**

Water supply: **Municipal , Horse Creek, Wind River**

Vegetation Condition Class: **Class Burnable Agriculture IA, & IIB**

Description

Dubois is located along U.S. 26/287 in the westernmost arm of Fremont County. This relatively small, but very active tourist town lies in the valley worn by the Wind River with the Shoshone National Forest flanking the north and south sides. A steep red rock wall bounds much of the north side of the river valley. A much less conspicuous rock face holds the water's course on the south bank of the river. More gently sloping hills lead into the mountains from the western side of Dubois and beyond the rock barrier walls. Several new subdivisions have sprung up in the valley bottom and foothills surrounding Dubois. Irrigated fields, sagebrush and bunchgrasses characterize the valley bottom with riparian vegetation

nearer the water edge. Forests beyond the valley are a mixture of high elevation coniferous species including limber pine, lodgepole pine, Douglas fir, Engelmann spruce, sub alpine fir and large clumps of quaking aspen.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue to remove dead and down materials around homes to create and improve defensible space. See Section 5-1 for prescription recommendation for defensible space creation.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Develop community organization to form Firewise Community to further efforts.

Sinks Canyon

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **Yes**

Are all the road grades less than 10 percent? **Yes**

Are all access roads of adequate width? **No - Some Roads Unimproved**

Average lot size: **5 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, and 8**

Water supply: **Municipal and Middle Fork Popo Agie**

Hazards: **Steep Slopes, Chimneys, Public**

Vegetation Condition Class: **Class Predominately IIB**

Description

The Sinks Canyon Area is a grouping of subdivisions and ranches south of Lander, along State Highway 131 following the Middle Fork of the Popo Agie River drainage. Ranches and homes extend from the highway to the west the Shoshone Forest Boundary. Most residences are permanent homes and active ranching operations, but there are also a few seasonal homes scattered throughout the area.

At forested elevations, the predominate vegetation species found here are Lodgepole Pine, Cottonwood and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory.

Much of the surrounding forestlands to the west and south are administered by the U.S. Forest Service, Shoshone National Forest, and lands to the south and east are Bureau of Land Management property. The foothills area is characterized primarily by grasslands and scattered sagebrush, intermixed river bottom overstory, and meadows which transitions to forestlands as the elevation increases.

The area is accessed by the state highway, with interconnected private roads, some of which provides only one means of ingress and egress.

Recommendations

Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration must be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Complete additional area projects across the landscape to restore a wildfire resilient landscape.
- Continued fuel treatments on state and federal lands surrounding the area.
- Develop community organization to form Firewise Community to further efforts.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.
- Work with Weed and Pest District and stakeholders to develop plan for cheat grass control or eradicating.
- Encourage grazing to maintain grass vegetation in condition classes.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.

Beaver Creek Area

Hazard Rating **HIGH**

Does the neighborhood have dual access roads? **NO**

Are all the road grades less than 10 percent? **NO**

Are all access roads of adequate width? **No - Some Roads Unimproved & Locked**

Average lot size: **5 Acres and Greater**

Fuel models found in the neighborhood: **2, 6, and 8**

Water supply: **Rock Creek, Beaver Creek, Reservoirs**

Vegetation Condition Class: **Class IB, IIA, & IIB**

Description

The Beaver Creek Area is a grouping of subdivisions south of Lander, on the west side of U.S. Highway 28, on South Pass. Subdivisions adjoin Shoshone Forest property on their immediate west boundary. Some residences are permanent homes, but there are also numerous seasonal homes scattered throughout the area, with major building construction growth currently underway.

The predominate vegetation species found here are Lodgepole Pine, limber pine and Quaking Aspen overstory, with scattered sagebrush, grasses, wildrose, and various other forbes and legumes in the understory. The pine and quaking aspen stands in this area have been impacted by insect and disease attacks.

Much of the surrounding forestlands to the west and east are administered by the U.S. Forest Service, Shoshone National Forest, and Bureau of Land Management property. The foothills area is characterized primarily by grasslands and scattered sagebrush, intermixed river bottom overstory, and meadows which transitions to forestlands as the elevation increases.

All subdivisions in this area are accessed by a private road which provides only one means of ingress and egress. Unimproved routes do exist in the area from past mining activity, but are unreliable access routes.

Recommendations

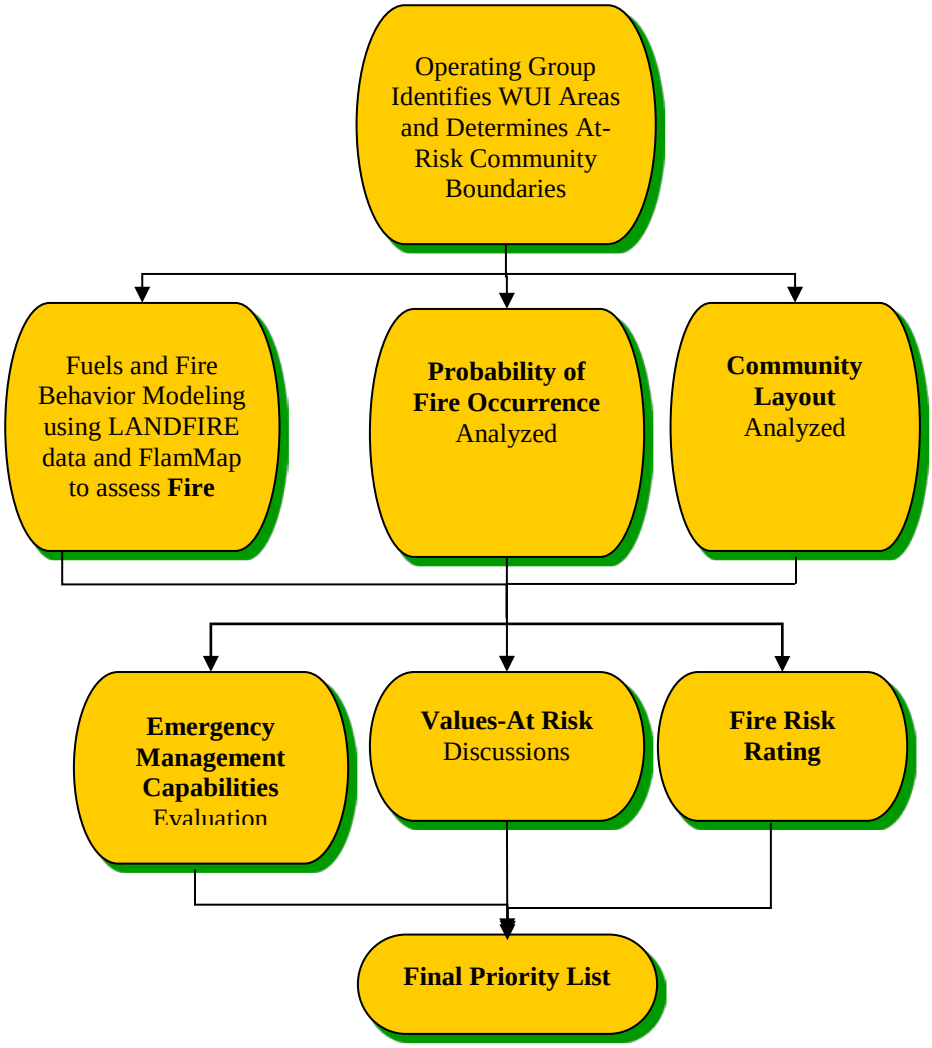
Take actions to reduce structural ignitability within the identified WUI zone such as: Removing dead and down materials around homes to create and improve defensible space and discouraging the building of homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone (see Figure 3.2). Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

- Continue thinning and dead removal in the Lodgepole/Limber Pine forest. See Section 5-1 for prescription recommendations in this fuel type.
- Consider prescribed burning the sagebrush areas to remove decadent fuels and maintain healthy vigorous plants. Consideration must be given to the potential for the establishment of invasive weeds species following a burn. Implement needed mitigation to avoid destruction to values-at-risk including healthy sagebrush and sage grouse habitat. Consult with a prescribed fire specialist when planning and implementing burns.
- Continued fuel treatments on federal lands surrounding the area are necessary to provide wildfire protections.
- Explore and conduct treatments on large private acreages on Iron Mountain to provide landscape continuity necessary for wildfire protection.
- Encourage grazing to maintain grass vegetation in condition classes.
- Complete area projects specifically in and adjacent to the Beaver Creek, Rock Creek, and Upper Slate Creek subdivisions to restore a wildfire resilient landscape. Large landscape fuel treatments are necessary on Iron Mountain, with defensible space at structure locations.
- Develop community organization to form Firewise Community to further efforts.
- Support area Aspen projects to increase area wildfire resiliency.
- Conduct Fuel Treatments along roads to thin stands for improved safe access and egress.
- Post and replace reflective address markers on area homes.
- Post and replace street name signs.
- Establish and develop drafting sites, and sign label locations.
- Continue planning and processes to implement appropriate actions to become a fire adapted community.

4.0 Community Assessment

The purpose of the 2019 FCCWPP is to identify at-risk communities, prioritize these communities for hazardous fuels reduction treatments, and make recommendations for reducing the chances of catastrophic fire. As described above in Section 2.0, a total of 34 at-risk communities were identified in the 2019 FCCWPP assessment area. The communities underwent an analysis process to set priorities for hazardous fuels reduction treatments. This analysis process is illustrated in Figure 4-1. It is important to note that the 34 communities underwent a *relative comparison* process to classify them into a roughly equal distribution of low, moderate, and high fire risk

Figure 4-1. At-risk Community Analysis Process



4.1 2019 FCCWPP Final WUI Rating

Community Assessment, Fire Behavior Modeling, and Operating Group input were the parameters used to determine a Final WUI Rating of the 34 at-risk communities in the 2019 FCCWPP assessment area (Table 4-1). This Final WUI Rating will serve as a priority list for addressing hazardous fuels conditions and implementing fuels treatments aimed at reducing those hazards and the risk of catastrophic fire. The method used for determining the Final WUI Rating is described below. The 34 communities identified in the assessment area are classified as low, moderate, or high fire risk, and appear as green, yellow, and red respectively on the 2019 FCCWPP Base Map (See Fig. 2-2).

The method for prioritizing communities involved Operating Group discussions of the at-risk communities, combined with the ratings derived from the fire behavior modeling of the communities.

4.1.1 Community Assessment

The community assessment was conducted using a Fire Hazard Severity (FHS) Scorecard based on the International Wildland-Urban Interface Code and a Community Layout Scorecard (see Appendix 3). Data gathered using these forms were combined with processes referenced in the Firewise Communities publication “Hazard Assessment Methodologies.” The scorecard rating is designed to evaluate communities within the WUI for assigning a wildland fire hazard. The Fremont County FHS model combines physical infrastructure, such as structures and structure density; roads; fire behavior components like fuels and topography; water supplies; available fire protection; and local fire occurrences to provide a scoring.

The Fremont County FHS model was developed to conduct triage on a threatened community in the path of an advancing wildland fire with moderate fire behavior. The rating system assigns up to a maximum of 230 points based on ten (10) categories: Roads, topography, fuels, hazardous material sources, utilities, home construction, water supplies, structural fire protection, organization of community, and fire occurrence in the area. The higher a community scores, the higher its wildland fire risk. The final value is then used to group communities into one of three hazard ratings: Low, Medium, and High.

4.1.2 Fire Behavior Modeling

The fire behavior modeling uses the following tools: ArcMap 10.5.2 Geographic Information Systems technology (GIS), fire behavior modeling software including FlamMap (Finney 2006; Stratton 2006), and the geospatial land data product LANDFIRE[18]. A "virtual" wildfire was simulated through each of the 34 communities-at-risk. The impacts of wildfire on the landscape within these communities were then analyzed to assist in prioritizing communities on the basis of risk from wildfire.

FlamMap is a fire behavior mapping and analysis program that computes potential fire behavior characteristics (spread rate, flame length, fireline intensity, and burn severity) over an entire landscape. Weather and fuel moisture conditions are set as constants in this model. Additionally, there is no temporal (time) component in FlamMap. The model uses information on topography and fuels to calculate fire behavior characteristics at one instant in time.[19]

LANDFIRE, also known as the Landscape Fire and Resource Management Planning Tools Project, contains data products including layers of topographic characteristics (slope, aspect, elevation), vegetation composition and structure, surface and canopy fuel characteristics,[20] and historical fire regimes. A principle purpose of LANDFIRE data is to: "*Supplement and assist prioritization of national hazardous fuel reduction projects*." The LANDFIRE data set used for the 2019 FCCWPP was the latest version available. The associated metadata has a publication date of 12/9/2016, and indicates

[18]LANDFIRE, http://www.landfire.gov/documents/LF_Data_Product_Descriptions_2016.pdf

[19] FlamMap outputs are well-suited for landscape level comparisons of fuel treatment effectiveness because fuel is the only variable that changes. Outputs and comparisons can be used to identify combinations of hazardous fuel and topography, aiding in prioritizing fuel treatments.

[20]The 40 Scott and Burgan Fire Behavior Fuel Models were used in this analysis. This recently developed set of standard fire behavior fuel models represents more fuel models in every fuel type (grass, shrub, timber, and slash) than does Anderson's set of 13 fuel models. The main objective in creating the 40 Scott and Burgan Fire Behavior Fuel Models (FBFM40) is to increase the ability to illustrate the effects of fuel treatments using fire behavior modeling. The FBFM40 can serve as input to the FARSITE fire growth simulation model (Finney 1998), FlamMap fire potential simulator (Stratton 2004), BehavePlus fire behavior model (Andrews and others 2005), NEXUS crown fire potential model (Scott 2003), and FFE-FVS forest stand simulator (Reinhardt and Crookston 2003).

it uses data from 2014. The FlamMap model was applied to predict fire behavior in the at-risk communities using LANDFIRE data as the existing conditions.

4.1.3 Community Rating Analysis

The Operating Group evaluated the 34 communities using the following analysis criteria: means of access, road characteristics, bridge weight limits, topographical characteristics, water sources, defensible space characteristics, placement of utilities, building construction, roofing assembly, available fire protection, and historical fire occurrence. Low, moderate, and high classifications were then assigned by using the score to divide the communities into thirds using the Equal Interval classification method.

> "It is essential that both the assessment process and the prioritization of projects be done collaboratively, with all agencies with fire protection jurisdiction – federal, state, local, and tribal – and interested stakeholders, taking an active role." Field Guidance. Identifying and Prioritizing Communities at Risk, prepared by the National Association of State Foresters, July 27, 2003 (See Appendix 1).

Fire occurrence within the at-risk communities was considered in the overall risk rating process. Data were obtained from the Federal Fire Occurrence Website, an official government website that provides users with the ability to query, research and download wildland fire occurrence data. The data available through this website contains over 726,888 fire records collected by Federal land management agencies for wildfires that occurred from 1980 through 2015 in the United States (Fire Occurrence 1980 - 2015).

Figure 4-2. 2016 Lava Mountain Fire near Dubois in Fremont County, Wyoming.

Fire occurrence data goes back to the 1980 for federal lands. A lack of State and county fire occurrence data, including fires occurring on private land, lends some bias to fire occurrence ratings for the 2019 FCCWPP assessment area (Figure 4-3).

Figure 4-3. Wildfire activity in Fremont County 1980 – 2016

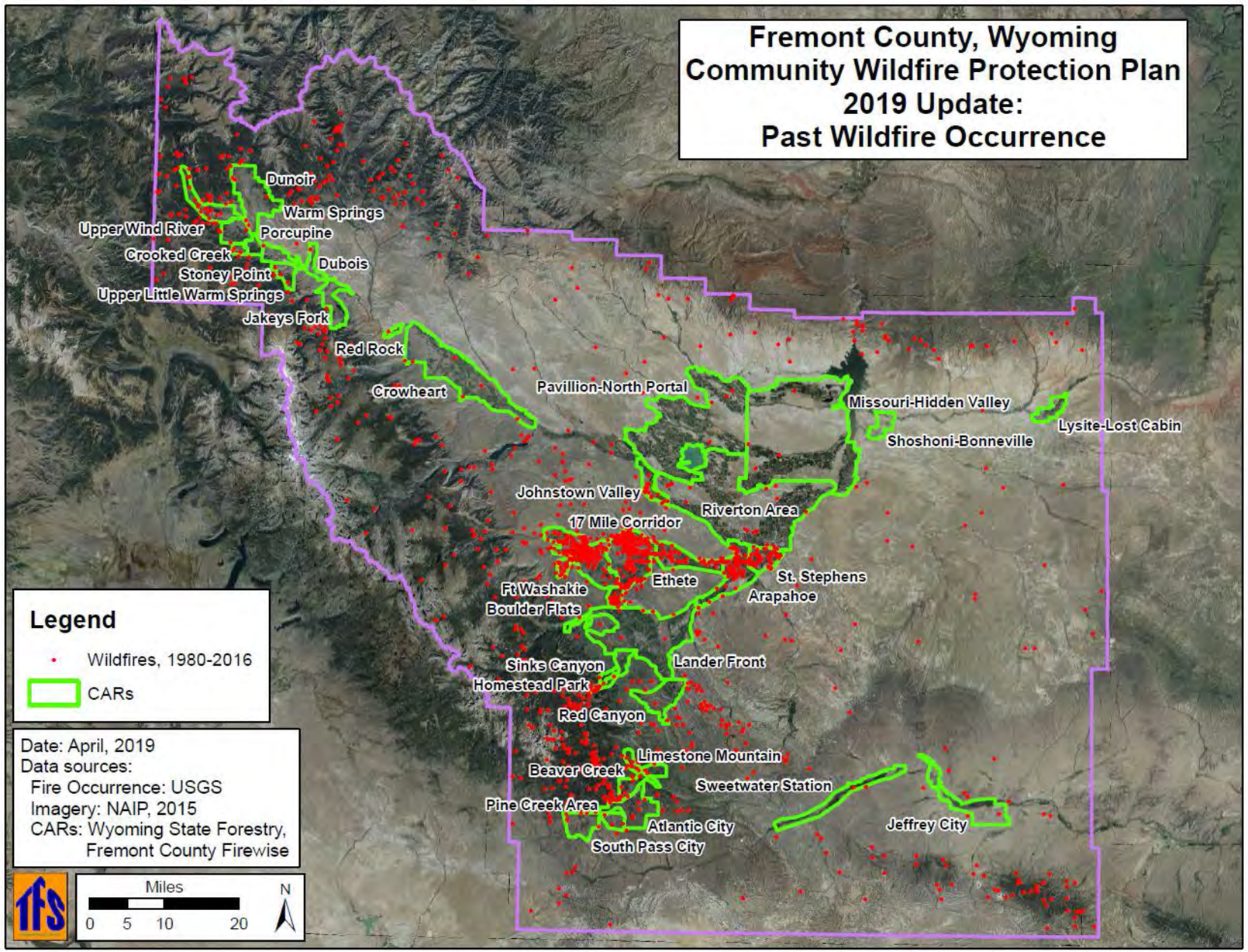


Table 4-1. 2019 FCCWPP Final WUI Priority Rating (Red = High Risk; Yellow = Moderate Risk; Green = Low Risk)

Number	Community-at-risk (CAR)	Acres	RiskRating
1	Warm Springs	1,739	3
2	Upper Wind River	10,056	3
3	Upper Little Warm Springs	4,557	3
5	Stoney Point	4,927	3
8	Sinks Canyon	5,076	3
12	Red Canyon	12,107	3
13	Porcupine	2,912	3
14	Pine Creek Area	8,643	3
18	Limestone Mountain	5,015	3
22	Homestead Park	1,431	3
25	Dunoir	19,789	3
28	Crooked Creek	7,205	3
30	Beaver Creek	5,579	3
6	St. Stephens	7,565	2
19	Johnstown Valley	6,282	2
21	Jakeys Fork	8,728	2
23	Ft Washakie	26,033	2
24	Ethete	23,245	2
26	Dubois	4,259	2
27	Crowheart	43,356	2
29	Boulder Flats	3,446	2
31	Atlantic City	13,058	2
34	Lander Front	59,024	2
4	Sweetwater Station	13,038	1
7	South Pass City	3,497	1
9	Shoshoni-Bonneville	4,923	1
10	Riverton Area	102,928	1
11	Red Rock	1,157	1
15	Pavillion-North Portal	86,974	1
16	Missouri-Hidden Valley	123,626	1
17	Lysite-Lost Cabin	5,224	1
20	Jeffrey City	16,516	1
32	Arapahoe	16,452	1
33	17 Mile Corridor	12,180	1
Total area of Fremont County 2019 CARs		**670,545**	

4.1.4 Values-at-risk

While determining priorities the Operating Group considered values such as Wildland-Industrial Interface (WII), municipal watersheds, natural resources, including wildlife and Threatened, Endangered, and Sensitive habitats, and rehabilitated and restored forests. The importance of these values within the at-risk community boundaries was evaluated in the at-risk community prioritization process.

4.1.4.1 Wildlife habitat

Critical big game winter range is considered a valued resource and occurs within the project area. Sage grouse core areas are present within some at-risk communities (see Figure 4-6). While wildfire is generally beneficial to most wildlife species in the long term, negative impacts can occur where significant areas of sagebrush are burned within crucial mule deer or elk winter range and sage-grouse breeding and winter habitats. Crucial big game migration routes are also considered.

Figure 4-4. Elk calf. TFS photo.

Figure 4-5. Merriams turkey. TFS photo.

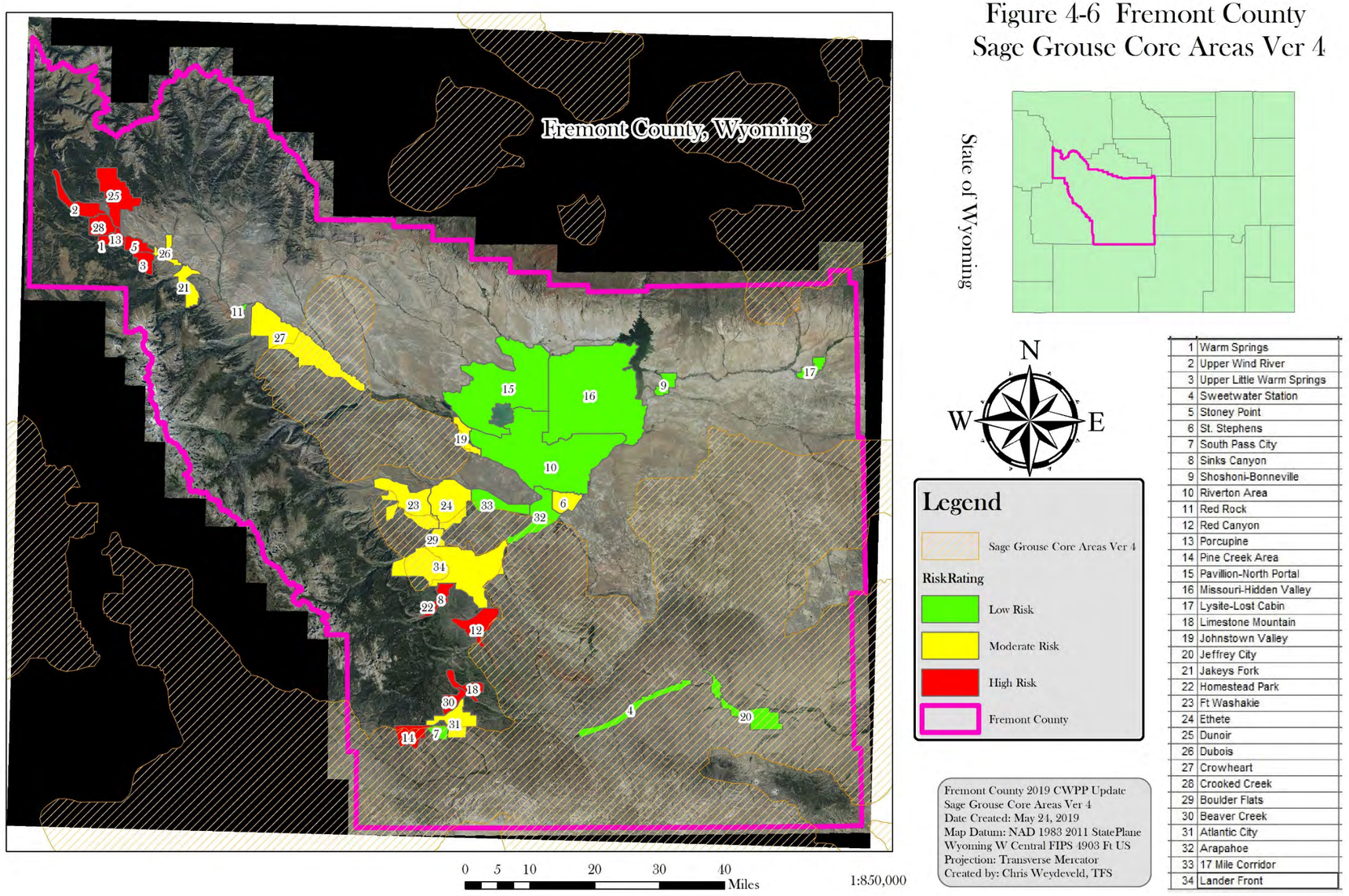


Figure 4-6 Fremont County
Sage Grouse Core Areas Ver 4

Legend

- Sage Grouse Core Areas Ver 4
- RiskRating
- Low Risk
- Moderate Risk
- High Risk
- Fremont County

Fremont County 2019 CWPP Update
Sage Grouse Core Areas Ver 4
Date Created: May 24, 2019
Map Datum: NAD 1983 2011 StatePlane Wyoming W Central FIPS 4903 Ft US
Projection: Transverse Mercator
Created by: Chris Weydeveld, TFS

1	Warm Springs
2	Upper Wind River
3	Upper Little Warm Springs
4	Sweetwater Station
5	Stoney Point
6	St. Stephens
7	South Pass City
8	Sinks Canyon
9	Shoshoni-Bonneville
10	Riverton Area
11	Red Rock
12	Red Canyon
13	Porcupine
14	Pine Creek Area
15	Pavillion-North Portal
16	Missouri-Hidden Valley
17	Lysite-Lost Cabin
18	Limestone Mountain
19	Johnstown Valley
20	Jeffrey City
21	Jakeys Fork
22	Homestead Park
23	Ft Washakie
24	Ethete
25	Dunoir
26	Dubois
27	Crowheart
28	Crooked Creek
29	Boulder Flats
30	Beaver Creek
31	Atlantic City
32	Arapahoe
33	17 Mile Corridor
34	Lander Front

Figure 4-6. Sage Grouse Core Areas version 4 (current at time of printing). Sage grouse habitat occurs primarily outside of forested areas. Core areas do overlap some of the identified at-risk communities in the 2019 FCCWPP project area.

4.2 Identification of important wildlife, fish, and rare plant habitats can enable informed decision making to avoid unnecessary impacts to these resources during wildfire suppression activities and planned fuel reduction projects. Federally listed Species for Fremont County include:

Fremont County

Federally Listed Species

- Canada Lynx
- Canada Lynx Critical Habitat
- Colorado River Fish
- Colorado River Fish Critical Habitat
- Desert Yellowhead
- Desert Yellowhead Critical Habitat
- Grizzly Bear
- Platte River Species
- Platte River Species Critical Habitat
- Ute Ladies'-tresses
- Whitebark Pine
- Yellow-billed Cuckoo

Species of Concern

- Bald Eagle
- Fremont County Rockcress
- Gray Wolf
- Greater Sage-grouse
- Mountain Plover
- Pygmy Rabbit
- White-tailed Prairie Dog

(https://www.fws.gov/wyominges/species_WYESlist.php). In all cases, human and community safety come first during the management of active fire events.

Figure 4-7. Male Greater Sage Grouse during courtship display.

Figure 4-8. Federally listed Species for Fremont County include the rare plant Ute Ladies'-tresses (*Spiranthes diluvialis*).

Figure 4-9. Bald eagle (Photo credit Jeramie Prine).

4.2.1 2019 FCCWPP Final WUI Rating Map

The methodology described above served to generate the final rating in which each of the 34 communities receives a rating of low, moderate, or high overall fire risk. This overall rating is a product of the combined ratings of each of the two methods of analysis. The final rating was accepted by the Operating Group and became the 2019 FCCWPP Final WUI Rating (Table 4-1).

5.0 Recommendations for Reducing Risk of Catastrophic Fire

Sections 2.0 and 3.0 provide a Base Map and list of at-risk communities for the area assessed in this CWPP Update. Section 3.0 outlines the process used for delineating the at-risk communities. Section 4.0 defines the analysis process used to assess overall fire risk, and from that analysis, sets priorities for hazardous fuels reduction treatments. The current section 5.0 recommends fuels treatments, administrative actions, policy changes, and other management considerations aimed at mitigating the potential for catastrophic wildland fire within the WUI.

Forest and fuels treatments completed and planned by agencies administering lands in Fremont County can be seen in Figure 5-1, Figure 5-2, Figure 5-3 and Figure 5-4.

5.1 Recommendations for Land Treatments and Defensible Space

All fuels reduction projects will be designed and implemented in accordance with section 102 of HFRA. The HFRA requires authorized projects to be planned and conducted consistent with resource management plans and other relevant administrative policies and decisions that apply to the federal lands covered by the project (Section 102(b)). The HFRA also prohibits projects in wilderness areas, formal wilderness study areas, and Federal lands where an act of Congress or Presidential proclamation prohibits or restricts removal of vegetation (section 102(d)).

The Forest Service is required by laws, regulations, and policies to assess potential effects of proposed activities on National Forest land for all resources, including wildlife, fish, rare plants, and cultural resources. This includes wildfire suppression activities. As Fremont County works with the Forest Service to propose and design fuel reduction projects, an interdisciplinary team will provide guidance and recommendations to minimize impacts to resources, and look for opportunities to enhance resource conditions.

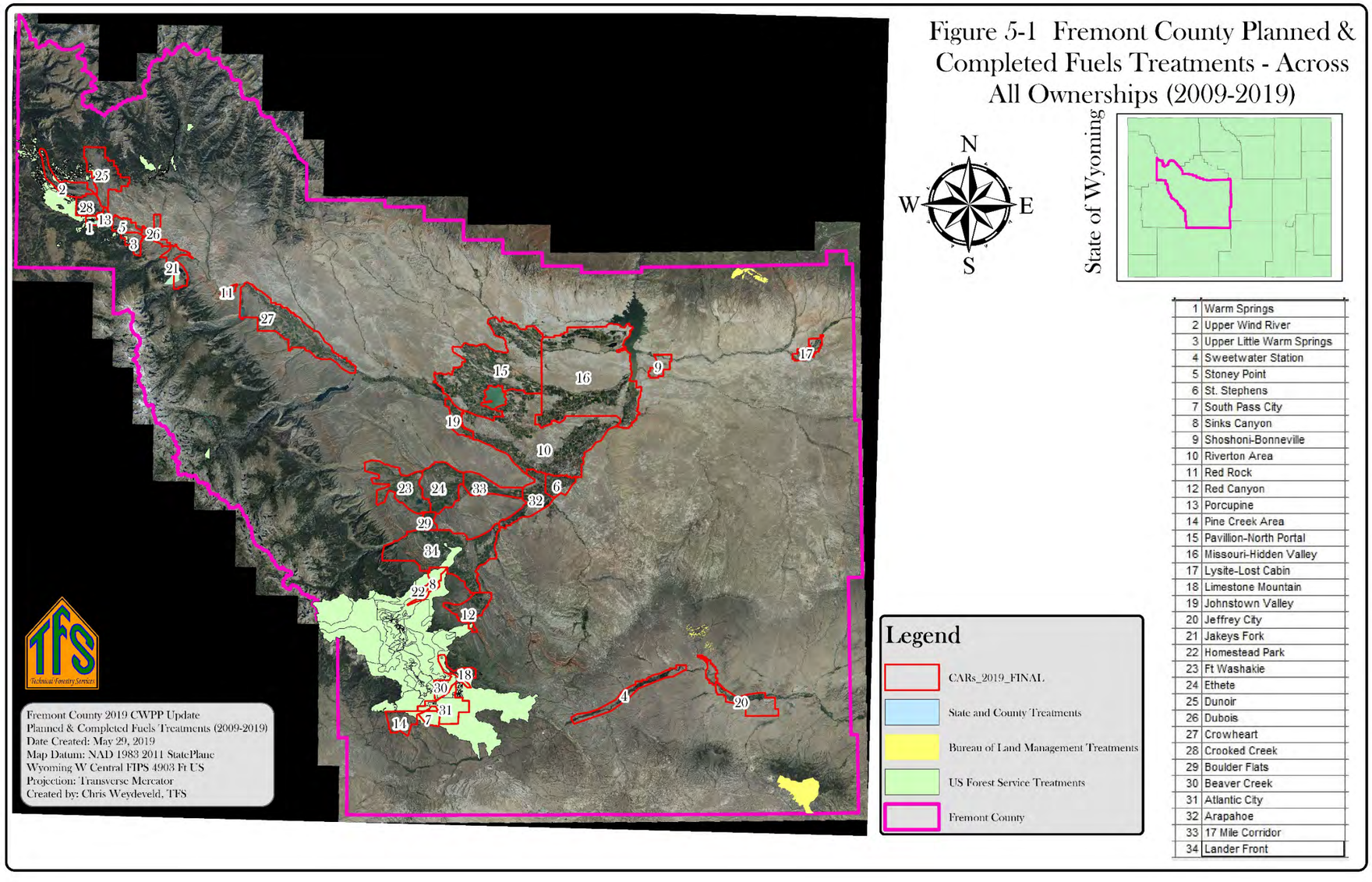


Figure 5-1. Comprehensive map of Fremont County planned and completed fuels reduction projects on state, private, and federal lands across all ownerships between 2009 and 2019. Figures 5-2, 5-3, and 5-4 show project areas in a larger scale map format for selected areas.

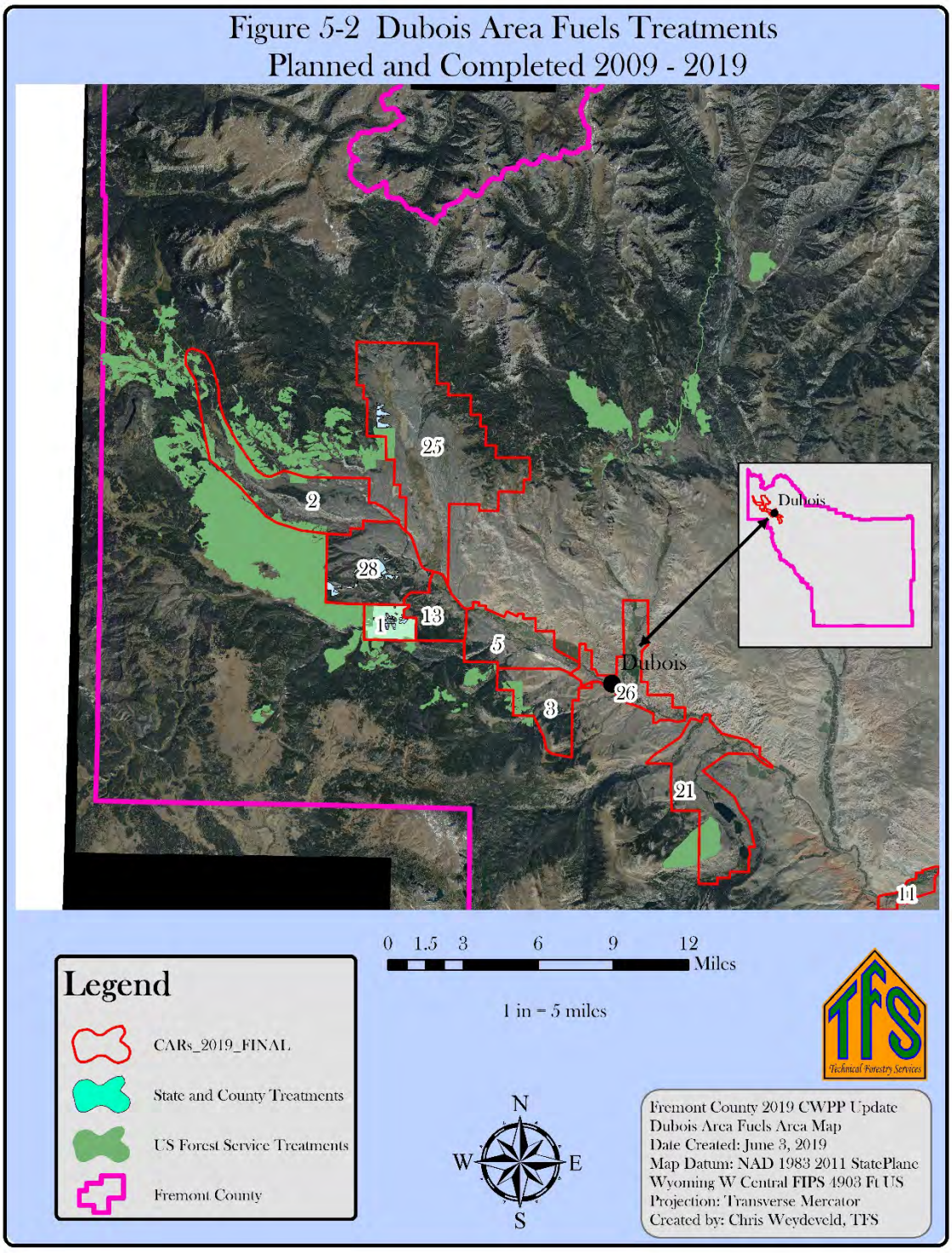


Figure 5-2. Dubois area planned and completed fuels treatments on state, private and federal lands across all ownerships between 2009 and 2019 (CAR name and associated numerical reference can be seen in the table in Figure 5-1).

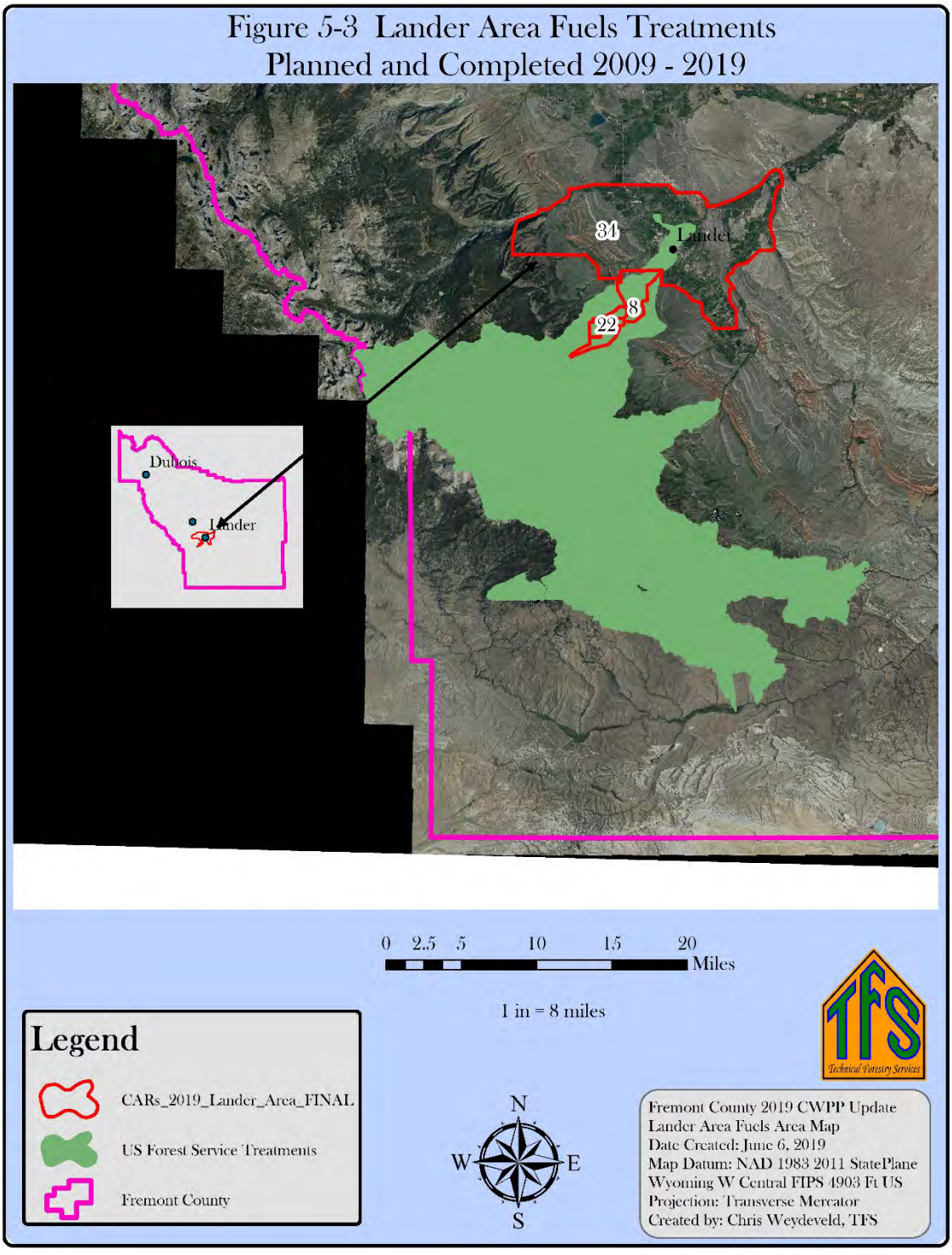


Figure 5-3. Lander area planned and completed fuels treatments on state, private and federal lands across all ownerships between 2009 and 2019 (CAR name and associated numerical reference can be seen in the table in Figure 5-1).

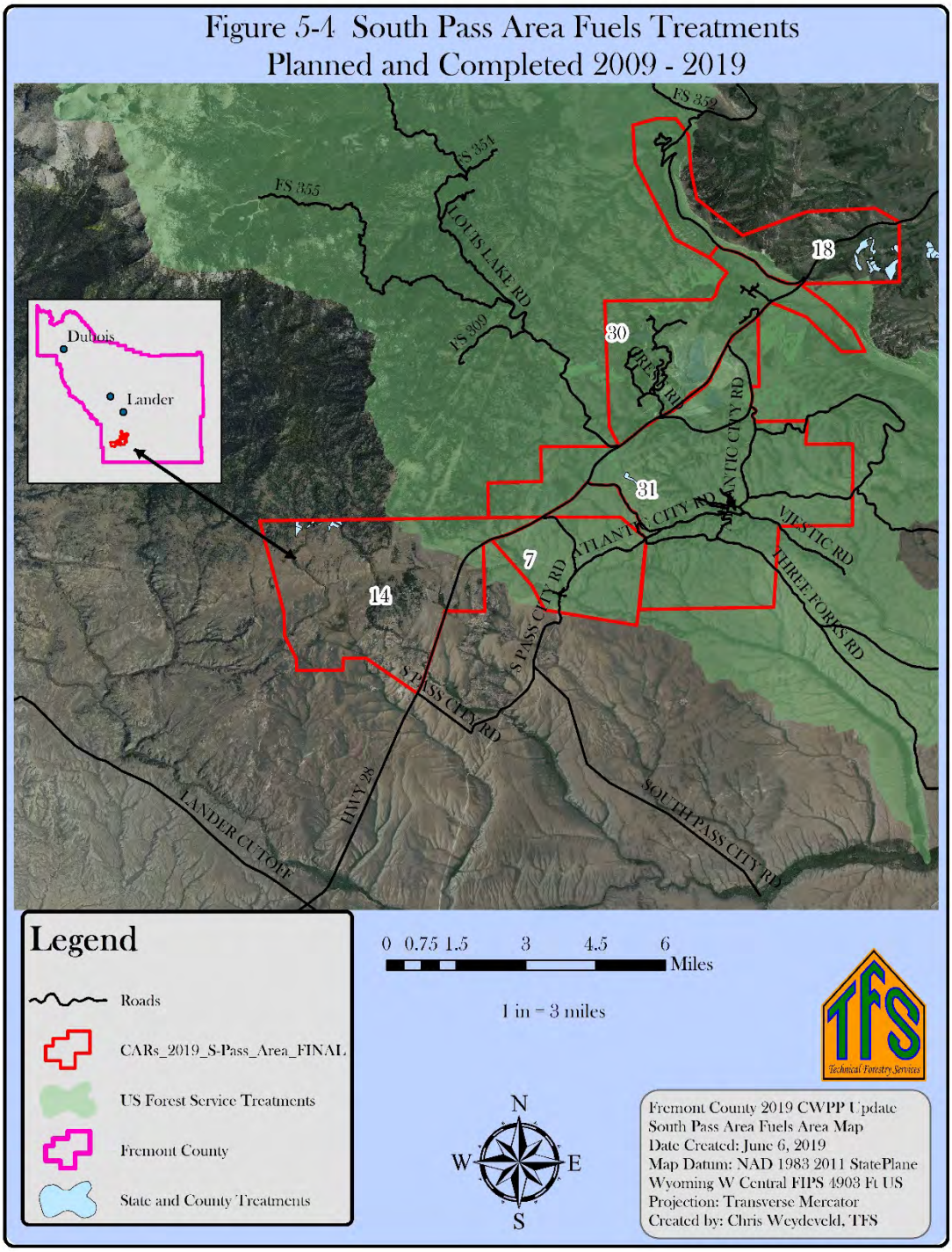


Figure 5-4. South Pass area planned and completed fuels treatments on state, private and federal lands across all ownerships between 2009 and 2019 (CAR name and associated numerical reference can be seen in the table in Figure 5-1).

Federal fire managers should discuss risk-based decision making with local fire managers prior to the beginning of fire season. During wildfire events, a Wildland Fire Decision Support System (WFDSS) team will usually have a Resource Advisor to identify resource values and make recommendations to protect and minimize impacts to these resource values. Before implementing land treatments on private land, it is recommended that landowners consult with the following entities:

- Wyoming Game and Fish regarding wildlife habitat impacts.
- US Fish and Wildlife Service regarding wetlands and threatened, endangered and sensitive species.
- State Historical Preservation Office (SHPO) regarding any known cultural resource sites in the planned treatment area.

For most rare species and many other more common species, the local Forest Service district biologists and botanists can identify potential habitats in advance of site-specific proposed fuel reduction projects. For several species, habitats have been mapped across the Shoshone National Forest by Forest Service biologists, Wyoming Game and Fish Department (WGFD), and the Wyoming Natural Diversity Data Base (WYNDD). This includes habitats for Canada lynx, greater sage grouse, bighorn sheep, and other big game species. Habitats mapped by WGFD and WYNDD extend across land ownerships and also include state and private lands. Site-specific locations of some species such as rare plants and raptor breeding sites can be obtained from WYNDD across multiple land ownerships. Such site specific information is considered sensitive and locations are usually buffered to avoid the potential for disturbance to rare species and private land owners.

5.1.1 Fuels Treatments

Silvicultural recommendations are developed by District 3, Wyoming State Forestry Division staff. The recommendations are reviewed by the Wind River Fire Prevention Council, an interagency group. Site specific fuel treatment and fuel reduction treatments will be written in regards to forest stand conditions, forest cover type and wildland fuel type present. The following treatment recommendations are presented as general guidelines to be considered when developing landowner forest stewardship plans (FSP) -wildfire mitigation plans and site-specific project plans for the CARs. Management Recommendations will vary and be dependent upon forest stand structure and forest

cover type. All Forest Stewardship Plans developed are reviewed by Wyoming State Forestry Division Staff prior to implementation.

The following fuels treatment recommendations are presented as examples of possible treatments to be considered when developing a mitigation plan and site-specific project plans for the at-risk communities. In all treatments some basic guidelines apply. Most down and dead woody material should be disposed of so it does not remain as surface fuels. When practical, trees should be pruned so that the bottom one-quarter of limbs are removed. Other ladder fuels, in the form of young tree regeneration, should be removed or reduced to decrease chance of surface fire transitioning into the crowns. Removal of young trees especially benefits ponderosa pine ecosystems. Trees containing nests and snags with apparent cavity nesters would be retained.

5.1.2 Shaded fuel breaks

The objective of this treatment is to reduce fuels by thinning trees and brush along roads and ridges to improve the fuel break function already present in these areas. Fuels treatments in these areas would have the greatest effect on preventing fire spread and intensity and would maintain the primary ingress/egress and escape routes. Trees on both sides of roads and ridges would be thinned by hand or mechanically so that trees are separated by no less than ten feet between crowns. Crown spacing should be dependent on topography, fuels, and other natural and or manmade features. In addition, trees in this zone should have all limbs removed (pruning) in the lower 25 percent of total tree height.

Figure 5-5. Shaded fuel break.

The total width of the shaded fuel break would vary depending on fuels, topography, and other natural and or man-made features such as roads or rock features. In general, the center of the fuel break would be approximately 100 feet in width, and would resemble a shaded open park-like environment. Tree thinning in the center of the fuel break would be greatest resulting in a final spacing of about 30 trees per acre. Beyond this central area, tree removal would incrementally be reduced in both directions so that spacing between trees would be feathered back to the current forest density.

In conformance with section 102(e) of HFRA, specifying that treatments will be designed to "contribute toward the restoration of the structure and composition of old-growth stands and retaining the large trees contributing to old-growth structure." Large, healthy trees (generally greater than 16 inches in diameter at breast height (DBH)) would not generally be removed in the shaded fuel breaks, and trees scheduled for harvest would be marked with paint for sale preparation (cut-tree marked). All trees infected with bark beetles would be removed in the shaded fuel breaks, as would trees with poor form or low vigor, or tree species not present in their historical range of variability (for example juniper encroachment). All woody surface materials and ladder fuels would be cleared within the fuel breaks. It should be noted, the removal of too many trees during one harvest entry may result in tree blowdown, particularly in lodgepole pine and spruce forest stands. Harvest design may include a series of entries over a 10 to 30 year period, allowing a time between entries for residual trees to become windfirm.

Shrubs that were not removed would be thinned, in most cases by hand, at ground level so that crowns are separated by at least two crown widths (at the widest part of the crown). As a whole, these actions would aid in forcing potential crown fires to drop to the ground as surface fires, would slow fire spread, and would enable the roads and ridges to serve as major lines of defense against wildfires.

Harvested trees would be skidded to landing sites along the roads using tracked equipment, rubber-tired skidders, or short-span skyline systems. Trees would be limbed and bucked at the landing sites. Slash (including pruned shrubs) would be piled in openings or near the landing sites, for burning, chipping, or utilized as an economic product if feasible. **No slash would remain within fuel breaks**. Slash piles would be positioned wherever possible so that the prevailing winds would not force flames into surrounding tree canopies when piles are burned. In smaller openings, piles would be kept small to minimize flame lengths. Piles would be burned under favorable conditions after the treatment is

complete (generally one to two years after harvest). Scarifying the soil in burn pile areas in early spring and seeding with an appropriate native seed mixture would minimize the potential for noxious weed establishment.

To remain effective, fuel breaks would undergo periodic maintenance about every five years to clear understory woody species as well as any down and dead material. Removal of dying trees and recruitment of younger trees would also occur as needed to maintain the functionality of the fuel breaks. Once created, prescribed fire may be used to help maintain the shaded fuel breaks.

Finally, an inventory and analysis of existing secondary roads could be used to develop a matrix of firebreaks designed to aid suppression forces in the advent of a wildfire.

5.1.3 Selective Tree Harvest / Shelterwood / Commercial Thinning (Improvement Cut)

Forested areas that would undergo these timber harvests would generally consist of mature stands of conifer trees with heavy fuel loads and high stocking levels of understory trees. Stands currently infected with insects and/or diseases and those stands that are over mature and at risk of disease and insect infestation are high priorities for a selective timber harvest prescription.

The objective of the harvest in these areas is to reduce very high fuel loads by removing one-quarter to one-half of the merchantable size trees in each stand. Residual tree density will vary dependent upon stand structure and forest cover type. Due to the inherent wind-throw hazard to dense forests that are thinned a more than one harvest entry may be required. Therefore, the initial entry for selective harvest represents the first step in a process. Mature stands of trees would be thinned in a series of ongoing cuts (approximately one harvest every 10 years). Regeneration of each successive stand would occur under the cover of a partial forest canopy, or “shelterwood”. Keeping up this prescription will reduce hazardous fuels and significantly improve forest health by maintaining less dense timberstands. Even-aged stands or uneven-aged stands may exist dependent upon management goals. Furthermore, by providing a continuous cover of trees during ongoing treatments, the regenerating trees would have an advantage over undesired competing vegetation.

All trees infected with bark beetles would be removed in these treatment areas, as would trees that have poor form or low vigor. A minimum of three snags per acre would be left for cavity nesters and birds of prey, and any tree with an active nest site would be retained.

5.1.4 Salvage/Sanitation Cut

Salvage Cuttings primary purpose of removing living or dead trees that are imminently threatened by mortality, damage, or loss from abiotic and biotic damaging agents. Sanitation Cuts primary purpose are removal of unhealthy trees that have high chance of spreading disease to other trees in the timber stand. Dependent upon stand conditions this may be a stand-alone treatment or combined with other treatments to reduce wildland fuels.

5.1.5 Clearcut/Patch Cuts/Group Selection

Silvicultural treatments in which all overstory trees are removed are sometimes needed in the following circumstances:

- A shade intolerant species, such as lodgepole pine, requires full sunlight for the regeneration of young trees. Cone serotiny, a condition in which cones are opened to release seed only after being subjected to intense heat, is often present in lodgepole pine trees. Lodgepole pine forests are considered “fire dependent” and succumb to stand replacing fire every 100 years or so in general. Clearcuts are a common treatment in lodgepole forests because the openings created serve to “mimic” openings created by fire.

- Insect and disease outbreaks are sometimes controlled by the complete removal of all the overstory trees. Sanitation harvests of this sort are sometimes prescribed to halt the spread of insect and disease epidemics by removing all infected trees.

- In situations where management is directed toward forest product utilization, forest stands that have reached a condition of over-maturity and are at risk of loss to fire, disease, or insect infestation may be suited for clearcutting as the appropriate tool to improve overall forest health.

- In areas where conifer encroachment has obliterated meadows and other openings, clearcuts are a tool for reestablishing these openings and maintaining essential fragmentation features critical to wildlife habitat and forest health.

- Applying these treatments at the landscape level serves to "break up" homogeneity in vegetation and provide natural fire breaks that slow fire spread and aid in decreasing the chance of the large fires seen the past few decades.

5.1.6 Coppice Cut: Aspen Release / Aspen Stand Conversion

In areas where aspen capable of reproducing can be found, most to all conifers should be removed to encourage aspen growth and clone spread. Prescribed fire and coppice cuts may be necessary to stimulate regeneration of the aspen. Healthy aspen stands create fuel breaks. These areas may also be temporarily fenced from livestock until aspen re-growth can tolerate grazing. Fencing should generally remain 5-10 years or longer depending on growth rate.

-Improvement Thinning

Improvement thinning is a thinning practice in conifer timberstands when no economic value exists. Improvement thinning will reduce ladder fuels reducing potential of crown fire and improves growth and vigor of residual trees. General timber stand conditions are sapling size and pole sized trees, which are generally those below 6 inches DBH and less than 20 feet in height. A treatment involves cutting trees to a designated spacing dependent upon size class and timber type. The objective in these

stands is to leave a mature forest with a thinned understory. And in some instances improvement thinning will act as post-harvest treatment to improve timber stand.

-Riparian Forests

Wyoming's lowland riparian forests historically consisted of native cottonwood, willows and native shrubs and grasses. Aging riparian forests with a lack of successful regenerations has resulted in rapid decline of riparian forests. Further impacting riparian forests are non-native Russian olive and salt cedar invading riparian areas outcompeting native species. Riparian forests are characterized best by fuel models 8, 9, 10. Large running crown fires have been prevalent before spring green up and after early fall frosts when vegetation is dry.

Above Photo – Ft Washakie Fire 2005

-Management recommendations For Riparian Forests

Cut and remove down dead and standing dead vegetation. Create openings in native shrubs and willow in understory vegetation. Spacing of openings will be dependent upon vegetation present and outlined in plan. Vegetation not characteristic of riparian habitat should be removed (sagebrush, greasewood, juniper etc.). Implementing a grazing practice may be recommended for management of finer shrubs and grasses. Cut and remove salt cedar, Russian olive, and other weeds in riparian forested sites. Stumps will need to be treated with chemical herbicide. Following spraying may also be needed. Contact Fremont County Weed and Pest for more information: Lander – 307 332 1052, Riverton-307 856 2192).

5.1.7 Protecting Sagebrush-Steppe Habitat

Fire managers and firefighters are very aware of the importance of sagebrush habitat, particular core sage grouse areas. Here are a few steps they've taken to ensure sagebrush-steppe habitat is protected from wildfire:

- Educational efforts for firefighters focus on the importance of wildfire in sagebrush country.
- Before the fire season starts, crews receive training concerning where the best sagebrush habitat is located in their jurisdiction, so they know ahead of time the places of highest concern.
- Fire management plans should be updated to reflect where the most vulnerable and important sagebrush habitat is, and the tactics that may need to be taken to protect them if a wildfire breaks out.
- Take steps to decrease highly flammable fuels in sagebrush country. Removing juniper, chemically treating cheatgrass, mowing, and planting fire-resistant native vegetation are some of the ways being employed to reduce the potential of fire damage.

5.1.8 Prescribed Fire

Prescribed fire is defined as management ignited fire that is used to alter, maintain, or restore vegetative communities to achieve desired resource conditions. It is also used to protect life, property, and values that would be degraded by wildland fire (USDI BLM, 2000).

Prescribed fire can be beneficial in a fire adapted ecosystem where fire has been absent or suppressed. Prescribed fire aids in natural succession, and reduces uncharacteristic fuel loading. Prescribed fire is an especially useful tool for removing conifer encroachment in aspen stands and reducing fuels in grassland/sagebrush communities. This is important for maintaining wildlife habitat and landscape level fuel reductions.

Prescribed fire plans are prepared prior to the project to identify site-specific treatment objectives and how those objectives are to be met through the use of fire.

Wildland Urban Interface projects may incorporate prescribed fire as a management tool on state and private lands to reduce fuel loadings. When prescribed fire is used in wildland urban interface projects on state and private lands (excluding pile burning) a burn plan specifying goals and objectives of the use of prescribed fire to reduce fuel loadings will be prepared.

Bureau of Land Management, enhancement/fuel reduction work in Sinks Canyon. The photos show before prescribed fire (left 2003) and after fire and vegetation re-growth (right 2005). BLM Photos.

Slash Management

Slash is the residual woody biomass created from timber harvesting/logging operations and down wood debris that is naturally occurring on a forested site. To reduce wildland fire fuel loads slash will need to be treated as outlined in Forest Stewardship and Wildfire Mitigation Plans.

The three most commonly practiced slashing treatments for private and state lands will be chipping/mastication, lop and scatter, and pile and burn.

-Chipping/Mastication: Feeding slash into a chipper or use of a masticator attached to equipment to create wood chips within a fuel treatment area. Stewardship and wildfire mitigation plans will recommend allowable chip depth for fuel reduction projects. These treatments should not be practiced within 100 feet of structures. Chipping and mastication treatments should only used in low to moderate fuel loading situations.

-Lop and Scatter: Used when tree tops and limbs are left onsite from timber harvesting/logging operations. Residual slash is cut and brushed to a designated depth. This treatment can create high fuel loading situations. This treatment should not be practiced within 200 feet of structures, in subdivision settings, or fuel breaks.

-Pile and Burn: Slash may be piled on site or transported offsite. Slash is hand piled or machine piled for burning when weather conditions allow. Trees also may be skidded to designated landings for processing where machine piles are created then burned when weather conditions allow.

Miscellaneous

All projects are designed and implemented following Wyoming Forestry Best Management Practices

Best Management Practices

http://slf-web.state.wy.us/forestry/adobe/bmp1-20.pdf

The Wyoming State Forestry Division has developed a set of Best Management Practices (BMPs) to be followed when conducting forest management practices. Copies of these BMPs can be obtained by contacting WSFD in Cheyenne at (307) 777-7586.

5.2 Recommendations for Reducing Structural Ignitability/Defensible Space

Discourage building homes in fire prone areas. Implement Firewise recommended practices to reduce structural ignitability in the Home Ignition Zone. Firewise practices are defined in detail on the Firewise website at: www.firewise.org.

If a dependable water source is available, evaluate the possibilities for installing sprinkler systems around structures as an option open to home owners in areas with limited options for reducing structure ignitability.

Experience has shown that landscape design is one of the most important factors in a home's survival. An aggressive defensible space and fuels reduction plan can greatly increase your home's chance of survivability in a wildfire without decreasing the aesthetic value of your home.

The concept of the Home Ignition Zone (HIZ) was developed by USDA Forest Service fire scientist Jack Cohen in the late 1990s, following some breakthrough experimental research into how homes ignite due to the effects of radiant heat.

To create an effective Firewise landscape, remember that the primary goal is fuel reduction. To this end, create defensible space zones around your home. Zone 1 is the closest to your house. Zones 2 and 3 move progressively away from your house (see Figure 5-6).

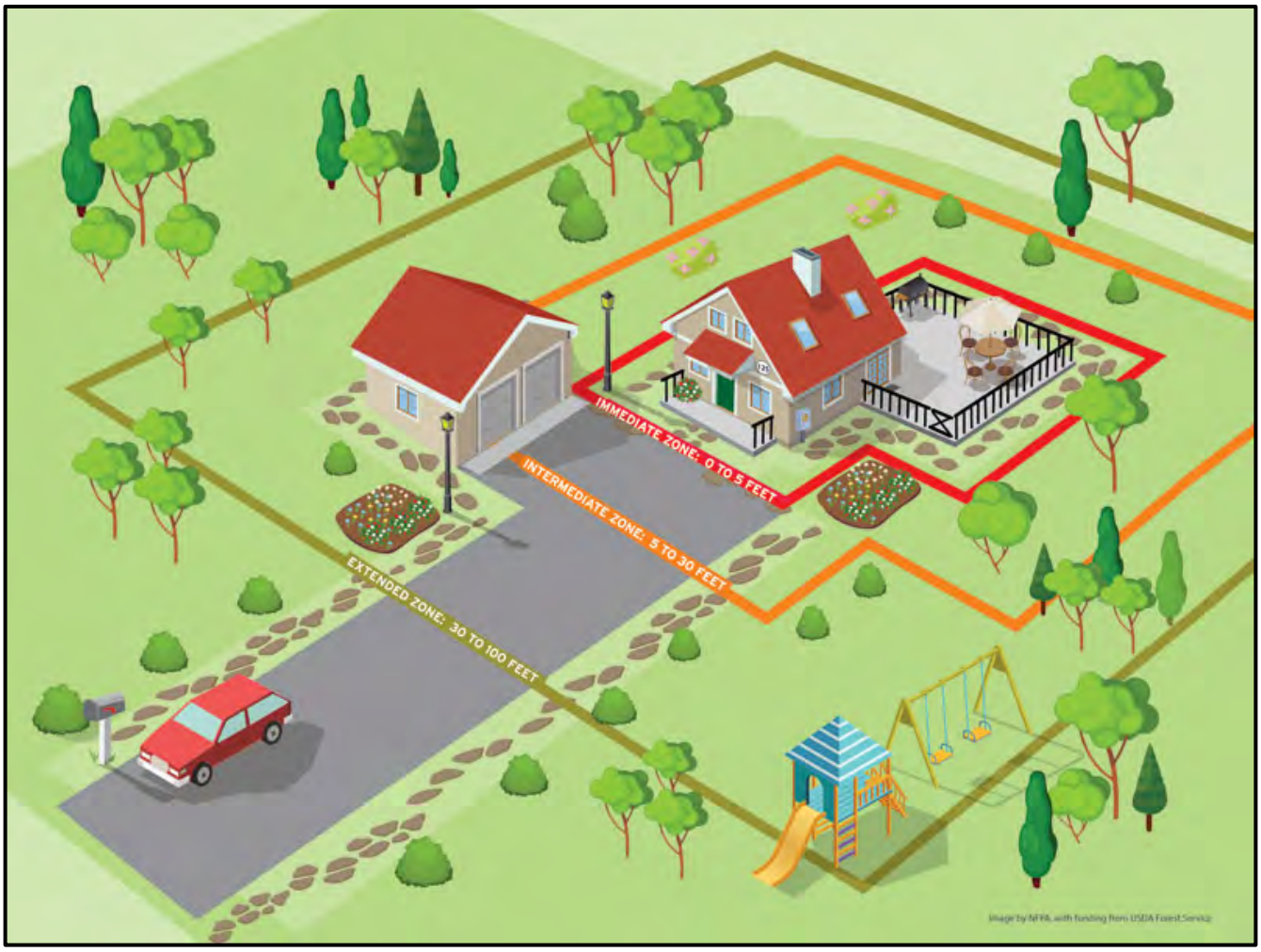


Figure 5-6. Home Ignition Zone (HIZ)

This guideline has been adopted from USDA and the Firewise Communities standard practices. This standard guideline may be refined for specific properties and environmental conditions by the local resource professional who prepares specific property wildfire mitigation plans.

Zone 1 (0-30 Feet from Residence)

(0-5 feet from residence)

- All trees and/or shrubs should be removed
- No vegetation of any kind should be present
- Clean branches, leaves, needles, and grass away from home
- Branches within 10 feet of the roof should be pruned back

- Consider placing decorative rock or gravel around structures with weed barrier to prevent grass and weeds from encroaching the residence

(5-30 feet from residence)

- Thin trees to a spacing of 8-10 feet between crowns
- Prune trees so that the lowest branches are 8-10 feet above the ground
- Standing dead and dead topped trees should be removed
- Remove all dead shrubs & bushes (sagebrush)
- Thin shrubs & bushes (sagebrush) to a spacing of 6 feet
- Dispose of all slash and dead, down woody debris by hauling off
- Mow grasses to keep them low, a maximum of 6 inches high
- Plant dispersed fire safe trees and/or shrubs, such as aspen.

Zone 2 (30-60 Feet from Residence)

- Thin trees to a spacing of 8-10 feet between crowns
- Prune trees so that the lowest branches are 6-8 feet above the ground
- Remove standing dead and dead topped trees
- Remove all dead shrubs & bushes (sagebrush)
- Thin shrubs & bushes (sagebrush) to a spacing of 4 feet
- Dispose of all slash and dead, down woody debris by hauling off
- Small amounts of slash can be lopped and scattered for decomposition
- Plant dispersed fire safe trees and/or shrubs, such as aspen

Zone 3 (60-90 Feet from Residence)

- Thin trees to a spacing of 6-8 feet between crowns
- Remove standing dead and dead topped trees
- Pruning is not necessary in this zone
- Thin shrubs & bushes (sagebrush) to a spacing of 2 feet

- Dispose of all slash and woody debris by hauling off, or lop-and-scatter
- Plant dispersed fire safe trees and/or shrubs, such as aspen

Fuel Treatment Recommendations (Beyond 90 Feet)

The fuel treatment area of your property includes everything from the 90 foot defensible space boundary surrounding your cabin until the edge of your property boundary.

- Thin trees to a spacing of 6-8 feet between crowns
- Pruning is not necessary in the fuel treatment areas
- All dead fuels on the ground larger than 3 inches in diameter should be removed
- Most dead and dead topped trees should be removed; two dead trees per acre can be left for wildlife as long as they pose no threat to access & roads
- Dispose of all slash and woody debris by hauling off, or lop-and-scatter
- Plant dispersed fire safe trees and/or shrubs, such as aspen

The Fremont County Fire Warden, local Fire District staff, or WSFD personnel can assist with recommendations for reducing structure ignitability.

Additional Practices for the Home Ignition Zone (HIZ) in limber pine and juniper:

Remove highly combustible shrubs, limber pine and Rocky Mountain juniper: Highly combustible plants these should be removed or substantially reduced in this area and replaced with less combustible species. Individual specimens or small group plantings of these shrub species may be retained mainly outside of the HIZ, so long as they are kept healthy and vigorous; are pruned to reduce height and fuel load; are not located under the drip line of trees; and cannot convey a fire burning in adjacent wildlands to the house. Retaining limber pine and Rocky Mountain juniper trees within 30 feet of the house is not recommended. If individual specimen trees of limber pine and Rocky Mountain juniper are retained in the Lean, Clean, and Green area beyond 30 feet, they should be located in areas where they would not provide a means transmitting fire from adjacent wildlands to the house, be kept in a healthy condition, have their lower branches removed to a height 2 to 3 feet above ground (Or 1/3 the height of a mature tree) and have plant litter under the tree canopy removed prior to every fire season. Removal and pruning of limber pine should be done during the late fall and winter months and utilize wood and slash management techniques.

Limber pine and Rocky Mountain juniper trees: limber pine and Rocky Mountain juniper should be thinned to provide an average spacing between canopies of 1½ to 2 times the average tree height. In

areas where bark beetles are of concern, thinning of limber pine should be done during the late fall and winter months and utilize wood and slash management techniques.

Tree spacing for juniper and limber pine will be adjusted to approximately 30 feet between individual tree crowns and the crowns of groups of trees to reduce the potential for the rapid spread of wildfire through tree crowns. Brush spacing will be adjusted by treating approximately 60% of the brush in a mosaic pattern to modify fuel structure and reduce fire intensity potential.

Trees and shrubs will be severed on the stump, no higher than six inches above the ground and treated to lie within 12 inches of the ground.

Patches of brush and trees varying in size and spacing will be selected by the landowner/contractor and left untreated as specified in the management plan.

- Untreated patch size shall vary from a single tree to up to 0.1 acres.

- Primarily the tallest, most vigorous trees with the large diameters, full crowns, and little evidence of insect and disease damage will be retained in untreated patches.

- Occasional young (less than 4 inches DBH) trees will be retained for age diversity.

- Untreated patches shall be random in location, irregular in shape with variable vegetation height within each patch.

Trees containing raptor nests, discovered during project implementation, will be retained.

Remove ladder fuels: Native shrubs and trees should be removed from under the tree drip line. Low-growing native ground covers can be retained under the drip line of trees so long as they cannot readily convey a surface fire into the tree canopy. Removal of lower branches should not exceed one-third of the total tree height. Do not remove more than 25 percent of the live crown per year. In areas where bark beetles are of concern, tree branch removal should be done during the late fall and winter months and utilize proper wood and slash management techniques.

Summer Preventative Maintenance

There are a few simple activities you can do every summer that will make your property less susceptible to wildfire. These activities should be done at the beginning of the summer, towards the end of summer and especially during periods of high fire danger.

- Maintain your defensible space as necessary
- Clean leaves, pine needles and branches from your roof and gutter
- Remove tree branches overhanging your roof
- Remove any branches within 15 feet of your chimney
- Move wood piles and other flammable materials at least 30 feet from the cabin
- Clean trash and flammable materials from under deck
- Mow weeds and grass within 30 feet of the home
- Water the lawn to prevent grasses from drying out

Follow-up

Because forests are not static, continued work in the future will always be necessary to keep up with the changes that will take place. Once you get your trees responding well, they will grow, get broken limbs, blow over, or get sick and eventually begin competing once again with one another. After three to five years, you may need to thin them again. Take time to follow-up and examine your property once each year.

6.0 MONITORING AND ASSESSING FOREST AND RANGELAND HEALTH

Monitoring is critical to ensure that 2019 FCCWPP goals are accomplished. The HFRA states, in section 102.g.5, that communities will participate in multiparty monitoring to assess progress toward meeting the CWPP goals (HFRA).

The 2019 FCCWPP should be periodically reviewed and updated as needed. Successful implementation of this plan will require a collaborative process among multiple layers of government as well as a broad range of special interests.

7.0 Declaration of Agreement and Concurrence

The following local, state, and federal partners have cooperated in the development of this Fremont County 2019 Community Wildfire Protection Plan Update. Those listed below have reviewed and do mutually agree or concur with its contents:

Agreement

6/25/19

Craig Haslam, Fremont County Fire Warden — Date

6/25/19

Ron Wempen, Fremont County Fire Protection Dist. Fuels Coordinator/Division Chief — Date

Attest: FREMONT COUNTY COUNTY CLERK STATE OF WYOMING

7-9-19

Travis Becker, Fremont County Commissioner/Chairman — Date

7-10-19

Mike Franchini, Dubois Fire District — Date

6/26/19

Josh Shroyer, Wyoming State Forestry Division — Date

Brian Russell 6/25/2019

Brian Russell, Wyoming State Forestry Division — Date

8.0 Literature Cited

Agee, J.K. 1993. Fire ecology of Pacific Northwest forests. Island Press. Washington, D.C. 493 pp.

Brown, Richard T., James K. Agee, Jerry F. Franklin. 1995. Forest Restoration and Fire: Principles in the Context of Place.

Johnson, D.W. and F.G. Hawksworth. 1978. An evaluation survey procedure for proposed thinning projects in lodgepole pine stands infested with dwarf mistletoe. USDA For. Serv., For. Insect and Disease Mngt., Methods Application Group, Davis, CA. Rep. 78-1. 6pp.

Schmidt, K.M., Menakis, J.P. Hardy, C.C., Hann, W.J., Bunnell, D.L. 2002. *Development of Coarse-scale Spatial Data for Wildland Fire and Fuel Management.* General Technical Report,RMRS-GTR-87, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

Stratton, R. D. 2004. Assessing the Effectiveness of Landscape Fuel Treatments on Fire Growth and Behavior. Journal of Forestry. 102(7): 32 - 40.

U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Bureau of Land Management. 2004. *The Healthy Forests Initiative and Healthy Forests Restoration Act: Interim Field Guide*. FS-799. Washington, D.C. U.S. Department of Agriculture, Forest Service, Wildland Fire Policy, 2001. http://www.fs.fed.us/fire/management/policy.html.

Elk herd. Wyoming, BLM photo.

9.0 Appendixes

Appendix 1. Field Guidance. Identifying and Prioritizing Communities at Risk.

FIELD GUIDANCE

Identifying and Prioritizing Communities at Risk

Prepared by: National Association of State Foresters

June 27, 2003

Purpose: To provide national, uniform guidance for implementing the provisions of the "Collaborative Fuels Treatment" MOU, and to satisfy the requirements of Task e, Goal 4 of the Implementation Plan for the 10-Year Comprehensive Strategy.

Intent: The intent is to establish broad, nationally compatible standards for identifying and prioritizing communities at risk, while allowing for maximum flexibility at the State and regional level. Three basic premises are:

- Include all lands and all ownerships.
- Use a collaborative process that is consistent with the complexity of land ownership patterns, resource management issues, and the number of interested stakeholders.
- Set priorities by evaluating projects, not by ranking communities.

References:

1. *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment. 10-Year Comprehensive Strategy Implementation Plan.* May 2002. (Goal 4 Task e: "Develop nationally comparable definitions for identifying at-risk wildland urban interface communities and a process for prioritizing communities within State and tribal jurisdiction.") (Available at: http://www.fireplan.gov/reports).

2. *Memorandum of Understanding for the Development of a Collaborative Fuels Treatment Program.* January 13, 2003. (Available at: http://www.fireplan.gov/reports).
3. *Concept Paper: Communities at Risk.* National Association of State Foresters (NASF), December 2, 2002. (Available at: http://www.stateforesters.org/reports).
4. *Wildland/Urban Interface Fire Hazard Assessment Methodology*. NWCG, undated (circa 1997). (Available through the NWCG Publications Management System (PMS), NIFC Catalog number NFES 1597.)

Definition – Community at Risk: For the purpose of this document, a community is defined as "a group of people living in the same locality and under the same government" (*The American Heritage Dictionary of the English Language*, 1969). A community is considered at risk from wildland fire if it lies within the wildland/urban interface as defined in the federal register (*FR Vol. 66, No. 3, Pages 751-754, January 4, 2001).*

Approach:

1. Identify communities at risk (or alternately, landscapes of similar risk) on a state-by-state basis with the involvement of all organizations with wildland fire protection responsibilities (State, local, tribal, and federal) along with other interested cooperators, partners, and stakeholders. Alternately, in some locations this may be more easily done on a geographic basis through the already existing Geographic Area Coordinating Groups.
    - Using the 2000 census data (or other suitable means) identify all communities in the state that are in the wildland-urban interface and that are at risk from wildland fire, regardless of their proximity to federal lands. Ideally, the results of this effort would be displayed on a map or series of maps.
    - Develop state-specific criteria for sorting communities (or landscapes) into three, broad categories (or zones) of relative risk, using the methodology described in the following section. You also may want to include a fourth category denoting little, or no significant risk.
    - Prioritize the categories/zones as high, medium, and low. Alternately, a classification of very high, high, and moderate may be more appropriate depending upon fuel types.

Again, you may have a fourth category/zone that you would prioritize as having little, or no significant risk.

- Using the identified criteria, sort communities (or landscapes) into each of the three categories or zones of risk. The product may be map-based with lines or colors depicting the three zones on a map or series of maps. In this case, all communities that fall within the same zone would be classified as having an equivalent degree of relative risk. Alternately, in some states cooperators may choose to use a written document to display how communities have been classified, such as a simple spreadsheet or table. In this case, individual communities would be listed by name under one of the three previously identified categories of risk.
- If there are land ownerships that cross state lines (for example Indian Reservations or single, National Forests), it is important to coordinate the risk assessment process with neighboring state(s) to ensure consistency in classification.
- After completing the assessment process for a specific community, strongly encourage the development of a mitigation plan to reduce the identified risks to the community, particularly for communities in the higher risk categories.

2. Annually, using available mitigation plans or another similar analysis process, federal agencies, state agencies, and tribes will each examine the lands under its own ownership or jurisdiction and, with the involvement of all interested parties, identify high priority fuels reduction and ecosystem restoration projects which have the potential to reduce the risk to a specific community or communities.
3. Prior to May 1 of each year (beginning in 2004) state, federal, local, and tribal partners and interested stakeholders should meet to complete a joint program of work for the upcoming federal fiscal year. Jointly prioritize projects within each state using the collaborative process defined in the national, interagency MOU "*For the Development of a Collaborative Fuels Treatment Program"*. Assign the highest priorities to projects that will provide the greatest benefits either on the landscape or to communities. Attempt to properly sequence treatments on the landscape by working first around and within communities, and then moving further out into the surrounding landscape.

[Note: In some of the larger states, this process may have to be initiated at the sub-state level first. The resulting lists of prioritized projects would then be reviewed by a state level collaborative group, who would develop the final, joint program of work.]

- First, focus on the category/zone of highest overall risk but consider projects in all categories/zones. Identify a set of projects that will effectively reduce the level of risk to communities within the category/zone.
- Second, determining the community's willingness and readiness to actively participate in each identified project.
- Third, for each potential project, determining the willingness and ability of the owner of the land surrounding the community to undertake, and maintain, a complementary project.
- Last, set priorities by looking for projects that best meet the three criteria above. In other words, assign a higher priority to those projects with the greatest potential to achieve a proper sequencing of treatments. Assign lower priority to projects where either the community or the surrounding landowner is unwilling or unable to actively participate. However, do not overlook opportunities around isolated, rural communities which may be at high risk, but not be organized well enough to effectively advocate on their own behalf.
- Note: One reason for the collaborative priority setting process is the opportunity to identify complementary projects on adjoining ownerships which, if implemented, would provide a greater benefit to communities than if only a single project was implemented. However, nothing in this document is intended to prevent non-public landowners (such as Indian tribes) from implementing any project on their own lands, regardless of overall priority.

4. Annually document accomplishments both quantitatively and qualitatively.

- Quantitative measures. Document accomplishments in accordance with the performance measures identified under Goal 4 in the *10-Year Comprehensive Strategy Implementation Plan* (page 15). However, the single, most important quantitative

reporting element is the number of implemented projects that result in a significant and measurable reduction of risk to the communities and landscapes within the project area. In the longer term, it is important to document situations where a wildfire burned through an implemented project area, and determine how the treatment affected fire behavior.

- Qualitative measures. Document examples of successfully implemented projects using the guidelines previously distributed by federal agencies and the NASF for "success stories". These "success stories" will then be placed on both the NASF and the National Fire Plan websites as examples how we collectively are reducing risks to communities.

Methodology:

Although there is no uniform, national hazard or risk assessment process, there are a number of valid assessment processes that may work well in individual states or regions. In developing a risk assessment process for communities, use the NWCG publication *"Wildland/Urban Interface Fire Hazard Assessment Methodology"* as a reference guide. At minimum, consider the following factors when assessing the relative degree of exposure each community (landscape) faces. One effective approach is to map the four factors below using adjective ratings (high, medium, and low) and then overlay the maps to determine geographic areas of highest hazard, highest probability of fire occurrence, highest values being protected, and lowest protection capability.

- Fire Occurrence. Using historic fire occurrence records and other factors, assess the anticipated probability of a wildfire ignition in the vicinity of each community (or identified landscape) using an adjective rating system, such as high, medium, and low.
- Hazard. Assess the fuel conditions on the landscape and surrounding the community using a GIS mid-level mapping tool (if available) or other similar process. Again, apply an adjective rating to each specific area.
- Values Protected. Evaluate the human and economic values associated with the community or landscape, such as homes, businesses, community infrastructure (e.g. water systems, utilities, transportation systems, critical care facilities, schools, manufacturing and

industrial sites, etc.) as well as high value commercial timber lands, municipal watersheds, and areas of high historical, cultural, and spiritual significance. As with the other factors, apply an appropriate adjective rating to each community or identified landscape.

- Protection Capabilities. Assess the wildland fire protection capabilities, including the capacity and resources to undertake fire prevention measures, of all agencies or organizations with jurisdiction: federal, state, tribal, and local. Again, apply an appropriate adjective rating. Consider using the Insurance Services Organization (ISO) rating for the community as an indicator.

SUMMARY:

Using the process described above, it is possible to assess the level of relative risk that communities in the wildland urban interface face from wildland fire. This can then lead to an efficient process for prioritizing and scheduling effective, fuel reduction projects. However, recognizing that the condition of the vegetation (fuel) on the landscape is dynamic, and that the resilience of communities to wildfire loss varies widely and changes over time, it is not only important and necessary to complete community assessments, but also to periodically complete re-assessments. The frequency of re-assessments, however, will vary considerably across the country depending upon fuel types and climate. We must remember that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk.

Further, it is essential that both the assessment process and the prioritization of projects be done collaboratively, with all agencies with fire protection jurisdiction – federal, state, local, and tribal – and interested stakeholders, taking an active role.

Appendix 2. FCCWPP Operating Group

Craig Haslam, Fremont County Fire Warden;

Ron Wempen, Fremont County Fire Protection District – Fuels Coordinator/Division Chief;

Jay Slagowski, South Zone Assistant FMO (Dubois), USDA Forest Service, Shoshone National Forest;

Andy McWilliams, USDA Forest Service, Shoshone National Forest;

Brandon Boneberger, USDA Forest Service, Shoshone National Forest;

Tim Kramer, Bureau of Land Management;

Jonathon Ziegler, Bureau of Land Management;

Josh Shroyer, District Forester, Wyoming State Forestry Division;

Brian Russell, Wyoming State Forestry Division;

Steve Scharosch, Abacus Enterprises, Inc, Forester;

Kathi Metzler, Fremont County, Emergency Management Coordinator;

Michael LaPointe, Bureau of Indian Affairs;

Chris Weydeveld, Technical Forestry Services, LLC, Project Manager/Forester

Appendix 3.

Fire Hazard Severity Form and Community Layout Scorecard

FIRE HAZARD SEVERITY FORM

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

When adopted, this appendix is to be used in place of Table 502.1 to determine the fire hazard severity.

A. Subdivision Design	**Points**
1. Ingress/Egress	
Two or more primary roads	1___
One road	3___
One-way road in, one-way road out	5___
2. Width of Primary Road	
20 feet or more	1___
Less than 20 feet	3___
3. Accessibility	
Road grade 5% or less	1___
Road grade more than 5%	3___
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with an outside turning radius of 45 feet or greater	1___
Cul-de-sac turnaround	
Dead-end roads 200 feet or less in length	3___
Dead-end roads greater than 200 feet in length	5___
5. Street Signs	
Present	1___
Not present	3___

B. Vegetation (IWUIC Definitions)	
1. Fuel Types	
Light	1___
Medium	5___
Heavy	10___
2. Defensible Space	
70% or more of site	1___
30% or more, but less than 70% of site	10___
Less than 30% of site	20___

C. Topography	
8% or less	1___
More than 8%, but less than 20%	4___
20% or more, but less than 30%	7___
30% or more	10___
D. Roofing Material	
Class A Fire Rated	1___
Class B Fire Rated	5___
Class C Fire Rated	10___
Nonrated	20___
E. Fire Protection—Water Source	
500 GPM hydrant within 1,000 feet	1___
Hydrant farther than 1,000 feet or draft site	2___
Water source 20 min. or less, round trip	5___
Water source farther than 20 min., and 45 min. or less, round trip	7___
Water source farther than 45 min., round trip	10___
F. Existing Building Construction Materials	
Noncombustible siding/deck	1___
Noncombustible siding/combustible deck	5___
Combustible siding and deck	10___
G. Utilities (gas and/or electric)	
All underground utilities	1___
One underground, one aboveground	3___
All aboveground	5___
Total for Subdivision	
Moderate Hazard	40–59
High Hazard	60–74
Extreme Hazard	75+

Fremont County CWPP
Community Layout Scorecard

ROADS	Community Name: _____	Rating
Road Access		
	Multiple primary access roads	0
	Two primary access roads	1
	One primary + alt access road	2
	One way in - one out	3
	No primary access roads	4
Road Surface width, primary access		
	> 28' road surface + shoulder	1
	28' road surface + shoulder	2
	16 - <28' road surface + shoulder	3
	< 16' road surface + shoulder	4
Max Road grade		
	0-5%	1
	6-8%	2
	8-10%	3
	>10%	4
Secondary Road endings		
	Loops or >90' Daimeter cul-de-sacs	1
	Cul de sac Diameter 70-90'	2
	Cul de sac Diameter < 70'	3
	Dead ends - no cul de sac	4
Bridges		
	None	1
	40 ton (+) limit	2
	20-39 ton limit	3
	<20 ton limit	4
TOPOGRAPHY		
Slope		
	0-10%	2
	11-20%	4
	21-30%	6
	>30%	8
Aspect		
	North (315 deg through 45 deg)	0
	East (46 deg through 135 deg)	1
	Level/Multiple Aspects	2
	West (226 deg through 315 deg)	3
	South (136 deg through 225 deg)	4

Page 1 of 3

Fremont County CWPP
Community Layout Scorecard

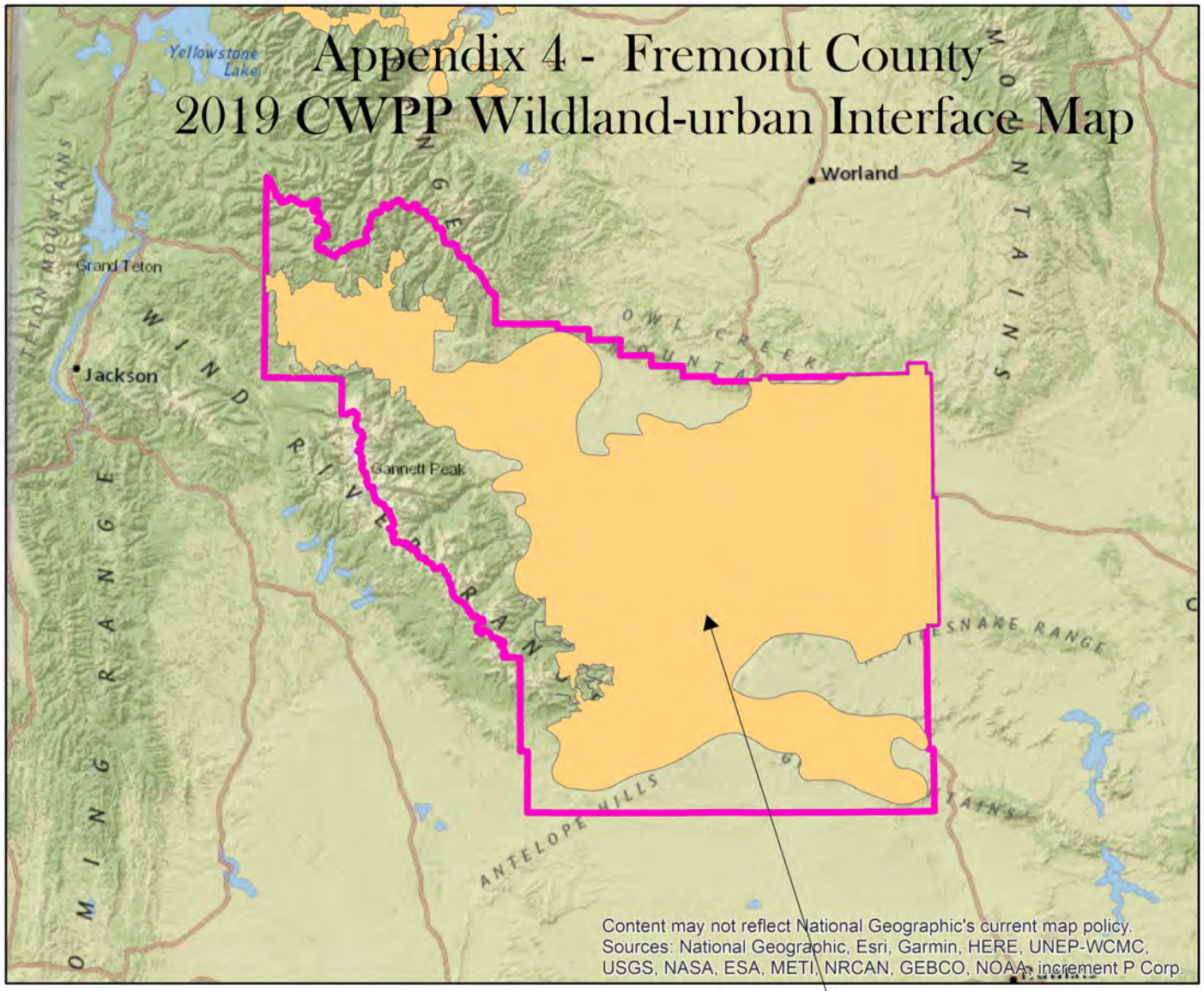
Most dangerous feature		
	None	2
	Adjacent steep slopes	4
	Draws/ravines	6
	Chimneys, canyons, saddles	8
FUELS		
Fuel type		
	Grass around >90% of structures	5
	Low brush field or open timber @ >10% of structures	10
	Dense conifer or brush field @ >10% of structures	15
	Slash, bugkill, dense lpp @ >10% of structures	20
RISK SOURCES -		
	0-4 risk sources present	5
	5-8 risk sources present	10
	9-12 risk sources present	15
	13+ risk sources present	20
UTILITIES		
	All underground	0
	Above - below combination (well maintained)	10
	Above ground (poorly maintained)	20
HOMES		
Roof material		
	90-100% metal, composition, tile, (fire resistant)	5
	80-89% metal, composition, tile, (fire resistant)	10
	75-79% metal, composition, tile, (fire resistant)	15
	<75% metal, composition, tile, (fire resistant)	20
Unenclosed balconies, decks, eaves, etc...		
	<10% of homes have unenclosed balconies, etc..	1
	10-20% of homes have unenclosed balconies, etc..	2
	21-25% of homes have unenclosed balconies, etc..	3
	>25% of homes have unenclosed balconies, etc..	5
Density of homes		
	(for 0-30% slope)	
	>100' between homes	1
	60-100' between homes	3
	<60' between homes	5
	(for 31-50% slopes)	
	>100' between homes	2
	60-100' between homes	4
	<60' between homes	6

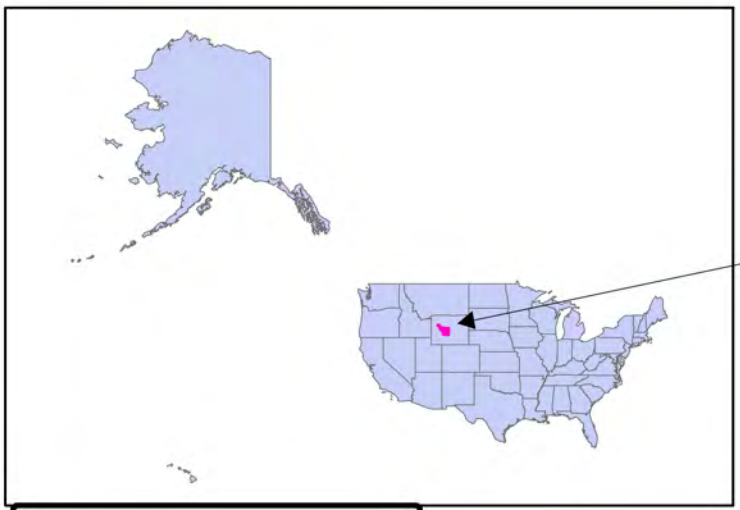
Fremont County CWPP
Community Layout Scorecard

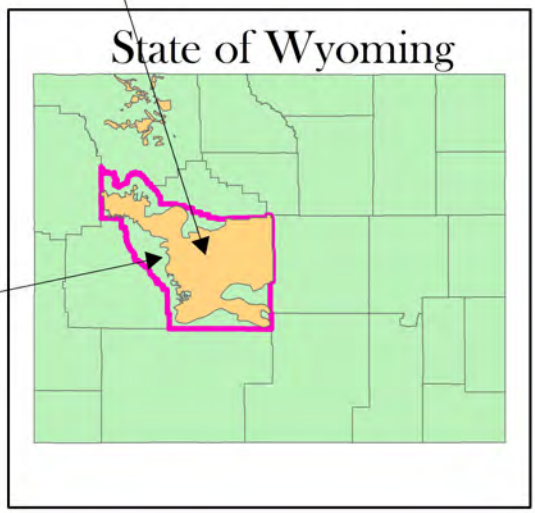
Landscaping		
	76-100% homes meet Firewise guidelines	2
	51-75% homes meet Firewise guidelines	4
	26-50% homes meet Firewise guidelines	6
	0-25% homes meet Firewise guidelines	9
WATER SUPPLY		
Hydrants		
	500 GPM hydrants available on on <660' spacing	2
	500 GPM hydrants available	4
	<500 GPM hydrants available	6
	No hydrants	8
Draft Sources		
	Accessible sources available w/in hoselay distance	2
	Draft sources available w/in 5 mi via primary access rd.	4
	Draft sources require development	6
	Draft sources unavailable	8
Helicopter Dip Spots		
	Under 2 min turnaround (<1 mi.)	1
	w/in 2-5 min turnaround (1-2 mi.)	2
	w/in 6 min turnaround (3 mi.)	3
	Beyond 6 min turnaround or unavailable	4
STRUCTURAL FIRE PROTECTION		
	<= 5 min. from fire department	10
	6-15 min. from fire dept	15
	16-30 min. from fire dept	20
	No fire emergency capabilities	25
HOMEOWNER ORGANIZATION		
	Central contact - formal organized homeowners group	5
	Less central contact - loosely organized group	10
	Multiple groups - different contacts for diff parts of comm.	15
	No organized contacts	20
FIRE IGNITIONS		
	0-10 Fires/10 yr.	5
	11-20 Fires/10 yr.	10
	21-40 Fires/10 yr.	15
	40+ Fires/10 yr.	20
	TOTAL SCORE	0

Community Layout Scorecard Values			
Rating	Low	Moderate	High
Value	<140	141 to 149	>150
Rating Code	1	2	3

Appendix 4 - Fremont County
2019 CWPP Wildland-urban Interface Map







Legend

- Fremont County WUI 2019
- Fremont County

N
W E
S

Technical Forestry Services

Fremont County 2019 CWPP Update
Wildland-urban Interface Map
Date Created: June 30, 2019
Map Datum: NAD 1983 2011 StatePlane Wyoming W Central FIPS 4903 Ft US
Projection: Transverse Mercator
Created by: Chris Weydeveld, TFS