

Wildcat Hills Region Community Wildfire Protection Plan

FOR THE COUNTIES OF BANNER, CHEYENNE, KIMBALL,
MORRILL, AND SCOTTS BLUFF, NEBRASKA

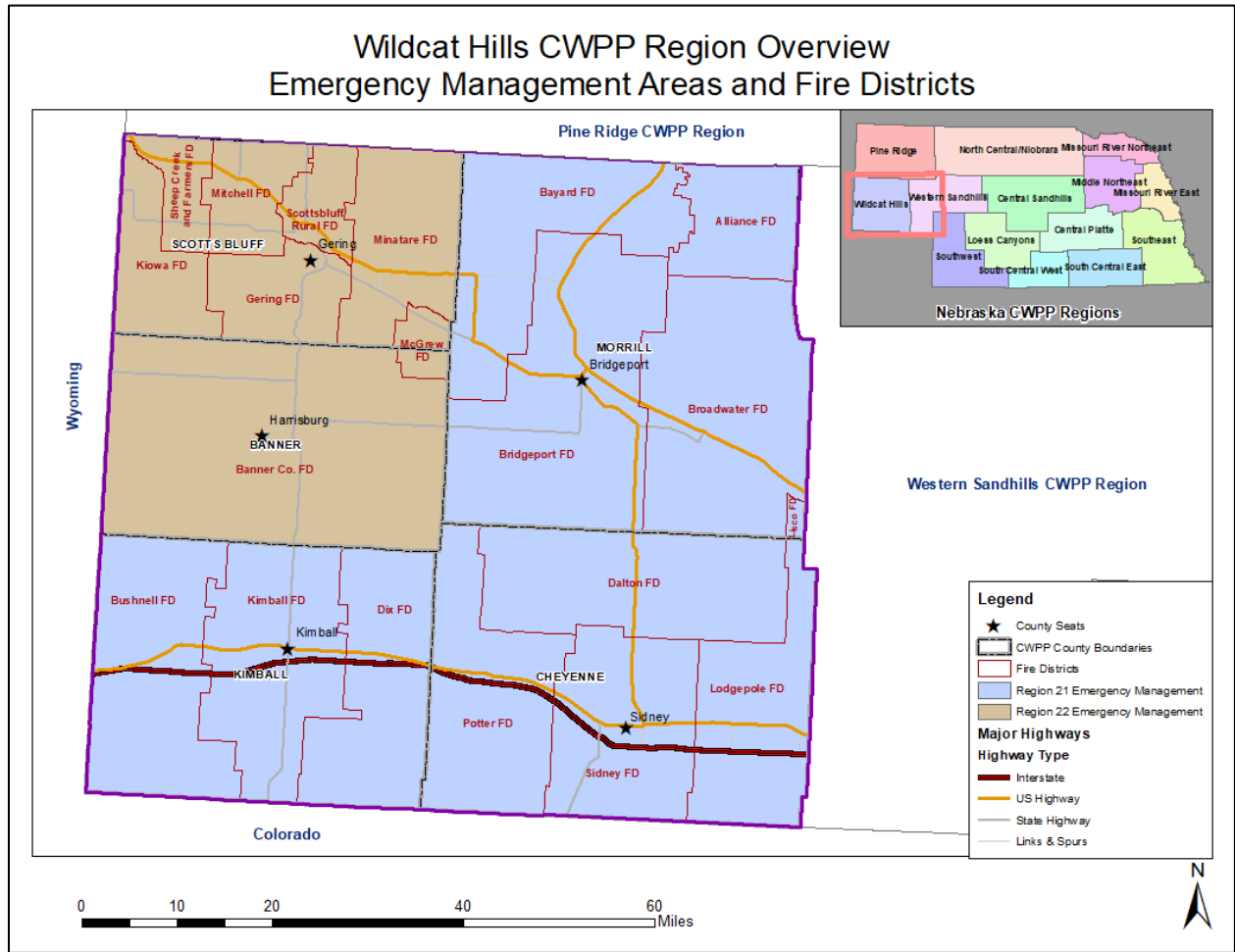


Photo courtesy of Justin Powell

July 2021 Update



Wildcat Hills Region Community Wildfire Protection Plan



Map 1: Overview of the Wildcat Hills CWPP Region and fire districts located all or partly within it.

Wildcat Hills Region Community Wildfire Protection Plan

FACILITATED BY THE

Nebraska Forest Service

IN COLLABORATION AND COOPERATION WITH

BANNER, CHEYENNE, KIMBALL,
MORRILL, AND SCOTTS BLUFF COUNTIES

LOCAL VOLUNTEER FIRE DISTRICTS

EMERGENCY MANAGEMENT REGIONS 21 AND 22

LOCAL MUNICIPAL OFFICIALS

LOCAL, STATE, AND FEDERAL NATURAL RESOURCES AGENCIES

AREA LANDOWNERS

Prepared by
Sandy Benson
Forest Fuels Management Specialist and
Community Wildfire Protection Plan Coordinator
Nebraska Forest Service
Phone 402-684-2290 • sbenson4@unl.edu
<http://nfs.unl.edu>



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Wildcat Hills Region Community Wildfire Protection Plan

Approved By:

Banner County Board of Commissioners

Signature: [Signature] Title: Chairman of Board
Name Robert A Post Date: July 20, 2021

Cheyenne County Board of Commissioners

Signature: [Signature] Title: CHAIRMAN
Name DARRELL V. SCHWARTZ Date: 7/19/2021

Kimball County Board of Commissioners

Signature: [Signature] Title: Vice Chair
Name Carl Standen Date: 7/20/2021

Morrill County Board of Commissioners

Signature: [Signature] Title: Chairman
Name Jeff Metz Date: 7/13/21

Scotts Bluff County Board of Commissioners

Signature: [Signature] Title: Chairman
Name KEVIN MEYER Date: July 20, 2021

Nebraska Forest Service

Signature: [Signature] Title: State Forester
Name John A. Erickson Date: July 16, 2021

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Community Wildfire Protection Plan Acronyms

Acronym	Meaning
AoC	Area of Concern
BLM	Bureau of Land Management
BUL	Biologically Unique Landscape
CRP	Conservation Reserve Program
CWPP	Community Wildfire Protection Plan
FEMA	Federal Emergency Management Agency
FAP	Forest Action Plan
FD	Fire District, Fire Department
FEPP; FFP	Federal Excess Property Program; Firefighter Property (program)
GIS	Geographic Information System
GPS	Global Positioning System
GR	Grassland (fuel model)
HMP	Hazard Mitigation Plan
IC	Incident Commander
ID	Identification
LEOP	Local Emergency Operations Plan
MA	Mutual Aid
MOU	Memorandum of Understanding
NEMA	Nebraska Emergency Management Agency
NFS	Nebraska Forest Service
NGO	Non-Government Organization
NGPC	Nebraska Game and Parks Commission
NNLP	Nebraska Natural Legacy Project
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRD	Natural Resource District
NWR	National Wildlife Refuge
PL	Priority Landscape
PPD	Public Power District
PRBE	Platte River Basin Environments
RFD	Rural Fire District
RH	Relative Humidity
SEAT	Single Engine Air Tanker
SRA	State Recreation Area
TNC	The Nature Conservancy
TU	Timber Understory (fuel model)
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
UHF; V-TAC, VHF	Fire radio channels
VFD; RFD	Volunteer Fire Department; Rural Fire District/Dept.
WIRAT	Wildfire Incident Response Assistance Team
WMA	Wildlife Management Area
WUI	Wildland-Urban Interface

Wildcat Hills Region Community Wildfire Protection Plan

Introduction

The purpose of the Wildcat Hills Region Community Wildfire Protection Plan (CWPP) is to provide a tool for effectively managing fire and hazardous vegetative fuels and to bolster collaboration and communication among the various agencies and organizations who manage fire in the Wildcat Hills area of Nebraska. Having a CWPP in place allows the Nebraska Forest Service (NFS) to apply for US Forest Service (USFS) grant dollars to cost-share forest fuels reduction treatments in at-risk areas within the boundaries of the CWPP. It also may increase opportunities for counties, municipalities, and rural fire districts (RFDs) to seek grant funding for activities related to fire protection.

A CWPP can help people be proactive in their approach to wildfire. The Wildcat Hills Region has experienced many large wildfires. Between 2000 and 2020, volunteer fire departments (VFDs) reported 2,365 fires that burned nearly 148,000 acres in the region's five counties.

Extreme wildfires in Nebraska during 2006 and 2012 demonstrated that intense fire behavior can start in rural areas, move aggressively over large expanses, and threaten population centers. For this reason, the CWPP planning team designated the entire five-county region as Wildland Urban Interface (WUI) and, for planning purposes, treats each county as a 'community.' Woody fuels treatment within the forested areas mitigates the risk of wildfire throughout the WUI.

This 2021 revision of the CWPP adjusts the plan's regional boundaries, updates information contained in the 2015 plan, adds new data that has become available since then, and eliminates material that is no longer pertinent. The document format has been changed to match other Nebraska CWPPs.

Legislative Background

To be eligible for federal conservation cost-share funding assistance, the federal government requires states to prepare action plans that lay out a strategy for forest and wildlife conservation. The Nebraska Game and Parks Commission (NGPC) published the Nebraska Natural Legacy Project (NNLP) in 2005 as the state's first Wildlife Action Plan (updated in 2011). It identified 40 Biologically Unique Landscapes (BULs) to help prioritize where conservation work can best be directed. The Wildcat Hills CWPP region lies within the Shortgrass Prairie Ecoregion identified in the NNLP. All or parts of five BULs are found within this CWPP boundary. (See Appendix A, Map 3).

In accordance with the 2008 Farm Bill's requirement for states to conduct a comprehensive analysis of their forests, in 2011 the NFS published the Statewide Forest Resource Assessment and Strategy, known as the Forest Action Plan (FAP). This plan was updated in 2015 and 2020. Priority forest areas were identified throughout the state using the National Land Cover Dataset. This dataset represents 15 land cover and land use types including open water, development, crops, shrubs, grasslands, wetlands, and forests. The Wildcat Hills Priority Landscape (PL) and part of the Western Platte River PL are located within this CWPP boundary (Map 2). The PLs are fully described in the Nebraska Forest Action Plan: <https://nfs.unl.edu/statewide-forest-action-plan>.

The Healthy Forest Restoration Act (US Congress, 2003) requires CWPPs to be developed collaboratively; identify and prioritize areas for fuels reduction and methods to reduce fuels on those areas; and recommend strategies to reduce structural ignitability. This CWPP addresses these requirements and other needs identified by stakeholders.

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Wildcat Hills Community Wildfire Planning History

In 2008, the NFS partnered with the Wildcat Estates Homeowners Association, Sanitation Improvement District #10, the Gering VFD, and the NGPC to develop the region's first CWPP, the *Wildcat Hills Estates Community Wildfire Protection Plan* for the Wildcat Estates subdivision, eight miles south of Gering. The plan evaluated the risk of wildfire occurrence; identified the infrastructure at risk; made hazard reduction recommendations; described adjoining NGPC properties; and presented an action plan to mitigate wildfire risks within the development and the wildlands surrounding it. The CWPP boundary did not encompass other WUI areas that could benefit from woody fuels treatment cost share programs, which require that funds be expended only in areas covered by a CWPP.

In 2015, the NFS collaborated with fire districts (FDs), emergency managers, NGPC, the National Park Service (NPS), US Fish and Wildlife Service (USFWS), municipalities, and county governments to update the CWPP, renamed the *Wildcat Hills Community Wildfire Protection Plan (2015 Update)*. This effort expanded the boundary of the original plan to coincide with boundaries of all of the FDs in Banner, Kimball, and Scotts Bluff Counties, and FDs in portions of Cheyenne, Garden, Morrill, and Sioux Counties.

In order to streamline the plan preparation process, in 2018 the NFS began creating a statewide network of CWPPs that follow county lines instead of watershed or FD boundaries. The portions of the 2015 Wildcat Hills CWPP boundary that overlapped Garden and Sioux Counties were absorbed into the neighboring Western Sandhills and Pine Ridge Area CWPP regions, respectively. The parts of Cheyenne and Morrill Counties that were previously included in those adjacent CWPP regions are now included in the Wildcat Hills region. Adjusting the regional boundary was intended to increase opportunities for counties, municipalities, and RFDs to seek grant funding for activities related to fire protection.

This 2021 update is intended to augment the 2008 and 2015 documents, which are linked in Appendix C.

Plan Integration

This CWPP strives to coordinate with existing federal, state, and local plans and provides specific detail on wildfire hazards, areas at-risk from wildfire, emergency operations and capacity, and critical infrastructure. To help accomplish this coordination, this document includes an action plan addressing wildfire-specific issues including a risk assessment procedure, risk reduction measures, preparedness recommendations, training and education, fuels mitigation strategies, and a monitoring and evaluation plan.

The components of the State Emergency Operations Plan are patterned after the National Response Plan. The Nebraska Emergency Management Agency (NEMA) prepared a basic plan that details Nebraska's operational functions approach to the response and recovery phase of emergency management. It defines the roles and responsibilities of the responding and supporting agencies and organizations and defines broad policies, plans, and procedures.¹

Each county has its own Local Emergency Operations Plan (LEOP). The content of these plans is defined by statute, which stipulates that each county's LEOP consist of specific components, including operations, organization and responsibilities; functional annexes supporting activities critical to emergency response and recovery; technical information on response procedures; protective measures unique to a hazard; and methods for use in emergency operations. It is the responsibility of local emergency management staff to maintain the LEOP according to the guidance from the State.¹

Each LEOP contains an 'Annex F' that covers fire services and includes a listing of county fire departments and mutual aid (MA) partners, as well as equipment lists. Fire department information is listed in Appendix G of this CWPP. Mutual aid associations are listed in Appendix F. One of the gaps common to many county-level LEOPs is

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a lack of wildfire-specific information. In many, fire is lumped in with hazardous materials. The information contained in this CWPP is intended to augment existing information and support these LEOPs.

Nebraska has a state Hazard Mitigation Plan (HMP), which establishes the policies, plans, guidelines, and procedures for the Hazard Mitigation Program in Nebraska. NEMA coordinated with regional emergency management agencies, Natural Resource Districts (NRDs), and counties to prepare, update and maintain multi-jurisdictional hazard mitigation plans throughout the state.² Cheyenne and Kimball Counties are included in the South Platte NRD HMP. Banner, Morrill, and Scotts Bluff Counties are included in the North Platte NRD HMP. Appendix C contains links to these plans. As entities across Nebraska update their HMPs, they are increasing efforts to share information and coordinate with other plans.

In addition, fire management activities endorsed in this CWPP comply with the policies identified in federal and state regulations on wilderness, threatened and endangered species, cultural/historic preservation, and air and water quality. Wildfire events consistently provide both positive and negative environmental impacts to the affected areas. Potential impacts will be considered, and negative impacts will be mitigated, as much as is practical, during implementation of this plan.

Goals and Objectives

State Forest Action Plan Goals and Objectives

The 2020 FAP goals and objectives appear below:

1. Enhance and promote the role of Nebraska's forests and trees for mitigation and adaptation to the global change in climate
2. Manage trees and forest landscapes to include rural and community forest settings
3. Manage the function of forest and tree systems in Nebraska for maximum and sustained benefits
4. Improve, protect, and enhance fish and wildlife habitat in Nebraska
5. Restore fire-adapted landscapes to reduce risk of wildfire impacts on Nebraska's trees, forests, and communities
6. Manage for the health and productivity of Nebraska's trees and forests
7. Manage and build the capacity of Nebraska's trees and forests, in conjunction with the forest products industry, agriculture, and communities, which are all vital to Nebraska's economy
8. Maintain the natural environments of Nebraska including trees and forests, waterways, and rangelands
9. Manage Nebraska's forest and trees to enhance the water resources of Nebraska
10. Improve air quality and energy conservation through tree planting
11. Connect people to the state's trees and forest resources
12. Engage Nebraskans in the stewardship of trees and forests

This CWPP and the results of its implementation relate directly or indirectly to all of these. Sustainable forest management maintains natural environments and reduces wildfire impacts in the region's forests and adjacent communities, and it reduces threats to ecosystem health. Healthy forests and grasslands, in turn, protect air and water resources and fish and wildlife habitat, helping these ecosystems better cope with a changing climate. Communities that plan for and reduce wildfire risks and engage in environmental stewardship activities may also reap both direct and indirect economic benefits of healthy forests in fire-adapted landscapes.

Implementation of this CWPP relates directly to the NNLP goals of conserving natural communities, keeping common species common, and protecting at-risk species. Sustainably managed, fire-adapted forests include diverse habitats for both at-risk and common species. Restoring unnaturally dense forests to a more natural mosaic vegetative pattern benefits both wildlife and human communities.

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CWPP Goals and Objectives

The CWPP Update steering committee identified the following goals and objectives that are consistent with the state FAP and specific to community wildfire protection planning in the Wildcat Hills region. It is important to note that these are goals, not mandates. This begins the process of documenting needs and proposed solutions, which may provide new opportunities to address a variety of issues. Goals such as these can help tie grant applications directly to specifically-identified needs—a strategy that has been proven to increase the likelihood of funding. Any movement toward these goals can be considered progress. Proposed strategies and tactics to achieve these goals are included in the Action Plan section of this document and in Appendix B.

Goal 1: Reduce wildfire risk

Objectives

- Identify wildfire risks, areas of concern that contain these risks, and a range of mitigation measures to address them
- Assess risks in the areas of concern
- Mitigate risks: Implement measures to create defensible space and reduce structural ignitability

Goal 2: Support emergency response

Objectives

- Assess local response capacity
- Enhance local response capacity
- Improve firefighter readiness and safety
- Enhance communication among fire management agencies

Goal 3: Promote an informed and active citizenry for wildfire preparedness

Objectives

- Increase local knowledge of wildfire risk and prevention
- Engage stakeholders in preparedness activities that promote the use of defensible space to protect communities and resources

Goal 4: Restore fire-adapted ecosystems

Objectives

- Encourage land managers to reduce heavy understory fuels in woodlands
- Encourage land managers to control non-native invasive plant species and to actively manage prolific and aggressive native species
- Encourage land managers to use native plant species when restoring ecosystems
- Safely incorporate prescribed fire, using trained personnel and standard operating procedures

Goal 5: Enhance post-fire recovery

Objective

- Enable rapid assessments of burned lands and the implementation of stabilization techniques

Goal 6: Establish/implement a CWPP monitoring and evaluation process

Objectives

- Annually evaluate progress in implementing the CWPP and recommend changes as needed
- Monitor selected projects and activities to assess progress and effectiveness
- Improve grant eligibility by keeping planning documents up-to-date to reflect current activities and needs

Priority Landscapes

At the state level, the FAP identified PLs to help focus effort and funding on landscape-scale projects. This CWPP region includes the Wildcat Hills PL and part of the Western Platte River PL (see Map 2). These landscapes include many locally identified 'Areas of Concern' (AoCs) where vegetative fuels reduction activities can be targeted (see map in Appendix A).

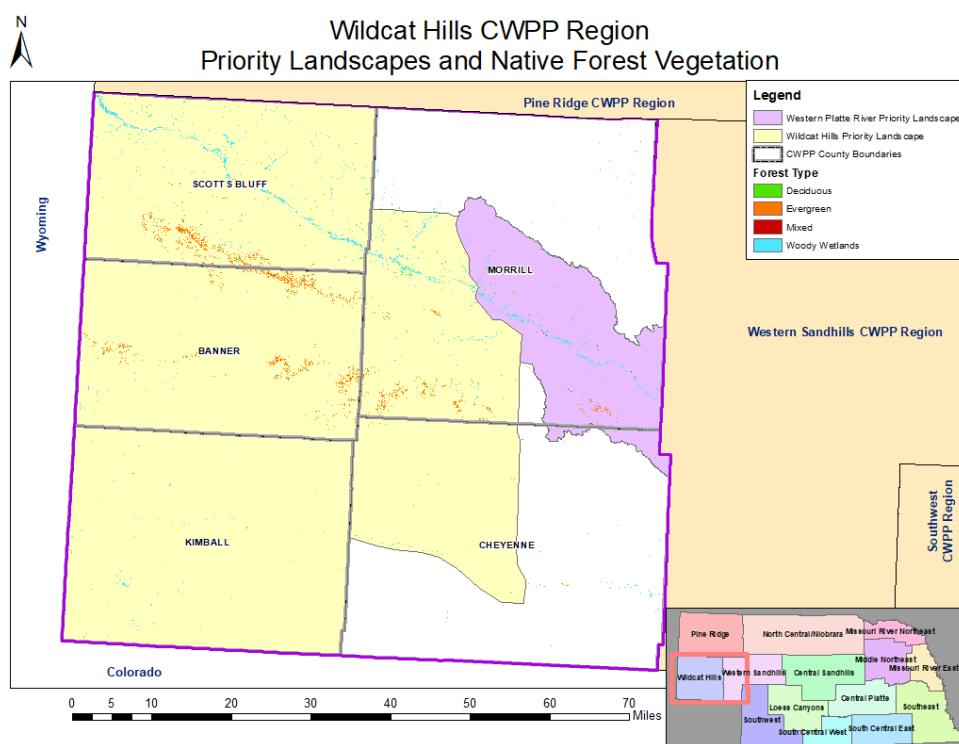
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Unnaturally dense and unhealthy woodlands and encroachment of eastern redcedar into grasslands create extreme wildfire risk. Drought cycles are predicted to occur with increasing frequency. Communities can protect structures by reducing their ignitability, reducing the surrounding woody fuels, and improving access for emergency equipment. Priority Landscapes help focus management activities on areas most at-risk.

Vegetation Types and Areas of Concern within Priority Landscapes

The Wildcat Hills region's Priority Landscapes contain a range of topography and vegetation types, including evergreen forest (ponderosa pine/savanna and eastern redcedar), riparian deciduous forest, salt marsh and flats, and several types of prairie. Within each county, local stakeholders have identified 'Areas of Concern'—specific sites that are at greatest risk for wildfire within the larger landscapes. Most of these lie within the statewide Priority Landscapes. AoCs are shown in Appendix A.

Managing the grass component of the forested areas is extremely important. Ponderosa pine ecosystems develop a heavy grass and shrub component which, if not managed appropriately, create a significant fuels risk. The best management is done on a landscape basis—fuels mitigation treatments are only as effective as their weakest link. Unmanaged 'islands' among managed areas pose a significant risk to the managed lands.



Map 2: Woody vegetation within the Wildcat Hills CWPP Region's Priority Landscapes include evergreen forests (ponderosa pine and *Juniperus* spp.), riparian deciduous forests, and mixed forests (evergreen/deciduous).

Process

The first step in the CWPP update process was to establish a steering committee, which included many of the same entities that guided the 2015 update: County boards; local and regional emergency management; fire departments; federal, state, and local natural resources agencies; and conservation organizations. A list of steering committee members appears in Appendix I. The planning team (a subset of the steering committee) gathered data, seeking input from county officials, fire departments, and others to review and update CWPP

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goals and objectives, local wildfire risk factors, areas of concern, and other information. This input provided a locally focused framework for the CWPP update.

The NFS sent a questionnaire to all 21 fire departments in the CWPP region (see Map 1 on page ii) asking for current contact information, lists of equipment, and pertinent issues, concerns, and priorities. Responses from the 20 fire departments that returned the survey appear in Appendix G, along with information obtained from Annex F of each county's LEOP for all fire departments located entirely or partially within the CWPP boundary. The fire department survey and distribution list appear in Appendix H.

A news release sent to local newspapers and radio stations described the update process, encouraged input, and provided contact information for comments. CWPP update information was posted on the NFS website and social media page. The stakeholder list, outreach letters, and media releases appear in Appendix I. Feedback from counties, local municipalities, emergency response agencies, local fire departments, and others was incorporated into the draft.

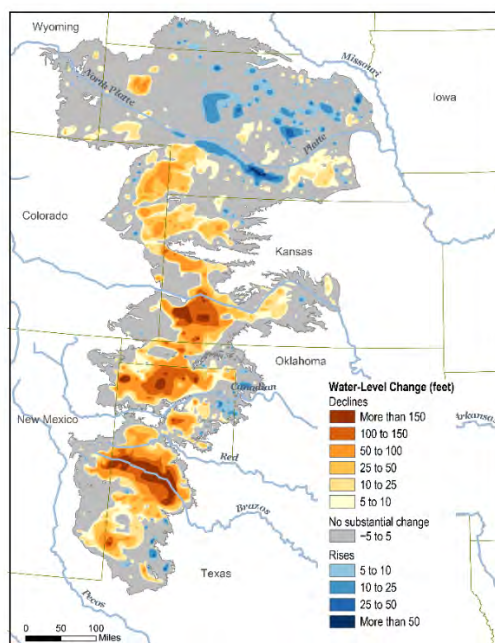
After a 30-day public review of the draft CWPP, the planning team incorporated additional input and comments into the final document before sending it to county boards for adoption. NFS mailed copies of the finalized document to each county and emergency managers. The plan is available online at <https://nfs.unl.edu/documents/CWPP/WHCWPP.pdf>.

Overview

This section contains background information common to all five counties within the 5,069 sq. mi. region. The 2019 US census data lists a total population of 54,381 for this area. Information that is specific to only certain parts of the region is included in the county (community) sections.

Landforms, Climate and Weather

The Wildcat Hills CWPP counties lie within the NNLP Shortgrass Prairie Ecoregion. The area sits atop the Ogallala Aquifer, which underlies about 175,000 square miles in eight states from Texas to South Dakota (see Map 3).



Map 3: The Ogallala Aquifer underlies much of the Great Plains. This graphic³ shows the water level change between the early 1900s and 2015.

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Nebraska's panhandle has a continental climate with cold winters and hot summers. The Wildcat Hills region has a semi-arid climate, averaging 15-18 inches of precipitation annually. July is the warmest month, with maximum temperatures averaging 87-89°F. The National Climatic Data Center reported 2012 as the state's warmest, driest year on record, with the average temperature 4.3°F higher than the long-term average and some areas receiving less than half of normal rainfall.

Since the beginning of the 20th century, temperatures in Nebraska have risen approximately 1°F. Temperatures in the 2000s have been warmer than the long-term average and comparable to the previous record warmest period of the early 1930s Dust Bowl era, when drought and poor land management likely exacerbated the hot summer temperatures. The recent warming has been concentrated in the winter and spring, while summers have not warmed substantially in the state. This is reflected in a below-average occurrence of extremely hot days and no overall trend in the number of warm nights since the 1960s. The winter warming trend is reflected in a below-average number of very cold nights since 1990.⁴ In recent decades droughts have become more severe. Extreme drought and wildfire years occurred in 1988, 1994, 2000, 2006 and 2012.

Weather data was obtained from the University of Nebraska High Plains Regional Climate Center⁵ and Iowa State University.⁶ Weather factors including temperature, precipitation, relative humidity (RH), and wind define fire season, as well as the direction and speed of fire spread. There are two fire seasons in this area. The early fire season occurs from snowmelt and the last spring frost (when the previous year's cured vegetation dries) until early May, then eases as vegetation greens up. The late season begins in mid to late summer as fine fuels, such as grasses and forbs, begin to dry. In most years the late season extends to mid-November, coinciding with agriculture crop harvests, leaf drop, and curing of prairie grasses. Wet springs can delay the onset of the early season, but they produce more fine fuels in ditches and across rangelands that, in late summer and fall, become tinder for sparks that can start wildfires. In drier years fine fuels can start curing by early to mid-July, but there is less growth, and consequently fewer fine fuels to catch sparks from trains, farm equipment, or motorists.

County	April			July			October		
	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH
Banner	59.98	1.65	26	88.18	2.28	32	63.45	1.19	28
Cheyenne	60.23	2.37	26	88.34	3.02	29.5	63.44	1.48	26
Kimball	59.41	1.65	26	87.50	2.65	32	62.93	1.13	28
Morrill	60.13	1.80	25.5	88.17	2.28	36	63.11	1.17	32.5
Scotts Bluff	60.32	2.99	26	88.41	3.6	36	63.48	2.21	32

Table 1: Average maximum temperatures (degrees F), precipitation (inches) and median minimum relative humidity (percent) 1982-2020 for April, July, and October for the Wildcat Hills CWPP counties. RH data is interpolated from selected area weather stations.⁷

Wind is a primary factor in fire spread, even where fuels are light or discontinuous as in much of the plan area. Some areas are more than half agriculture and grass fuels. Wind rosettes for April, July, and October from four stations in or near the plan area—Alliance, Kimball, Scottsbluff, and Sidney—are in Appendix D.

Vegetation and Natural Communities

Native vegetation in the Wildcat Hills Region is mostly mixed-grass/shortgrass prairie. Wooded areas include ponderosa pine forests and savannas and riparian deciduous forests.

Coniferous tree species in the region are primarily ponderosa pine, Rocky Mountain juniper, and eastern redcedar. The principal deciduous tree species are cottonwood, hackberry, box elder, and green ash. Foresters

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expect most of the green ash to die when the emerald ash borer, an invasive pest, moves into the region. Other woody species that can be found locally abundant are snowberry, chokecherry, and wild plum. Most of the deciduous trees and shrubs are found in stringers and patches along the drainages and near the cooler, more humid environments. In general, fuel continuity in the ponderosa pine/grassland areas is high.

Grasslands in the region include a mosaic of mixed-grass/shortgrass prairie with interspersed areas of Sandhills borders mixed-grass prairie and Sandhills mixed-grass prairie. Strips of lowland tallgrass prairie can be found along the North Platte River and Lodgepole Creek. There are salt marshes and flats in Morrill and Scotts Bluff Counties.

Other land cover includes agricultural fields, which cover a significant portion of the region. A land cover map appears in Appendix A.

Land Use

There are about 3,244,160 acres (5,069 sq. mi.) in the CWPP region. Public and conservation lands include about 6,400 acres in federal ownership (Scotts Bluff National Monument, National Wildlife Refuges (NWRs), and scattered tracts owned by the Bureau of Land Management (BLM); 11,607 acres in NGPC state recreation areas and wildlife management areas; 25,222 acres in non-government organization (NGO) conservation lands; one 935-acre NRD-managed property (Oliver Reservoir); and 133,333 acres in state school lands.⁸ There are also county and municipal properties in the CWPP region. The remainder of the land is privately owned.

Agriculture (livestock and crops) is the predominant use on rural private and school lands. Residential, commercial, manufacturing, and industrial land uses dominate the region's 22 incorporated municipalities and their immediate surroundings. Land use is primarily agricultural in the region's 10 unincorporated communities. Rural residential land use exists in conjunction with agricultural operations.

Four of the counties in the CWPP region have county zoning plans in place. There are currently no restrictions in any of these counties specifically pertaining to wildfire preparedness and risk or for building construction in fire-prone areas such as canyon rims. Banner County is not zoned.

Popular outdoor recreational activities include hunting, fishing, hiking, boating, biking, and camping. Federal sites open to the public include Scotts Bluff National Monument, the North Platte NWR, and the western extent of the Crescent Lakes NWR. State sites include the Wildcat Hills, Bridgeport, and Minatare Lake State Recreation Areas (SRAs), and ten wildlife management areas (WMAs). The South Platte NRD manages Oliver Reservoir in Kimball County.

*Table 2: Agencies with public recreation sites in the region provided the following visitation data**

County	Agency/Unit Name	2020 Visitation
Kimball	SPNRD/Oliver Reservoir	4,683
Morrill	NGPC/Bridgeport SRA	31,500
Scotts Bluff	NGPC/Lake Minatare SRA	157,000
	NGPC/Wildcat Hills SRA	13,000
	NPS/Scotts Bluff Nat. Mon.	178,108

* NGPC numbers are estimates; NPS data adjusted for construction traffic.

Wildland Urban Interface

The WUI is defined as areas where homes and other structures are built on or near lands prone to wildfire. According to the 'Ready, Set, Go!' program, managed by the International Association of Fire Chiefs, the WUI is not necessarily a place, but a set of conditions that can exist in nearly every community. It can be a major subdivision, or it can be four homes on an open range. National Fire Protection Association literature states that

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conditions include, but are not limited to, the amount, type, and distribution of vegetation; the flammability of the structures in the area and their proximity to fire-prone vegetation and to other combustible structures; weather patterns and general climate conditions; topography; hydrology; average lot size; and road construction. The WUI exists in every state in the country, and in every county/community within the CWPP boundary. Site-specific WUI issues are listed in each county section of this CWPP.

Infrastructure

Webster defines infrastructure as: “the system of public works of a country, state, or region; also: the resources (such as personnel, buildings, or equipment) required for an activity.” In the Wildcat Hills CWPP region, infrastructure includes county, state, and federal roads and bridges, communications systems, the power grid, water systems, hospitals, schools, parks and fairgrounds, public administration buildings, fire halls, public officials, law enforcement officers, and fire personnel. For the purpose of this plan infrastructure does not include privately owned properties or residences, although these structures also benefit from the same wildfire risk reduction projects. These systems, structures and people are critical to regional functionality. One of the goals of community planning is to protect the basic physical and organizational structure of communities. This infrastructure, in turn, protects citizens.

Regional infrastructure expedites access to a fire by emergency responders, allows them to communicate with one another and the public, facilitates evacuations and support functions, and assists recovery efforts after the event. It is important for both local and out-of-area responders to know what facilities and resources are available and where they are located.

Emergency evacuations depend on infrastructure. Immediate evacuation destinations are likely to be in areas away from the fire that have water, power, and room for gathering. Fairgrounds or parks often make good short-term destinations, as they have large parking areas, restrooms, and electricity. In a wildfire evacuation scenario, local officials will designate immediate evacuation destinations. During prolonged evacuation periods or when homes or access routes have been destroyed, longer range planning is needed.

The Participant Profiles sections of regional HMPs identify specific sheltering locations, which include the mass care facilities identified in the county LEOPs. The Department of Homeland Security’s website <https://www.ready.gov/evacuating-yourself-and-your-family> also offers some ideas.

The CWPP region is crossed by several high-tension power lines. Rural electric service in the counties is provided by Chimney Rock Public Power District (PPD), High West Energy, Panhandle Rural Electric Membership Association, Roosevelt PPD, Wheat Belt PPD, and the Wyrulec Company.

Both cellular and landline telephone services are available region wide. Cellular reception is spotty in some locations.

Hazardous Fuels Reduction

Hazardous fuels reduction is key to decreasing risks to human life and damage to property. In terms of wildfire, hazardous fuels include any kind of living or dead vegetation that is flammable. Implementation of hazardous fuels reduction projects reduces fuels that feed wildfires, resulting in less extreme fire behavior and intensity. Fire behavior reductions include reduced rates of spread and shorter flame lengths. Fuels treatment in the Wildcat Hills CWPP region is being accomplished via several approaches, including forest thinning, fuelbreak and firebreak establishment, prescribed fire, prescribed grazing, and implementing Firewise® practices around structures.

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Mechanical fuels reduction can be expensive, depending on access, terrain, and tree density. The NFS, NGPC, and Natural Resources Conservation Service (NRCS) offer cost share programs to help private landowners mechanically reduce hazardous woody fuels on their properties.

The NFS administers several federal and state grants that provide cost share to landowners to defray the cost of fuels reduction. Information about these programs can be found online at <https://nfs.unl.edu/fuels-assistance>. Landowners in counties that have a CWPP in place are eligible for these programs.

Fuels reduction can also be achieved as a result of vegetative manipulation for other purposes. The NGPC conducts mechanical vegetation treatment on their public lands as their budget permits. These practices are implemented for multiple objectives, including wildlife habitat enhancement and public safety. During the past five years, the NGPC Parks Division thinned 47 acres on SRAs in Scotts Bluff and Morrill Counties, and they have planned a 48.8-acre thinning project for 2021 at Cedar Canyon WMA in Scotts Bluff County. The NPS has conducted 10 acres of mechanical treatment at Scotts Bluff National Monument between 2015 and 2020.

Some entities use chemical treatments to manage vegetation for habitat improvement, noxious weed control, agricultural production, or other purposes. During the past five years, the Platte River Basin Environments (PRBE) has used herbicides to control non-native cattails on 165 acres in Scotts Bluff and Morrill Counties and to control thistle and common mullein on 1,500 acres of rangeland and CRP ground in Scotts Bluff County. In addition, the organization uses herbicide control on 365 acres of dryland farm ground in Scotts Bluff County. On the 600 acres of irrigated Scotts Bluff County farmland the PRBE rents out, the operators use various herbicides and insecticides in their farming operations. On properties on which they own or hold conservation easements, Ducks Unlimited has mechanically cut primarily Russian olive, and treated stumps and saplings with herbicide on 738 acres in Morrill County and 166 acres in Scotts Bluff County.

Fuels reduction is discussed in detail in the Action Plan section of this document.

Prescribed Fire and Prescribed Burn Associations

In recent years, prescribed fire has increased as a method of keeping woody encroachment in check, particularly in grasslands, where it can be extremely efficient for managing eastern redcedar. In forested settings, prescribed fire is more effective and safer when used to maintain woodlands after they have been mechanically thinned. When tree densities are reduced prior to burning, it is easier to keep the fire on the ground, where it cleans up downed woody fuels. Crown fires are difficult to control, and they kill healthy trees.

Prescribed fire practitioners include individual landowners, prescribed fire associations, non-profit conservation organizations, and public agencies. In the past five years, the NGPC used prescribed fire on 613 acres in four WMAs in Banner, Morrill, and Scotts Bluff Counties. During that same time frame, the Sidney NRCS office facilitated 18 prescribed burns on CRP lands in Banner (165 acres), Cheyenne (1,806 acres), and Kimball (201 acres) Counties to promote grassland health and wildlife habitat. The Scottsbluff NRCS office facilitated prescribed fire on 700 acres in Banner County and 300 acres in Scotts Bluff County. The NPS has conducted prescribed fire on 970 acres at Scotts Bluff National Monument between 2015 and 2020.

Between 2017 and 2020, 21 members of the Oregon Trail Prescribed Burn Association burned 3,392 acres in Banner, Cheyenne, Morrill, and Scotts Bluff Counties. Members note that their greatest concerns are liability, equipment, and sufficient manpower. In Scotts Bluff County, the PRBE used prescribed fire on 170 acres and reported that lightning fires burned another 90 acres on their lands during the past five years.

Fire Districts and Emergency Management

There are 21 VFDs all or partially within the CWPP boundary (see Map 1). Table 4 summarizes reported fires for each district.

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Each fire department received a survey that asked for contact information, equipment lists, and a summary of their wildfire issues and concerns. Their responses appear in Appendix G.

Cheyenne, Kimball, and Morrill Counties are part of the Region 21 Emergency Management jurisdiction. Banner and Scotts Bluff Counties constitute the Region 22 Emergency Management area. A map of statewide Local Emergency Management Areas appears in Appendix A.

Wildfire Hazard: History and Impacts

Historic Role of Fire

Prior to European settlement, large fires (started by lightning or intentionally as management activities by indigenous people) were common, and these fires kept the prairies free of most woody vegetation. However, since settlement, people have become increasingly adept at suppressing wildfire. Over time, the forests became densely overcrowded and woody vegetation encroached on prairies. Table 3 shows a mean replacement fire interval of 300 years for low-elevation ponderosa pine forests and 12 to 15 years for the prairies.

Vegetation Community	Fire Severity	Fire Regime Characteristics			
		% of Fires	Mean Interval (years)	Min. Interval (years)	Maximum Interval (years)
Ponderosa Pine (Black Hills, low elevation)	Replacement	7	300	200	400
	Mixed	21	100	50	400
	Surface or Low	71	30	5	50
Northern Mixed-Grass Prairie	Replacement	67	15	8	25
	Mixed	33	30	15	35
Shortgrass Prairie	Replacement	87	12	2	35
	Mixed	33	30	15	35

Table 3: Fire intervals for the ponderosa pine, northern mixed-grass prairie and shortgrass prairie vegetation types are shown above. The Black Hills low elevation model is the closest approximation for the Wildcat Hills.⁹

Local Fire History

Nebraska is no stranger to extremely large wildfires. In 1865 the US Army and ranchers intentionally set a 300-mile-wide prairie fire during a dispute with Native Americans. The fire blackened the entire section of Nebraska south of the Platte River and west of Fort Kearny. It was visible from Colorado and Kansas, and eventually burned all the way to Texas.

More recently and closer to home, 25 fire departments, two Nebraska Army National Guard helicopters with soldiers responded to Banner County's Hubbard Gap fire, which charred nearly 4,000 acres over five days in August and September 2020. Local and mutual aid assistance included 179 firefighters and 62 fire engines and tenders. Air support from Nebraska and South Dakota dropped retardant on the flames. Five firefighters were injured, with two requiring hospitalization. Local firefighters reported it as the largest Wildcat Hills fire in memory. It charred about 85% of the Williams Gap WMA, killed two bighorn sheep, and burned three structures. The total cost was estimated at almost half a million dollars. The Banner County Board declared a local emergency and the governor approved a state emergency declaration, which allows state money to be used to fight the fire.¹⁰

In July 2017 lightning sparked the Taylor fire that burned 100 acres of grass and timber just a mile east of the Wildcat Hills Estates, threatening 20 of the 55 homes in this subdivision south of Gering. Seven fire departments responded, and two retardant airdrops limited the spread despite high temperatures and extremely low humidity.¹¹

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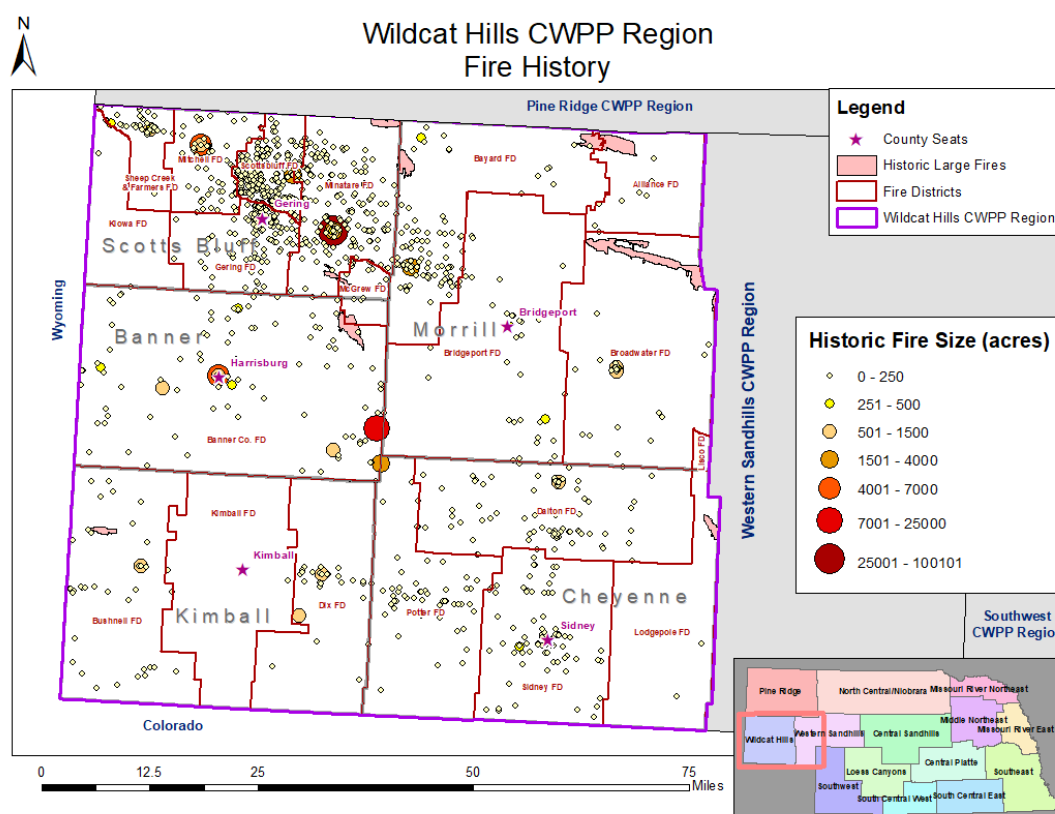
Other historic fires in the CWPP region include the Snake Creek fire that burned 1,912 acres in northern Scotts Bluff County in July 2000 and unnamed fires that burned 8,500 acres in the Dalton FD in June 2012; 7,000 acres in the Mitchell FD in August 2001; 3,600 acres in the Potter FD in June 2012; 3,500 acres in the Bayard FD in July 2004; 1,500 acres in the Dix FD in July 2005; 1,500 acres in the Bushnell FD in May 2002; 1,168 acres in the Broadwater FD in July 2003; 1,000 acres in the Morrill FD in August 2018; and 1000 acres Alliance FD, Morrill County, August 2012.

Prehistorically, small and medium-sized fires occurred in the region fairly frequently. Occasionally, the fires would burn large areas, sometimes starting in the grassland type and moving into the timber type. At other times, summer lightning would ignite a fire in a forested area, and it would smolder for weeks or months. Sometimes these fires would burn hot and kill an entire stand and at other times they crept along the ground, not creating a lot of heat intensity. The result was usually a mosaic of trees of varying age and size classes.

Prior to 1900 the ponderosa pine forested areas were much more open than they are today. Mature ponderosa pine trees have thick bark and a high tolerance of surface fire. In the past, the open grasslands within these forests were larger and more connected. Because of the higher tree density in the present environment, many of the wildfires in the ponderosa pine type today burn into the forest canopy (crown fires) and kill the trees.

Today the CWPP region regularly experiences wildfires, some quite large. From 2000 through 2020, CWPP area VFDs reported 2,365 wildfires that burned a total of 147,628 acres and caused \$600,501 in property and crop losses. Although reporting has improved in recent years, not all fire departments report every year, so the actual numbers are likely much higher. Both 2006 and 2012 were extreme fire years in Nebraska. In 2012, over half a million acres burned in Nebraska, much of it in the ponderosa pine and mixed-grass prairie vegetation types.

Map 4: Some of the larger fires reported in the CWPP area since 1984 are shown in the map below. Since 2000, CWPP area fire departments reported 2,365 fires that burned nearly 150,000 acres.



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Some VFDs voluntarily report their annual fire response data to the NFS. Table 4 shows the fire data reported by fire departments from 2000 to 2020.¹² Because the VFDs vary in their level of reporting, there is no accurate, comprehensive fire history available for the CWPP area.

Fires Reported 2000-2020							
Department	# Fires Human	# Acres Human	# Fires Lightning	# Acres Lightning	Total # Fires	Total # Acres	# Mutual Aid Responses
Alliance	288	5,071	44	1,299	332	6,370	39
Banner County	19	4,121	10	97	29	4,218	2
Bayard	195	3,310	10	4,006	205	7,316	32
Bridgeport	74	1,894	13	650	87	2,544	6
Broadwater	44	5,334	15	1,269	59	6,603	16
Bushnell	40	2,715	13	751	53	3,466	0
Dalton	63	2,284	16	9,370	79	11,654	38
Dix	48	2,293	2	251	50	2,544	12
Gering	202	1,104	33	905	235	2,009	86
Kimball	30	246	8	89	38	335	1
Lisco	9	745	9	387	18	1,132	15
Lodgepole	11	188	0	0	11	188	0
Lyman/Kiowa	22	108	0	0	22	108	1
McGrew	12	110	2	1	14	111	3
Minatare/Melbeta	318	6,528	18	66,944	336	73,472	18
Mitchell	46	11,950	18	55	64	12,005	9
Morrill (Sheep Creek & Farmers)	80	1,997	15	2,810	95	4,807	16
Potter	69	1,475	11	3,695	80	5,170	18
Scottsbluff	55	37	2	2	57	39	9
Scottsbluff Rural	358	2,566	9	31	367	2,597	76
Sidney	120	908	14	32	134	940	10
Total	2,103	54,984	262	92,644	2,365	147,628	407

Table 4: Fires reported by Wildcat Hills CWPP Region fire departments between 2000 and 2020. Departments reported a total of 82,221 volunteer hours for this period. Only departments that reported are listed. Some departments did not report every year. Actual numbers are higher. VFDs report the total number of fires and acres for their district. These figures were not adjusted for districts that include land outside of the CWPP region.

Fire Hazard

In the years since European settlement, exclusion of low-intensity ground fires, limited forest management, and prolific regeneration of eastern redcedar and ponderosa pine have increased the fire danger in forested areas. This, combined with severe drought, created conditions conducive to the catastrophic wildfires of 2006 and 2012 in western and central Nebraska. Drought conditions also increase the wildfire risk in the grasslands. Flash flooding often occurs in areas where vegetative cover has burned, increasing runoff and leaving soils more susceptible to erosion.

Although nearly 89% of reported fires between 2000 and 2020 were human caused, those acres accounted for just over 37% of total acres burned. Nearly 63% of all acres burned were attributed to lightning (see Table 4). During most years the majority of wildfires are small and do not burn with high intensity because of rain or quick suppression. However, every few years medium-sized and large fires occur and burn with high intensity and extreme fire behavior, posing a threat to rural homes and damage to major watersheds. Often the fires are wind

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driven from the southwest or northwest and can burn across drainages at a rapid rate. This situation challenges fire suppression personnel and agency managers to remain vigilant while monitoring the fire danger ratings and indices, particularly the heavy fuel moisture (1,000-hour time lag fuels), during the fire season. These wildfires, which have burned with high intensity, do not readily regenerate for years afterward even with organized reforestation efforts. Fuel continuity throughout the forested areas and in some of the open grasslands in this planning region is very high to extreme. Fires in these areas can have a high rate of spread and, in the forests, a high resistance to control during very high and extreme fire danger.

Dead fuels are classified according to how fast they gain and lose moisture. They are categorized into 1, 10, 100, and 1,000-hour fuel size classes.¹³ The larger the fuel, the longer it takes for the weather to affect it. Large branches (100-hour fuels) will take much longer to dry out than dead fine fuels such as grass (1-hour fuels). Once 100- and 1,000-hour fuels become dry, it also takes a long time for them to regain moisture from wetter weather.

The planning team asked fire department personnel, emergency managers, and other stakeholders to identify specific areas of concern for wildfire response. These are described in each community-specific section of the CWPP and shown on a map in Appendix A. The locations include numerous wooded areas along drainages with homes and other structures, as well as recreational sites that experience heavy seasonal visitor use, have limited access, and are high-risk ignition sources due to dense undergrowth. Many agricultural lands often experience dry weather conditions conducive to fire ignition from lightning and hot farm machinery.

Wildfire Hazard is described in further detail in the Wildfire sections of the North Platte NRD and South Platte NRD Multi-Jurisdictional HMPs (see links in Appendix C).

Fuel Models

The primary fuels within the planning area are grasslands and forests. NFS fire staff identified the following fuel models¹⁴ as the most prevalent within the CWPP region:

Grassland Models (GR): In the prairie portions of the CWPP region, the primary carrier of fire is grass. Grass fuels can vary from heavily grazed grass stubble or sparse natural grass to dense grass more than 6 feet tall. Fire behavior varies from moderate spread rate and low flame length in the sparse grass to extreme spread rate and flame length in the tall grass models. All GR fuel models are dynamic, meaning that their live herbaceous fuel load shifts from live to dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong. The following fuel models best represent the grasslands in the region.

- GR2 Low Load Dry Climate Grass: The primary carrier of fire in GR2 is grass, though small amounts of fine dead fuel may be present. Load is greater than GR1, and fuelbed may be more continuous. Shrubs, if present, do not affect fire behavior.
- GR4 Moderate Load Dry Climate Grass: The primary carrier of fire in GR4 is continuous, dry-climate grass. Load and depth are greater than GR2; fuelbed depth is about 2 feet.

Timber Understory Models (TU): The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels. TU1 contains live herbaceous load and is dynamic, meaning that the live herbaceous fuel load is allocated between live and dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong and depends on the relative amount of grass and shrub load in the fuel model.

- TU1 Low Load Dry Climate Timber-Grass-Shrub: The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

Full descriptions of these fuel models appear in Appendix E.

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Economic Impacts

Excessive fuel loading can affect local economies in many ways. It reduces available forage, and therefore the grazing carrying capacity, for livestock and wildlife. If woody fuels are removed by uncontrolled, high intensity wildfire, other resources are affected. Intense fires may induce hydrophobic soils, which significantly increase runoff and erosion in steep terrain. Loss of grazing capacity and decreased water quality can be long-lasting problems for landowners whose livelihoods depend on livestock and hunting income.

A proactive approach to reducing hazardous fuels can provide jobs and generate valuable wood products such as lumber, posts, and biomass. Mechanically thinning forests reduces the hazard and risk of intense wildfire, can improve grazing capacity and wildlife habitat, and can increase the amount of precipitation that reaches streams, lakes, and the water table. Adherence to the *Forestry Best Management Practices for Nebraska* (<https://nfs.unl.edu/documents/ruralforestry/NebraskaBMP.pdf>) by those conducting mechanical thinning operations can reduce the potential for soil erosion from equipment use.

Emergency Operations

Responsibilities and Mutual Aid Agreements

VFDs are the first line of defense against wildfires on private and state lands in this planning area and statewide. During large wildfires, they rely on mutual aid (MA) agreements with neighboring jurisdictions. The Scotts Bluff National Monument has a MA agreement with the Gering VFD. The USFWS has a fire division that responds to wildfires on the federal lands that agency manages.

Eighteen of the 21 fire departments in the CWPP counties belong to one or more of the three Nebraska MA associations that overlap the region: Scotts Bluff County MA, Central Panhandle MA, and Southwest MA. The Bushnell, Dix, and Sidney VFDs report no formal MA affiliations. A new association is currently being established in the lower Nebraska Panhandle/Colorado area. See Appendix F for a statewide list of mutual aid associations and member fire departments.

The Scotts Bluff County and Banner County LEOPs' Annex F—Fire Services and Hazardous Materials codifies their mutual aid responsibilities as follows:

A. Mutual Aid

1. *The Senior Fire Officer will request mutual aid when the emergency extends beyond the capabilities of the local Fire Department.*
2. *When an emergency extends beyond the capabilities of mutual aid resources, the Senior Fire Officer will:*
 - a. *Notify the local Emergency Management Liaison, if one is appointed, or the Region 22 Emergency Management Director to coordinate additional support.*
 - b. *Request assistance from the state and/or other agencies/organizations required at the scene.*

In addition to notification by Sheriff's Department personnel and/or dispatch, Emergency Management areas have notification from 'Code Red' that allows them to develop groups that can be called in an emergency situation for notification of evacuations, hazardous material incidents, and any emergency notification, including wildfire. This allows notification of a large geographical area or a group of people. This is an 'opt-in' program which can be used to notify residents in the area of wildfire events but would likely not reach all members.

Prior to the 2012 wildfires, the state introduced the Salamander ID card check-in system for emergency response personnel and equipment. This identification and credentialing system allows first responders (agencies, personnel, and equipment) to more efficiently respond to incidents. It streamlines the incident check-

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in process and tracks time spent on an incident for both personnel and equipment. The ID cards use bar codes that identify equipment, people and their qualifications, and can even track volunteers.

The Mobile Express program is used to track an incident. The Rapid Tag program helps track volunteers. A volunteer's driver's license is swiped, and the data used to print an identification card which is then used by Mobile Express to track the volunteer. The program can also be used to generate a printed 'Battle Book' that lists equipment (with picture, description, and ID card) and personnel so that first responders can check into an incident via radio without having to physically check in. Training for this system is ongoing statewide.

Staging Areas and Safety Zones

The forested parts of the CWPP region are separated by expanses of grasslands and farm ground, where there are abundant potential staging area locations. Grazed pastures, green alfalfa fields, and fallow farmland can provide staging areas away from forests. Fairgrounds and city parks are generally good staging areas, depending on the particular location of a wildfire. Safety zone sites are designated by fire officials and will depend upon the wildfire location and characteristics.

Roads/Bridges

In addition to the federal and state highways, the region is served by a network of county-maintained roads. Farm and ranch trails provide additional access for emergency vehicles. Restricted bridges and roads which could restrict truck/lowboy passage have not been mapped. Developing such a map has been identified as a need that should be addressed (see Action Plan). Road and bridge information specific to each county appears in the community detail sections.

Communications

All VFDs in the region operate on VHF radio, which is required to communicate with the Single Engine Air Tanker (SEAT). This makes interagency communication very easy within the CWPP area. The new mutual aid group in the southern part of the CWPP area (Region 21) is trying to make a standardized radio bank for all of its VFDs to use, so that all departments have the same frequencies. Region 22 in the Scotts Bluff valley has a few more variables for communication. Departments must talk to dispatch on 800 radios, but while on scene they can utilize either 800 or VHF frequencies. Once mutual aid is called and interagency communication is required, VHF frequencies are utilized.

Some 911 calls get sent to Wyoming or Colorado dispatch centers, but those dispatchers are skilled at taking the initial information and relaying it to the proper dispatch center.

Location-specific data about communications is listed in each county section of this CWPP for those entities that provided such information. Gaps in cellular service exist across some parts of the CWPP region, particularly in steeper drainages. Cell service in the area varies, depending on the service provider.

Capabilities and Capacity

Resources to support emergency responder safety and help fire departments prepare for and respond to fire, natural disasters and non-fire emergencies can include vehicles, equipment, air support, and personnel. The resources described in this section are available to VFDs in the CWPP region.

Vehicles and Equipment

A listing of apparatus and staffing for each VFD is included in Appendix G. Some departments may have agreements with outside agencies or county departments (such as Roads) for assistance with heavy equipment.

Through the Federal Excess Property Program (FEPP) and Fire Fighter Property (FFP) program, a cooperative effort with the U.S. Forest Service, the NFS acquires and reconditions excess equipment which is no longer needed by the federal government. This equipment is then loaned to fire districts, which are responsible for

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maintenance. When no longer needed, the equipment is returned to the NFS and either re-assigned or sold, with the proceeds being returned to the US Treasury or state program. In 2020 there were 894 pieces of FEPP equipment in use by 299 RFDs and emergency management agencies across Nebraska, valued at \$96,049,400. In the Wildcat Hills CWPP Region there are 37 pieces of FEPP equipment, valued at \$5,012,400 and housed at 15 fire districts.

These programs allow VFDs to obtain essential fire-fighting equipment at an affordable price. The NFS Fire Shop also offers cooperating FDs resources to reduce vehicle maintenance costs. This includes securing parts for vehicles and providing complimentary maintenance checks. Mechanics can also provide routine vehicle maintenance at the NFS Fire Shop in Mead or departments may use a trusted local mechanic. Two NFS mobile repair units are available to respond to the maintenance needs of cooperating FDs. These units can provide routine repairs, as well as on-site support for cooperating districts in the event of catastrophic fires.

Some public agencies also maintain fire equipment. The NGPC Management section has firefighting equipment located at Nine Mile Creek WMA east of Minatare in Scotts Bluff County. It is used for prescribed fire and wildland fire fighting. The NPS maintains one Type 6 engine at Scotts Bluff National Monument.

Aerial Resources

The Wildfire Control Act of 2013 enabled the establishment of Single Engine Air Tanker bases in Nebraska. The SEAT provides critical observation and access for remote areas. Tanker support is vital for locations away from towns and for wildfires located in difficult terrain or spreading quickly. Having a SEAT dedicated strictly to wildfire suppression provides nearby resources for quick initial attack on small fires, keeping them from growing into large catastrophic wildfires.

Permanent SEAT bases enhance fire aviation and initial attack capabilities. SEAT bases are staffed by NFS personnel during the fire season, working with a SEAT on contract to Nebraska through its partners at NEMA. During peak wildfire season (generally July 15-September 15) the state of Nebraska hires a SEAT for at least a 60-day contract period. NEMA pays for the aircraft's daily rate, and flight time is paid out of the Governor's Emergency Fund. NFS provides the SEAT Manager who directs the entire operation. It is an interagency effort managed by NFS and paid for by NEMA.

Of the five permanent (Type 1) SEAT bases in Nebraska, Scottsbluff is the primary one that serves this CWPP Region, although the Chadron and Alliance SEAT bases have also loaded for fires in this area. The other bases are located in Valentine and McCook. In addition, NFS has a mobile SEAT base to support operations at airports without a permanent base. Each base houses LC 95 retardant.

Prior to the onset of fire season, the Wildfire Advisory Group assesses wildfire risk throughout the state. This committee consists of representatives from the NFS, State Fire Marshal's Office, NEMA, USFS, and Great Plains Dispatch. They have two in-person meetings per year plus weekly conference calls to discuss wildfire operations, fuel conditions, and resources. The group recommends to NEMA which SEAT base is the best location to station the SEAT plane, and when and for how long the SEAT will be contracted.

The state has a long history of utilizing agricultural aerial applicators for fire suppression. These are an important resource because they are available year around, not just during the peak fire season. Aerial applicators sign up yearly to be part of this program but are not 'on call' for wildfire response. Any fire chief who decides one is needed can simply call directly to see if the applicator is available. These aircraft can only carry loads of water or foam, not the preferred and more effective retardant product. Their availability may be limited due to the pilot not being present or out spraying fields. These pilots and the aircraft are not federally 'carded' to fly missions on federal land, so they cannot be utilized on NPS or USFWS fires.

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The NFS *Yellow Book* (link in Appendix K) contains detailed information about aerial resources, including:

- Contact information for state, federal and private agencies that have emergency suppression resources or can provide technical expertise in the suppression of wildfires
- Aerial Applicator and Foam Retardant Directory
- Deployment procedures and forms needed to order a SEAT
- Map of cooperating aerial applicators and SEAT base locations

Overhead Teams

In major wildfire situations, overhead teams can be called in to help VFDs. State assistance starts with the Wildfire Incident Response Assistance Team (WIRAT). This team is comprised of State Fire Marshals and the NFS. When an Incident Commander (IC) orders the team, the four closest members will respond and assist. This could include scouting the fire, ordering additional resources, establishing a communication plan, operations, communicating with aircraft, or reloading aircraft.

The WIRAT does not take over responsibility for the fire. Once a state disaster is declared by NEMA and the governor, a state-level All Hazard Type 3 Team can respond. At this point the fire is beyond the capabilities of the local IC. The team either takes control of the fire or shares the responsibility with the local IC. If the fire grows beyond their capabilities, then the Federal Emergency Management Agency (FEMA) and a Type 1 or 2 team become involved.

Training

The NFS, Nebraska State Fire Marshal's Office, and NEMA provide wildland fire training through classes in communities across the state as well as mutual aid schools and State Fire School attended by thousands of people each year.

In addition, the NFS sponsors the Nebraska Wildland Fire Academy, held annually in April at Fort Robinson State Park. Launched as an interagency effort by the NFS and the USFS, the Academy provides opportunities for Nebraska volunteer firefighters to attend nationally recognized wildland fire and incident management training at little or no cost, on a schedule that does not require them to be away from home more than what is already required by their volunteer efforts. It utilizes the expertise of local, state, and federal firefighters to ensure the fire training needs of Nebraska and the surrounding region are met. It also enables local volunteers to enter the national red card system and develop certifications that are recognized across the nation. In 2018, NFS expanded this effort and created the Eastern Nebraska Wildland Fire Academy. This weekend event is hosted at Ponca State Park and provides valuable wildland fire classes each November.

Classes cover a variety of topics ranging from beginning to advanced firefighting techniques, Firewise® landscaping and construction, leadership, and fire prevention education. The classes offer flexibility and can be fine-tuned to meet the needs of local fire departments. NFS delivered and sponsored 2,133 course hours in 2020. Wildland fire instructors are based in Ainsworth, Chadron, and Lincoln.

Wildcat Hills Region Community Wildfire Protection Plan

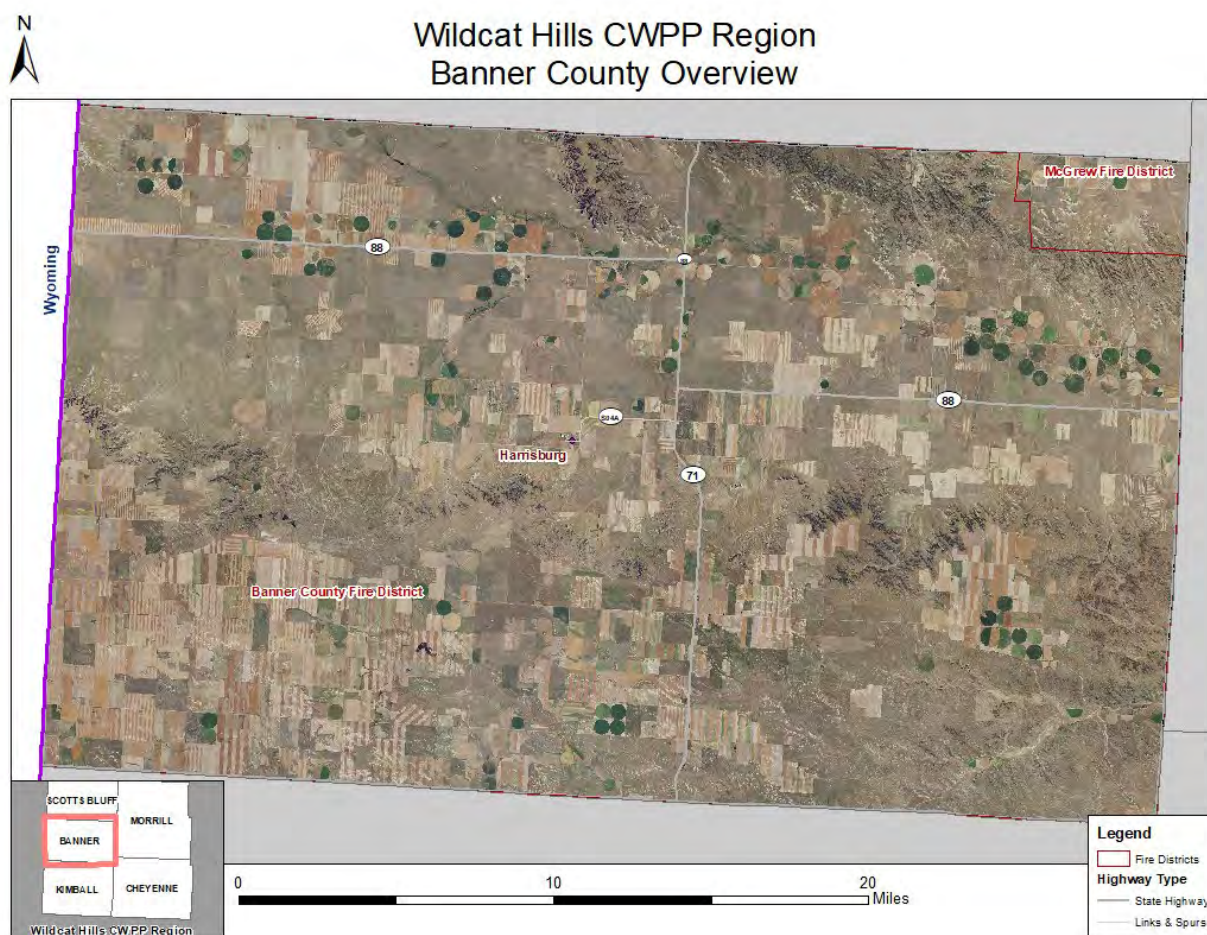
Community-Specific Considerations

Topics pertinent to the entire CWPP region appear in the previous pages. For planning purposes, each county is considered a 'community.' This part of the document contains elements specific to each county/community. Each of these sections consists of a 'Community Profile' (description, fire history, and fire hazard) and 'Infrastructure and Protection Capabilities' (FDs, emergency operations, greatest concerns listed by fire personnel, and infrastructure such as water sources, roads and bridges). The HMPs contain complete critical infrastructure lists; therefore, these community sections include only a reference to the HMPs (links in Appendix C). Critical facilities are determined based on the discretion of the jurisdiction.

Banner County

746 sq. miles

2019 population: 745



Community Profile

Banner County occupies the west central part of the CWPP region. It is bounded on the north by Scotts Bluff County, on the east by Morrill County and the northwest corner of Cheyenne County, on the south by Kimball County, and on the west by the state of Wyoming. There are no incorporated municipalities in the county. Harrisburg, the county seat, is a 'census-designated place' with a population of 88 listed for 2019.

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The primary land use in Banner County is agriculture and livestock operations. Public lands include 2,114 acres managed by the NGPC in one SRA and two WMAs, and 22,805 acres in school lands.

Vegetation zones include ponderosa pine forests and savannas north of Pumpkin Creek in the north part of the county and in a band crossing the central portion of the county from east to west. Mixed-grass and shortgrass prairie occupies most of the rest of the landscape, with a few pockets of riparian deciduous woodlands and woody wetlands along some drainages. Irrigated cropland is concentrated south of Pumpkin Creek and scattered elsewhere throughout the county. Dryland agricultural fields are concentrated in the southwestern and central portions of the county.

Fire History

Although large prairie fires were common prehistorically, from the time this area was settled by Europeans until the 1970s, wildfire activity was mostly limited to small fires which residents rapidly and effectively controlled. This allowed woody vegetation to become denser and more widespread, particularly in rugged terrain. Beginning in the last quarter of the 20th century, wildfire occurrence and intensity increased sharply in much of western Nebraska.

The Banner County Fire Department reported a total of 29 fires between 2018 and 2020, most of which burned less than 50 acres. The McGrew VFD reported 14 fires that burned a total of 111 acres between 2008 and 2020. The August 2020 Hubbard Gap fire was the largest, charring 4,000 acres in both districts.

Fire Hazard and Risk

The areas most at-risk from wildfire are near Pumpkin Creek and Lawrence Fork, where there are heavy fuels and limited access. Locations of special concern include the Wildcat Hills north of Pumpkin Creek and along Lawrence Fork, where there is a considerable amount of coniferous woodland and savanna (ponderosa pine, eastern redcedar, and Rocky Mountain juniper) that creates high fire hazard. The southeast quadrant of the county is at risk due to continuous fuels, rough terrain, and limited access. Homes and other structures in these locations are at increased risk due to these factors.

Areas of Concern are mapped in Appendix A. Agricultural lands in those portions of the county which lie outside mapped AoCs do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Banner County lies within the boundaries of the WUI as defined by the NFS in the introduction to this CWPP.

Infrastructure and Protection Capabilities

The North Platte NRD HMP includes a full geo-located critical infrastructure list (see link in Appendix C).

Fire Districts and Emergency Operations

The Banner County FD encompasses nearly the entire county, which is part of the Region 22 Emergency Management jurisdiction. About 17.5 square miles in the extreme northeast corner of the county are in the McGrew FD. See Appendix G for VFD contact information, equipment list, and response to the questionnaire.

The fire department is responsible for fire protection and assists with other emergencies in the FD. The Banner County Sheriff's department provides assistance as needed. Both the Banner County VFD and the McGrew VFD belong to the Scotts Bluff County Mutual Aid Association.

Water Sources

The only developed water system is in Harrisburg. Pumpkin Creek, Willow Creek, and Lawrence Fork may be water sources. Ponds and stock tanks are located throughout the county. During drought conditions some ponds and tanks are not dependable. Many smaller streams have only intermittent flows and are not reliable. Windmills are abundant in the county and can provide water when they are operational.

Wildcat Hills Region Community Wildfire Protection Plan

Utilities/Phone Service

Banner County is crossed by several high-tension power lines. Rural electric service is provided by Wyrulec Company out of Lingle, Wyoming (covers almost half the county); High West Energy, Inc. out of Pine Bluff, Wyoming (covers most of the rest of the county; and Chimney Rock PPD and Roosevelt PPD which serve small parts of the northeast and north central portions of the county. There is both cellular and landline telephone service available in the county. There are gaps in cell coverage in some areas.

Roads and Bridges

Banner County is served by Nebraska Highways 71 and 88. State Spur 4A connects Highway 71 with Harrisburg. These routes are augmented by a network of county-maintained roads. No specific bridge issues were noted by local officials.

Greatest Concerns

The fire departments were asked to list their greatest concerns for their districts, shown in the table below:

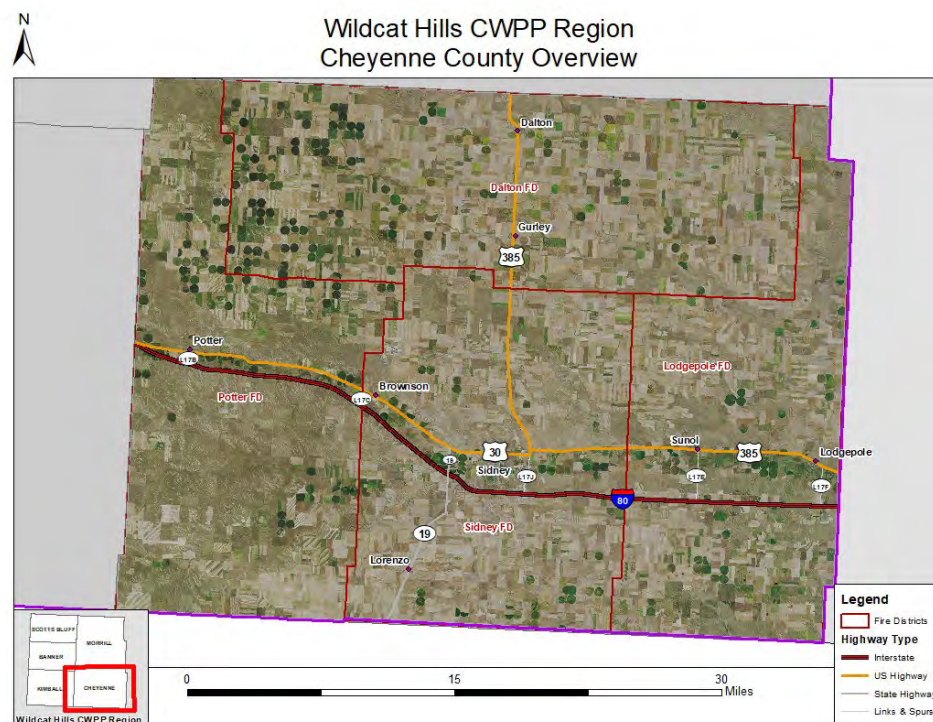
Department	Greatest Concerns
Banner Co.	Water sources
McGrew	Lack of equipment on hand

Wildcat Hills Region Community Wildfire Protection Plan

Cheyenne County

1,196 sq. miles

2019 population: 9,604



Community Profile

Cheyenne County forms the southeast corner of the CWPP region. It is bounded on the west by Kimball County and the southeast corner of Banner County, on the north by Morrill County, on the east by Deuel and Garden Counties, and on the south by the state of Colorado.

Incorporated municipalities include the county seat of Sidney (pop. 6,572), Dalton (pop. 330), Gurley (pop. 211), Lodgepole (pop. 325), and Potter (pop. 328). Interstate 80 and US Highway 30 cross the southern part of the county from west to east. US Highway 385 enters the center of the county from the north and runs south to Sidney, where it joins US 30. Several short links connect I-80 with US 30. State Highway 19 connects US 30 west of Sidney to I-80, runs south through Lorenzo, and then into Colorado.

Besides municipal lands, public lands in Cheyenne County include 38,667 acres in state school lands. The balance of the land within the county is privately owned. The primary land use is agriculture and livestock operations.

Vegetation zones are primarily a mosaic of mixed-grass and shortgrass prairie, with strips of lowland tallgrass prairie and woody wetlands along Lodgepole Creek. A small area of ponderosa pine forest and savanna is located north of US 30, east of Potter. Irrigated cropland is concentrated in the northwest quadrant of the county. Dryland agricultural fields are widespread throughout the remainder of the county.

Fire History

Although large prairie fires were common prehistorically, from the time this area was settled by Europeans until the 1970s, wildfire activity was mostly (with some notable exceptions) limited to small fires which residents rapidly and effectively controlled. This allowed woody vegetation to become denser and more widespread, particularly in rugged terrain. Beginning in the last quarter of the 20th century, wildfire occurrence and intensity increased sharply in much of western Nebraska.

Wildcat Hills Region Community Wildfire Protection Plan

Some of the larger fires reported in Cheyenne County include:

- June 2012: 8,500-acre lightning fire in the Dalton FD
- June 2012: 3,600-acre lightning fire on the Banner/Cheyenne County line
- June 1994: The 1,706-acre 'Stable' fire on the Lodgepole RFD near the Garden County line
- July 2003: 1,000-acre equipment fire in the Dalton FD

Fire Hazard

The areas most at-risk from wildfire are in the WUI surrounding municipalities and along Lodgepole Creek, where there are heavy fuels. Other locations of special concern include the region along the north county line, where there is rough terrain and difficult access. Homes and other structures in these locations are at increased risk due to these factors.

Areas of Concern are mapped in Appendix A. Agricultural lands in those portions of the county which lie outside mapped AoCs do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Cheyenne County lies within the boundaries of the WUI as defined by the NFS in the introduction to this CWPP.

Protection Capabilities and Infrastructure

The South Platte NRD HMP includes a full geo-located critical infrastructure list (see link in Appendix C).

Fire Districts and Emergency Operations

Cheyenne County is part of the Region 21 Emergency Management jurisdiction. The Dalton, Lodgepole, Potter, and Sidney RFDs are located entirely within the county. See Appendix G for their contact information, equipment lists, and responses to the VFD questionnaire. The fire departments are responsible for fire protection and assist with other emergencies in their district. The Cheyenne County Sheriff's department provides assistance as needed.

The Dalton and Lodgepole VFDs belong to the Central Panhandle mutual aid association. The Lodgepole VFD reports good working relationships with all Colorado neighboring districts. Sidney is not affiliated with a mutual aid district. The Potter VFD currently has individual mutual aid agreements with departments in Wyoming: Pine Bluffs; Colorado: Crook, and Peete; and Nebraska: Kimball, Dix, Sidney, Dalton, Lodgepole, Chappell, Big Springs, and Gurley. Planning is currently underway to create a new mutual aid association to replace the defunct Interstate MA group.

Water Sources

The only developed water systems (other than private wells) are in the municipalities. Lodgepole Creek is generally a reliable water source. Ponds and stock tanks are located throughout the county. During drought conditions many ponds are not dependable. Many smaller streams have only intermittent flows and are not reliable. Windmills are abundant in the county and can provide water when they are operational. The Dalton, Lodgepole, and Potter VFDs identified water sources/supplies as a concern.

Utilities/Phone Service

The county is crossed by several high-tension power lines. Rural electric service is provided by the Wheat Belt PPD and High West Energy, Inc. There is both cellular and landline telephone service available in the county. Cell service is spotty in some locations.

Roads and Bridges

The interstate, federal, and state highways are augmented by a network of county-maintained roads. The Lodgepole fire chief said there are some bridges along Lodgepole Creek, and also in a few other areas in the county where heavy tankers must reroute due to width and/or weight limitations.

Wildcat Hills Region Community Wildfire Protection Plan

Greatest Concerns

The fire departments were asked to list their greatest concerns for their district, responses appear in the table below:

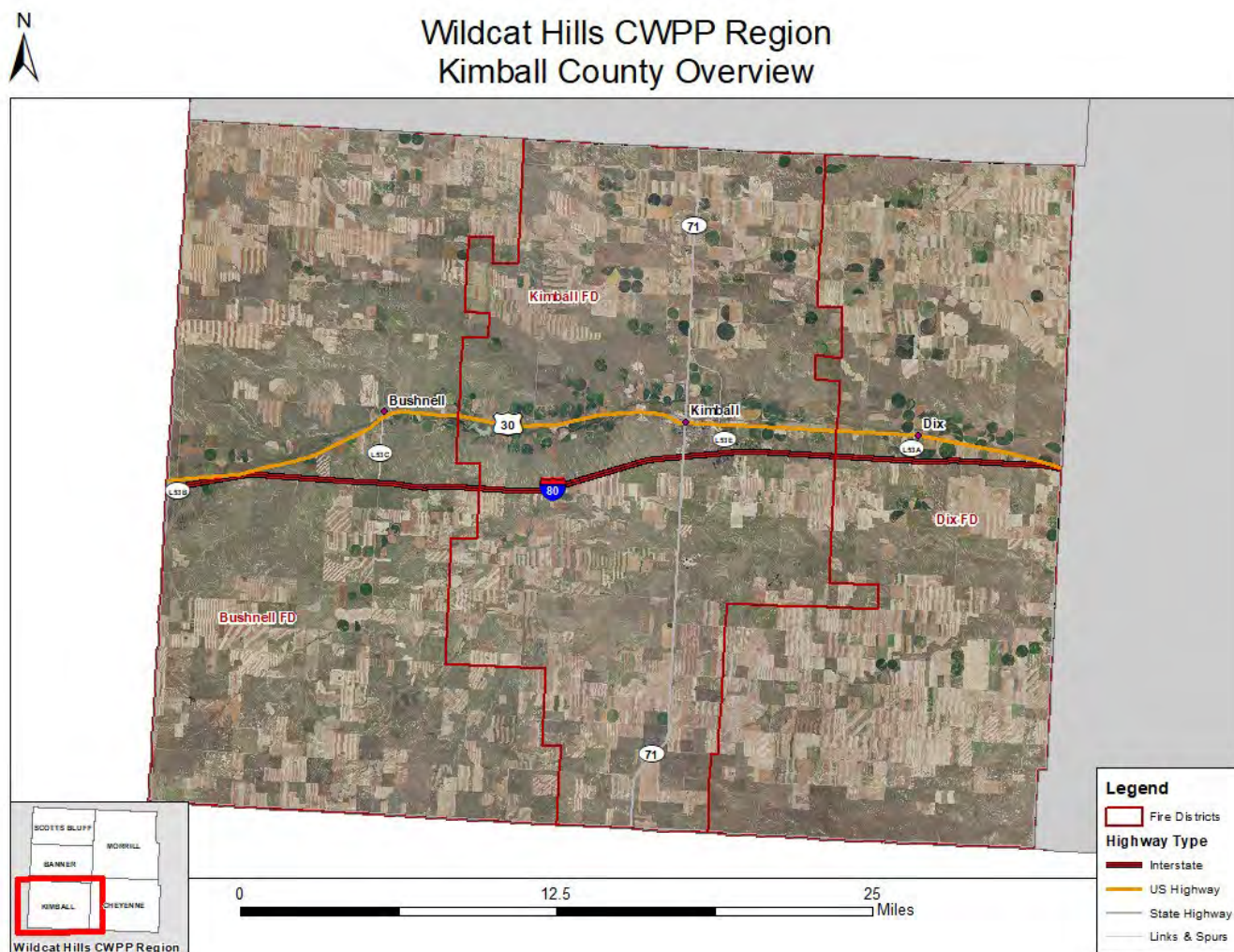
Department	Greatest Concerns
Dalton	Water sources and access
Lodgepole	Water sources
Potter	Heavy fuel loads, water supplies, available personnel, weather (winds)
Sidney	Wildland-Urban Interface

Wildcat Hills Region Community Wildfire Protection Plan

Kimball County

952 sq. miles

2019 population: 3,633



Community Profile

Kimball County occupies the southwest corner of the CWPP region. It is bounded on the north by Banner County, on the east by Cheyenne County, on the south by the state of Colorado, and on the west by the state of Wyoming. Incorporated municipalities include the county seat of Kimball (pop. 2,578), Bushnell (pop. 195), and Dix (pop. 308). There are no unincorporated communities in the county.

In addition to municipal lands, public lands include the South Platte NRD's Oliver Reservoir (935 acres) and 32,790 acres in school lands. The balance of the land within the county is privately owned. The primary land use is agriculture and livestock operations.

Vegetation zones are primarily a mosaic of mixed-grass and shortgrass prairie, with strips of lowland tallgrass prairie and woody wetlands along Lodgepole Creek. A small area of ponderosa pine forest and savanna is located south of Interstate 80, near the Wyoming border. Dryland agricultural fields are widespread throughout the county. Most of the irrigated cropland is located in the area surrounding Kimball, which is served by the Kimball and Bennett irrigation canals.

Wildcat Hills Region Community Wildfire Protection Plan

Fire History

Although large prairie fires were common prehistorically, from the time this area was settled by Europeans until the 1970s, wildfire activity was generally limited to small fires which residents rapidly and effectively controlled. One exception was a fire that started along Lodgepole Creek northwest of Dix in October 1907 and burned almost to Sidney.¹⁵ But in general, the increased fire suppression allowed woody vegetation to become denser and more widespread, particularly in rugged terrain. Beginning in the last quarter of the 20th century, wildfire occurrence and intensity increased sharply in much of western Nebraska.

Some of the larger fires reported in Kimball County include:

- May 2002: 1,500-acre power line fire in the Bushnell FD
- July 2005: 1,500-acre power line fire in the Dix FD
- December 2005: 700-acre vehicle fire in the Bushnell FD
- July 2020: 400-acre lightning fire in the Bushnell FD
- August 2006: 250-acre lightning fire in the Dix FD
- January 2002: 150-acre power line fire in the Kimball FD

Fire Hazard

The areas most at-risk from wildfire are in the WUI surrounding municipalities and along drainages with heavy fuels. Locations of special concern include the area surrounding Oliver Reservoir, where there is considerable recreation use and heavy fuels; and an area west of Dix between the railroad tracks and US Highway 30 that contains a large number of stockpiled power poles and wood shavings.

Areas of Concern are mapped in Appendix A. Agricultural lands in those portions of the county which lie outside mapped AoCs do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Kimball County lies within the boundaries of the WUI as defined by the NFS in the introduction to this CWPP.

Protection Capabilities and Infrastructure

The South Platte NRD HMP includes a full geo-located critical infrastructure list (see link in Appendix C).

Fire Districts and Emergency Operations

Kimball County is part of the Region 21 Emergency Management jurisdiction. Three VFDs are located completely within the county: Bushnell, Dix, and Kimball. See Appendix G for their contact information, equipment lists, and responses to the VFD questionnaire. The VFDs are responsible for fire protection and other emergencies in their districts. The Kimball County Sheriff's department provides assistance as needed.

The Bushnell VFD is not a member of a formal mutual aid district; the department has individual agreements with the following neighboring districts: Banner Fire, Laramie County WY #5, Kimball Fire, and New Raymer, Colorado. The Dix VFD reported a mutual aid affiliation with Region 21. The Kimball VFD is not listed on the statewide mutual aid list and did not return the survey. See Appendix F for a statewide list of MA associations.

Water Sources

The only developed water systems (other than private wells) are in the municipalities. Lodgepole Creek is generally a reliable water source. Ponds and stock tanks are located throughout the county. During drought conditions many ponds are not dependable. Many smaller streams have only intermittent flows and are not reliable. Windmills are abundant in the county and can provide water when they are operational. The Bushnell and Dix VFDs identified water sources and availability as a concern.

Wildcat Hills Region Community Wildfire Protection Plan

There are two irrigation canals along Lodgepole Creek in Kimball County. The Kimball Canal originates at Oliver Reservoir west of Kimball and extends eastward along the south side of US Highway 30, ending three miles west of Dix. The Bennett Canal runs north of US Highway 30 between Kimball and Dix.

Utilities/Phone service

Rural electric service in Kimball County is provided by High West Energy. There are both cellular and landline telephone services available in the county. Cell service is spotty in some locations.

Roads and Bridges

Kimball County is served by Interstate 80, US Highway 30, and Nebraska Highway 71. These are augmented by a network of county-maintained roads. The Dix VFD reported that a bridge on County Road 67, ½ mile north of US Highway 30 will not support equipment weight; there is a bypass on the west side of bridge.

Greatest Concerns

The fire departments were asked to list their greatest concerns for their district; responses appear in the table below:

Department	Greatest Concerns
Bushnell	Communication and manpower
Dix	The prevalence of CRP acres create fuel that, mixed with wind, can support a hard-to-control, fast-moving fire
Kimball	(Survey not returned)

Wildcat Hills Region Community Wildfire Protection Plan

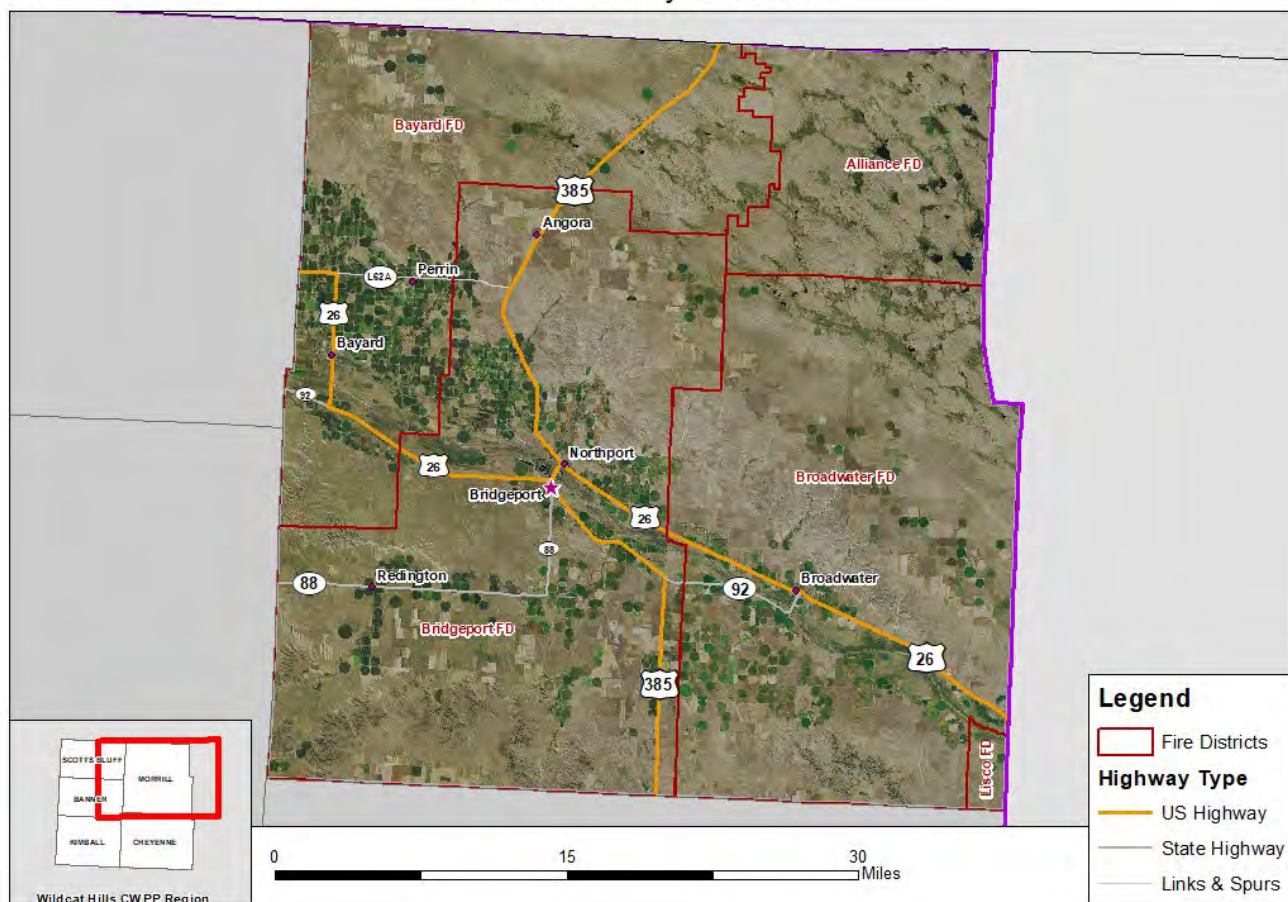
Morrill County

1,430 sq. miles

2019 population: 4,781



Wildcat Hills CWPP Region Morrill County Overview



Community Profile

Morrill County occupies the northeast corner of the CWPP region. It is bounded on the south by Cheyenne County, on the west by Banner and Scotts Bluff Counties, on the north by Box Butte County, and on the east by Garden County. Incorporated municipalities include the county seat of Bridgeport (pop. 1,686), Bayard (pop. 1,067), and Broadwater (pop. 180). Angora, Northport, Perrin, and Redington are unincorporated communities.

Besides municipal lands, public lands in Morrill County include 30,935 acres in school lands, three NGPC properties (922 acres total in two WMAs and a state recreation area), and 309 acres administered by the USFWS (part of the Crescent Lake NWR) and the BLM. The balance of the land within the county is privately owned. Ducks Unlimited, a non-profit conservation organization, manages 236 acres. The primary land use in the county is agriculture and livestock operations.

Vegetation zones are primarily a mosaic of mixed-grass, shortgrass, Sandhills borders, and Sandhills prairie, with strips of lowland tallgrass prairie, woody wetlands, and salt marsh and flats along the North Platte River. A small area of ponderosa pine forest and savanna is located in the county's southeast corner. Dryland agricultural fields are scattered throughout the central and southern parts of the county away from the North Platte River. Most

Wildcat Hills Region Community Wildfire Protection Plan

of the irrigated cropland is located north of Bayard and in areas near the North Platte River which are served by an extended network of irrigation canals and laterals.

Fire History

Although large prairie fires were common prehistorically, from the time this area was settled by Europeans until the 1970s, wildfire activity was mostly (with a few notable exceptions) limited to small fires which residents rapidly and effectively controlled. This allowed woody vegetation to become denser and more widespread, particularly in rugged terrain. Beginning in the last quarter of the 20th century, wildfire occurrence and intensity increased sharply in much of western Nebraska.

Some of the larger fires reported in Morrill County include:

- January 1989: 14,497-acre fire in the Broadwater FD
- November 1999: 6,453-acre fire in the Bayard and Alliance FDs
- July 2004: 3,500-acre lightning fire in the Bayard FD
- March 2020: 2,000-acre equipment fire in the Bayard FD
- July 2003: 1,168-acre vehicle fire in the Broadwater FD
- August 2012: 1,000-acre railroad fire in the Alliance FD
- August 2003: 1,000-acre lightning fire in the Broadwater FD
- October 2003 & September 2017: Three 1,000-acre power line fires in the Broadwater FD
- June 2007: 800-acre lightning fire in the Alliance FD
- July 2006: Two 500-acre fires in the Bridgeport FD

Fire Hazard

The areas most at-risk from wildfire are in the WUI surrounding municipalities, particularly Bridgeport, and along the North Platte River where there are heavy fuels. Locations of special concern include Chimney Rock and the Wagon Box Ranch areas in the southwest part of the county, the sandy hills in the Goodstreak-Dove Ranch region north of Bayard, and locations north of the river and in the southeast corner of the county where there is rough terrain and difficult access. Homes and other structures in these places are at increased risk due to these factors.

Areas of Concern are mapped in Appendix A. Agricultural lands in those portions of the county which lie outside mapped AoCs do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Morrill County lies within the boundaries of the WUI as defined by the NFS in the introduction to this CWPP.

Protection Capabilities and Infrastructure

The North Platte NRD HMP includes a complete critical infrastructure list for Morrill County (see Appendix C).

Fire Districts and Emergency Operations

Morrill County is part of the Region 21 Emergency Management jurisdiction. The Alliance, Bayard, Bridgeport, Broadwater, and Lisco FDs are located all or partially in the county. See Appendix G for their contact information, equipment lists, and responses to the VFD questionnaire. The fire departments are responsible for fire protection and other emergencies in their districts. The Morrill County Sheriff's department provides assistance as needed.

The Alliance Fire Department is part of the Pine Ridge and Central Panhandle Mutual Aid Districts. The Bayard, Bridgeport, and Broadwater VFDs are in the Central Panhandle MA area. Lisco is in the Southwest and Central Panhandle MA areas.

Wildcat Hills Region Community Wildfire Protection Plan

Water Sources

The only developed water systems (other than private wells) are in the municipalities. The North Platte River is generally a reliable water source. Ponds and stock tanks are located throughout the county. During drought conditions many ponds are not dependable. Many smaller streams have only intermittent flows and are not reliable. Windmills are abundant in the county and can provide water when they are operational. All of the VFDs identified water sources and availability as a concern.

There are numerous irrigation canals along the North Platte River. In Morrill County, the main canal systems on the north side of the river are the Highline, Lowline, Tri-State, Ninemile, Alliance, Browns Creek, Northport, Beerline, and Lisco. The Belmont, Empire, and Chimney Rock canals and laterals are located south of the river.

Utilities/Phone Service

Rural electric service in Morrill County is provided by Wheat Belt PPD, Chimney Rock PPD, and the Panhandle Rural Electric Membership Association. There are both cellular and landline telephone services available in the county. Cell service is spotty in some locations.

Roads and Bridges

Morrill County is served by US Highways 26 and 385, and Nebraska Highways 88 and 92. These are augmented by a network of county-maintained roads. Local officials made no mention of any specific bridge issues.

Greatest Concerns

The fire departments were asked to list their greatest concerns for their district, shown in the table below:

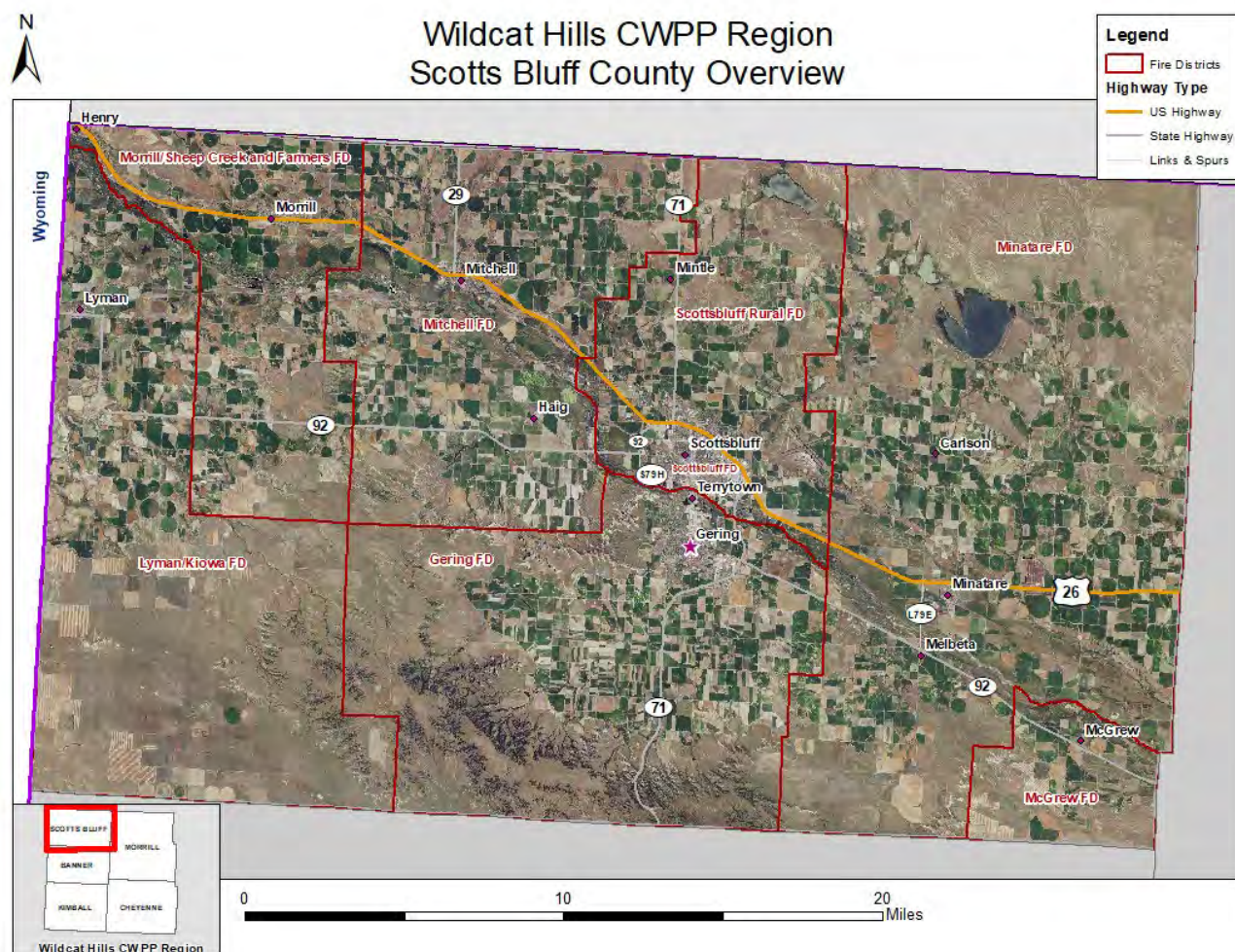
Department	Greatest Concerns
Alliance	Stopping it
Bayard	Manpower
Bridgeport	Manpower
Broadwater	(None listed)
Lisco	Getting enough mutual aid and tenders

Wildcat Hills Region Community Wildfire Protection Plan

Scotts Bluff County

745 sq. miles

2019 population: 35,618



Community Profile

Scotts Bluff County forms the northwest corner of the CWPP area. It is bounded on the north by Sioux County and the southwest corner of Box Butte County, on the east by Morrill County, on the south by Banner County, and on the west by the state of Wyoming. Incorporated municipalities include the county seat of Gering (pop. 8,254), Henry (pop. 91), Lyman (pop. 379), McGrew (pop. 102), Melbeta (pop. 144), Minatare (pop. 896), Mitchell (pop. 1,795), Morrill (pop. 758), Scottsbluff (14,737), and Terrytown (pop. 1,195). Carlson, Haig, and Mintle are unincorporated communities.

Besides municipal lands, public lands include Scotts Bluff National Monument (3,159 acres), the North Platte NWR (2,869 acres in five tracts), four BLM tracts (62 acres total), 8,571 acres in nine NGPC properties (six WMAs, two SRAs, and a fish hatchery), and 8,136 acres in school lands. The balance of the land within the county is privately owned. Approximately 23,838 acres are managed by non-profit, NGO conservation groups: the PRBE, TNC, and Ducks Unlimited.

Although the primary land use is agriculture and livestock operations, recreation on both public and privately-owned property is substantial. The federal and state recreation areas attract many visitors annually.

Wildcat Hills Region Community Wildfire Protection Plan

Vegetation zones are primarily a mosaic of mixed-grass, shortgrass, Sandhills borders, and Sandhills prairie, with strips of lowland tallgrass prairie, riparian deciduous forest, woody wetlands, and salt marsh and flats along the North Platte River. Ponderosa pine forest and savanna is found in the Wildcat Hills, particularly west and south of Gering and Scottsbluff, as well as in the south-central part of the county. Dryland agricultural fields are concentrated in the southwest quadrant of the county. Most of the irrigated cropland is located along the North Platte River and served by an extended network of irrigation canals and laterals.

Fire History

Although large prairie fires were common prehistorically, from the time this area was settled by Europeans until the 1970s, wildfire activity was mostly limited to small fires which residents rapidly and effectively controlled. This allowed woody vegetation to become denser and more widespread, particularly in rugged terrain. Beginning in the last quarter of the 20th century, wildfire occurrence and intensity increased sharply in much of western Nebraska.

Some of the larger fires reported in Scotts Bluff County include:

- July 2000: 65,000-acre lightning-caused 'Snake Creek' Fire in the Minatare FD
- August 2001: 7,000-acre lightning fire in the Mitchell FD
- July 2002: 3,000-acre power line fire in the Minatare FD
- May 2012: 3,000-acre equipment fire in the Mitchell FD
- July 2006: 1,500-acre fire in the Scottsbluff Rural FD
- July 2006: 1,200-acre lightning fire in the Minatare FD
- July 2000: 1,000-acre lightning fire in the Morrill FD
- August 2018: 1,000-acre railroad fire in the Morrill FD
- August 2001: 800-acre lightning fire in the Morrill FD

Fire Hazard

The areas most at-risk from wildfire are in the WUI surrounding municipalities, particularly Gering and Scottsbluff; the Wildcat Hills; and along the North Platte River where there are heavy fuels. Locations of special concern include the South Bluff area of Scotts Bluff National Monument; the Wildcat Hills from Robidoux Pass Rd. and Carter Canyon, east through the Wildcat Hills Estates subdivision, past Wright's Gap and southeast to Williams Gap south of McGrew and into Banner County; Sheep Creek and northwest into Sioux County to the Wyoming line; and the Lake Minatare area including the sandy hills to the north of it, extending into Sioux County, where there is rough terrain and difficult access. Homes and other structures in these places are at increased risk due to those factors.

Areas of Concern are mapped in Appendix A. Agricultural lands in those portions of the county which lie outside mapped AoCs do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Scotts Bluff County lies within the boundaries of the WUI as defined by the NFS in the introduction to this CWPP.

Protection Capabilities and Infrastructure

The North Platte NRD HMP includes a complete critical infrastructure list for Scotts Bluff County (see link in Appendix C).

Fire Districts and Emergency Operations

Scotts Bluff County is part of the Region 22 Emergency Management jurisdiction. The Gering and Kiowa/Lyman FDs are located entirely within the county. The Minatare, Mitchell, Morrill (Sheep Creek & Farmers), and Scottsbluff Rural FDs are located partially within the county and extend into Sioux County. The McGrew FD extends into Banner County. See Appendix G for their contact information, equipment lists, and responses to

Wildcat Hills Region Community Wildfire Protection Plan

the VFD questionnaire. The fire departments are responsible for fire protection and other emergencies in their districts. The Scotts Bluff County Sheriff's department provides assistance as needed.

All of the fire departments belong to the Scotts Bluff County MA Association. Scotts Bluff National Monument has a MA agreement with the Gering Fire Department.

Water Sources

The only developed water systems (other than private wells) are in the municipalities. The North Platte River is generally a reliable water source. Ponds and stock tanks are located throughout the county. During drought conditions many ponds are not dependable. Many smaller streams have only intermittent flows and are not reliable. Windmills are abundant in the county and can provide water when they are operational. Most of the VFDs identified water sources and availability as a concern.

There are numerous irrigation canals along the North Platte River. In Scotts Bluff County, the main canal systems on the north side of the river are the Ramshorn, Enterprise, Winters Creek, Minatare, Tri-State, Lowline, Highline, Ranger, and Ninemile. The Mitchell and Gering, Fort Laramie, Gering, Central, and Castle Rock canals and laterals are located south of the river.

Utilities/Phone Service

Rural electric service is provided by Scotts Bluff PPD, Chimney Rock PPD and, in the extreme southwest corner of the county, the Wyrulec Company. There are both cellular and landline telephone services available in the county. Cell service is spotty in some locations.

Roads and Bridges

Scotts Bluff County is served by US Highway 26 and Nebraska Highways 29, 71, and 92. These are augmented by a network of county-maintained roads. The Minatare VFD noted that their district contains private wooden bridges with little maintenance that will not support equipment weight. The Morrill/Sheep Creek and Farmers Volunteer Fire and Rescue stated that there are bridges in their identified areas of concern that will not support equipment weight. The Kiowa/Lyman and Mitchell VFDs reported that there are bridges in their district that will not support equipment weight but did not list locations.

Greatest Concerns

The fire departments and Scotts Bluff National Monument staff were asked to list their greatest concerns for their districts, shown in the table below:

Department	Greatest Concerns
Gering	Limited water, communications, overgrowth of fuels, limited access to WUI areas within the Wildcat Hills
Kiowa/Lyman	(none indicated)
McGrew	Lack of equipment on hand
Minatare	Personnel and lack of communication (15 different radio frequencies and lack of radios)
Mitchell	(none indicated)
Morrill	Communication with other departments; Good routes to take to the fire
Scottsbluff Rural	Protection of lives and property; water resources; mutual aid
Scotts Bluff National Monument	Fire starting in an inaccessible area and moving quickly off park onto private land with structures threatened.

Wildcat Hills Region Community Wildfire Protection Plan

Action Plan

This section of the CWPP addresses risk assessment, fire risk rating, treatment of structural ignitability, prioritization, and risk reduction, and it recommends a plan of action for increasing emergency preparedness. The action plan includes wildfire risk reduction strategies, recommendations for increasing emergency preparedness, fuels mitigation practices, training, education, and maintenance. The final part of this section outlines a monitoring and evaluation process that can be used to track progress and periodically update the plan.

Establish and Implement a Risk Assessment Procedure

Risk assessment is a systematic process for identifying and assessing the range of elements that could lead to undesirable outcomes for a specific situation. Quantitative risk assessment requires calculations of the two primary components of risk: the magnitude of the potential loss and the probability that the loss will occur. For the WUI, a risk assessment is a step that identifies any feature/element of the landscape and structures that could create potential harm to a homeowner or community.¹⁶

It is important to understand the meaning of risk and hazard in relation to wildfire as it pertains to this CWPP.

Risk is the chance or probability of occurrence of fire. **Hazard** is the exposure to risk; in a wildfire situation, those hazards can be related to either the natural or the human-made environment. Natural hazards include fuels (type and quantity), topography, and weather. Human-made hazards include the limited availability of water, limited access to structures, limited green space around structures, and the ignitability of structures. The capability of firefighting resources will be compromised by the severity of both natural and human-made hazards.¹⁷

An assessment includes a review of the area's fire history, fuels/vegetation rating, topographic hazard analysis, weather hazard potential, access, water availability, defensible space, and structural ignitability. The Overview section of this plan contains information about the area's fire history, climate, weather, fuels/vegetation, and topography. Individual county sections provide details on water sources and access issues. Local fire department equipment lists appear in Appendix G. Defensible space and structural ignitability are addressed in this section of the plan.

Several risk assessment tools are available to help communities and individuals understand, explore, and reduce wildfire risk. The USFS's [Wildfire Risk to Communities](#) website is designed to help community leaders, such as elected officials, community planners, and fire managers. This is the first time that wildfire risk to communities has been mapped nationwide. Headwaters Economics provides another national-scale tool that allows users to run a custom [Wildfire Risk Report](#). On a more local level, the NFS has developed the [Nebraska Wildfire Risk Explorer](#) website to provide wildfire-related resources to Nebraskans. The site includes risk assessment tools, property owner resources, and weather data to homeowners, landowners, natural resources and fire professionals, and community planners.

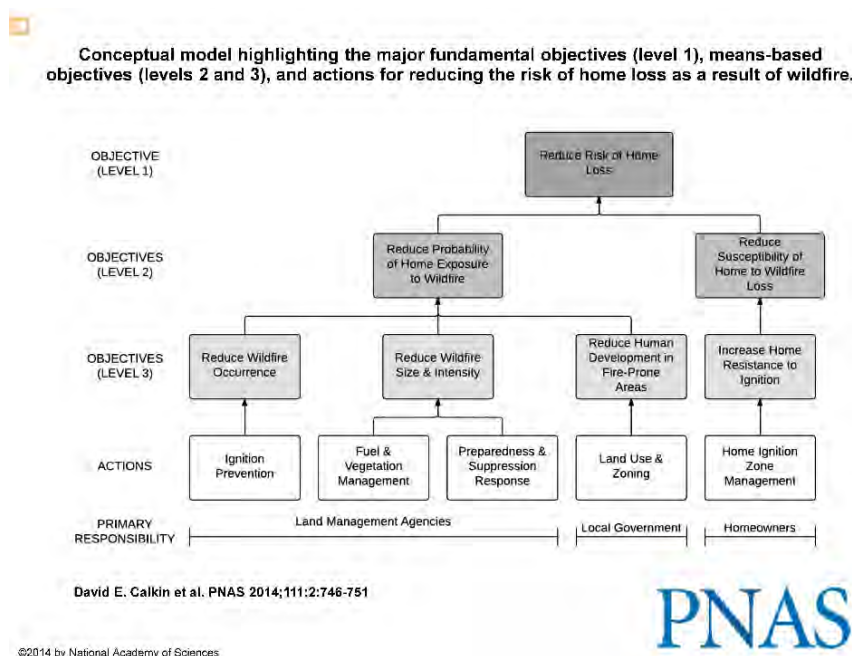
Further information on risk assessment is available in a USFS Rocky Mountain Research Station technical report, which describes a specific risk assessment process premised on three modeling approaches to characterize wildfire likelihood and intensity, fire effects, and the relative importance of highly valued resources and assets that could be impacted by wildfire.¹⁸

Fire Risk Rating and Ignitability

Homes in both forested and non-forested settings can be at risk from wildfires. Quantitative structure risk ratings can be handled under location-specific plans for incorporated communities. Major components of structural ignitability include roofing materials, walls, windows, and wooden attachments. Most of the CWPP region is rural/agricultural with widely spaced home locations. There is an opportunity to perform structural risk and ignitability analysis and treatment activities at rural residential and recreational home sites at the same time fuels mitigation work is being conducted in these areas.

Wildcat Hills Region Community Wildfire Protection Plan

Overcoming perceptions of WUI fire disasters as a wildfire control problem rather than a home ignition problem, determined by home ignition conditions, will reduce home loss. The following graphic illustrates the dual-pronged objectives of reducing the risk of home loss by both reducing the probability of exposure to wildfire AND reducing susceptibility to wildfire loss.¹⁹



Prioritization

The community sections in this document describe the WUI focus areas within each county. These can be further prioritized based on data gathered during risk assessment for individual neighborhoods. The coniferous forests of the Wildcat Hills and the eastern redcedar-encroached deciduous woodlands along the North Platte River and some tributaries have high priority for hazardous woody fuels reduction, as do areas with recreational developments and rural residential subdivisions, such as the Wildcat Estates near Gering. Further assessments may identify additional priority areas.

Appendix A contains an 'Areas of Concern' map depicting the parts of each county considered to be at the highest risk from wildfire. The locations were identified by local fire officials and the steering committee. These include interface areas with neighborhoods directly adjacent to open spaces, intermix areas where homes are interspersed with natural fuels, and occluded interface areas where neighborhoods are isolated or surrounded by areas of natural fuels.²⁰

As defined in this CWPP, all of the population centers, unincorporated residential developments, and dispersed recreational developments in the CWPP region have high priority for fuels treatment and Firewise® preparation. The regional HMPs identify the planning area as being 100 percent at risk of wildfire; some fires can be expected to exceed 100 acres in size. The HMPs address this as an issue that can be prioritized. Several community participants in these HMPs identified wildfire as a priority and/or identified and prioritized mitigation actions they can undertake to address wildfire issues.

Wildfire Risk Reduction

The goal of risk reduction is to reduce the potential loss to life and property. Understanding that wildfire is inevitable can help communities prepare for wildfires. Fire-adapted communities are knowledgeable, engaged

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communities where actions of residents and agencies in relation to infrastructure, buildings, landscaping, and the surrounding ecosystem lessen the need for extensive protection actions. This enables the community to safely accept fire as part of the surrounding landscape. A successful fire-adapted community approach has the potential to save lives, homes and communities, and millions of dollars in suppression costs annually.

There is a range of actions communities can undertake to become more adapted to fire. In general, the more elements that a community has addressed, the more fire-adapted the community will become. Major elements of a fire-adapted community include vegetation management, ignition-resistant homes, increasing local responders' understanding of wildfire, cooperation between jurisdictional authorities, and fuels treatments on both private and public lands to reduce hazardous fuels and create fuels buffers.

Homeowners may undertake mitigation measures that can decrease the potential destructive effects a wildfire might have on their property. Some measures are designed to modify the vegetative environment surrounding a structure to decrease potential ignition sources. Others focus on modifying a structure (or changing its location) to make the building more resistant to ignition. To reduce the risk for the long term, actions need to be maintained over time.¹⁶

Common Practices

- Actively managing vegetation near the home by reducing density, conducting landscaping maintenance, and replacing flammable vegetation with ignition-resistant components. Greater efforts are needed within close proximity of the structure and gradually decreasing efforts beyond that.
- Maintaining structures free of needles, leaves, and other organic debris from decks, roofs, and near the base of exterior walls.
- Increasing ignition resistance of structures by actions such as using ignition-resistant roofing and covering exterior openings of structures, such as attic vents, eaves, soffits, and crawl spaces, with non-flammable wire mesh screening.
- Removing flammable materials from beneath structures and decks.
- Locating firewood, fuel tanks, and propane tanks at a safe distance from structures.

Refer to Appendix J for an expanded list of common practices and a listing of several programs, such as Firewise® and Ready Set Go!, available to help homeowners and communities reduce wildfire risks.

Other Wildfire Mitigation Practices

Additional wildfire-related mitigation practices are listed below. Some entities have implemented one or more of these. Planners may want to periodically review and implement or expand on them, as appropriate.

- Acquire training and equipment for local fire departments
- Implement woody fuels reduction and defensible space projects
- Establish or expand wildfire prevention and education programs
- Participate in the Firewise® program
- Adopt a wildfire hazard identification and mitigation system (see Appendix J)
- Conduct maintenance to reduce risk (tree care and public landscape maintenance programs)
- Reduce risk through land use planning (landscaping and building ordinances)
- Require or encourage fire-resistant construction (the use of non-combustible materials)
- Incorporate wildfire mitigation into comprehensive planning
- Develop a wildland-urban interface code

Although funding limitations affect any jurisdiction's ability to implement some of these practices, identifying them as critical needs helps prioritize them for funding assistance opportunities such as the NFS fire equipment program described earlier in this plan.

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Wildfire-Related Mitigation Practices Identified in local HMPs by Area Participants

The regional HMPs include lists of current and completed mitigation projects for participating communities. In addition to those practices listed above, the HMPs also identified the following mitigation practices:

- Expand water storage capacity/emergency water supplies/dry hydrants
- Upgrade rural water systems; improve well and water systems
- Civil service improvements (new fire resources)
- Map and assess vulnerability to wildfire
- Banning 'burn barrels'
- Retrofit at-risk structures with ignition-resistant materials (i.e., installing wall components that conform to ignition resistant construction standards)

In the 2016 North Platte NRD HMP, the Village of Broadwater stated that they would like to work to become a Firewise® Community. The Village of Henry identified hazardous fuels reduction as a completed mitigation action. The Villages of Henry and Lyman identified obtaining newer fire vehicles/equipment as a priority.

In the 2017 South Platte NRD HMP, Cheyenne County listed topography in some areas as its top wildfire-related concern. The Village of Gurley listed fire suppression concerns during droughts as an issue. The Village of Lodgepole listed as a high priority water system improvements and additional hydrants to increase water supply and pressure for fire response. They also listed a priority to develop a wildfire education program to inform citizens of actions they can take to reduce their vulnerability. The Village of Potter listed completing a CWPP and becoming a Firewise® Community as mitigations to reduce wildfire risk. They also prioritized participating in the NFS Wildland Fire Protection Program for training, equipment, pre-suppression planning, prevention, and aerial fire suppression as a high priority mitigation. The Sidney Fire Department identified improvement of water storage capabilities and adding fire hydrants as priority mitigations to address wildfire concerns.

The requirements and procedures to become recognized as a Firewise® Community require coordination among homeowners. However, when landowners implement fuels reduction treatments using NFS cost share programs, or if a landowner asks for suggestions, NFS adheres to accepted Firewise® standards. Many homeowners who do not reside within an officially designated Firewise® Community have utilized those standards. NFS staff is available to help homeowners in areas at-risk from wildfire to establish formal Firewise® Communities.

Recommendations for Increasing Emergency Preparedness

Communication

Having and using a comprehensive communications plan is integral to maintaining smooth operations. Many jurisdictions in Nebraska have identified communications as a major issue when working under a mutual aid scenario. Various responders have different communications hardware, and often these are incompatible with one another. This is more than just a nuisance. Communication is vital to responder safety and to coordinating an effective response to wildfire. It is recommended that all entities in the region establish, review, and regularly update their local communications plans.

Coordination

Coordination among responders is crucial in any emergency response situation. Local emergency managers must be able to tie in their responses with neighboring and outside assisting jurisdictions. VFD leaders and officials in the Wildcat Hills CWPP Region already do a great deal of coordinating and cooperating with local, state, and federal natural resources agencies. The following opportunities have been identified to address common issues and concerns:

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- 1) To protect firefighters, property owners, and structures, consider developing county-level standards for buildings in WUI areas.
- 2) Encourage communities to utilize the national Firewise® Communities program to decrease risk in areas of concern.
- 3) Engage agency and conservation organization partners to expand WUI fuels reduction and thinning on a landscape basis through the use of NFS and other cost share programs.
- 4) Work with the NFS and other partners to implement a CWPP region-wide public education and awareness program to improve wildfire hazard conditions within the WUI.
- 5) Encourage VFDs in the CWPP region to continue to participate with the other agencies to facilitate interagency wildland fire training.
- 6) Cooperate with other agencies and property owners to develop long-term multi-unit, multi-year fuel hazard reduction projects, including prescribed burning.
- 7) Facilitate VFD monitoring of the federal wildland fire weather system indices. Currently the NFS SEAT Manager sends lightning maps and fuel conditions reports to VFDs when conditions are conducive to rapid fire growth.
- 8) Create a statewide 'Mutual Aid Guide' that can be carried in each engine, including the engines operated by the federal and state agencies. This document would show what equipment each department, county, or agency has. A fire chief could then consult the guide to see what each department has and could order it for their fire, if needed.
- 9) Ensure quick notification and involvement process for assessment and assistance on fires, when needed (i.e., Wildfire Incident Response Assistance Team, Type 3 Team, FEMA and Type 1 or 2 teams).

Aerial Support

It is critical to maintain the SEAT program authorized through the Wildfire Control Act of 2013. Having a SEAT dedicated strictly to wildfire suppression during peak fire season provides quick initial attack on small fires, particularly those in difficult terrain, keeping them from growing into large catastrophic wildfires. The NFS Seat Manager at Chadron has made the following recommendations:

- 1) Additional SEAT Managers throughout the state would increase response times. Currently there are four qualified managers; more would increase program capabilities.
- 2) Increase the number of aerial applicators who cooperate with NFS and NEMA to provide aerial fire suppression to requesting fire departments within the CWPP region. Currently the region has only two applicators because there are not as many agricultural fields or spraying operations as in other parts of the state. This limits available options during wildfires.
- 3) Sustain or increase the current level of cooperation with adjacent states and their aviation resources. Maintain clear paths of communication to ensure that neighboring jurisdictions are aware of available resources, times of planned contracted aviation availability, and enable the sharing of resources across state borders, when needed. Facilitate sharing managers and help trainees become qualified. Cooperation in sharing information, personnel, and resources will benefit all in creating effective operations.

Maps and Data

Restricted Roads and Bridges: Some county roads and bridges have weight or width limitations, or both, that may inhibit use by emergency vehicles. Planners are urged to work with counties and fire departments to identify and map all roads and bridges, specifically identifying those that are restricted. Making this data available to fire departments and other emergency responders would facilitate route planning. This could also be used to help prioritize fuel treatment areas. Since road conditions constantly change, this information should be monitored locally and updated as needed.

Incident Command Staging Areas: These have been identified as an issue in some parts of Nebraska. Local planners can address this by pre-identifying potential staging locations near areas of wildfire concern such as

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recreation areas and rural subdivisions. Staging areas must be far enough away from a fire to reduce congestion and confusion for incident managers, yet close enough to efficiently provide resources. When a resource is needed, it is deployed from the staging area, with a controlled entry into the hazard zone. Staging areas need to be of sufficient size to accommodate multiple fire crews, engines, tankers, support vehicles, and equipment storage. Sites should have good access, water and power availability, and be able to accommodate communications needs. The information gathered for potential staging areas can be provided to emergency managers, fire chiefs, and others to help them decide where to establish a staging area for a particular incident.

Equipment: Non-fire equipment has proven useful in many wildfire situations. Counties may want to consider adding an inventory of non-fire department resources (such as county road graders) to a centralized document.

Geographic Information Systems (GIS): Within the Wildcat Hills CWPP region, the Bayard and Potter Fire Departments reported that they have hydrant mapping on their 'I Am Responding' software. The City of Bayard has infrastructure maps. According to the Gering, Morrill, Mitchell, and Scottsbluff municipal fire departments, Scotts Bluff County has GIS capabilities.

Counties that do not already have this information may want to look into acquiring GIS layers for hydrants, well points, water mains, sewer, housing, infrastructure, and bridge limits. Other map data that can be useful, especially in a format that can be easily accessed by hand-held devices, includes types and locations of pipelines and pumping stations; power substations; power lines, towers and antennas for air resources to avoid; flammable material storage areas; and overhead water refill access points. Global Positioning System (GPS) locations of stock tanks and other water sources on public lands could be provided to emergency responders.

Other: Counties can use technology to provide early detection systems and real-time fire weather information by retrofitting units and establishing new ones to complete the existing network.

Increase Fire Response Reporting for Increased Equipment Availability

Comprehensive fire reporting helps VFDs demonstrate a need for fire equipment such as provided by the FEPP, FFP/State Fire Assistance, and Volunteer Firefighter Assistance programs described earlier in this document. Since reporting is voluntary, not all VFDs consistently report their wildfire responses to the NFS. Because of this, limited information is available about the locations and sizes of historic wildfires within the CWPP counties. There is a risk that incomplete reporting could imply that there is no pressing need for this type of equipment, which could potentially put the status of these programs in jeopardy. As an incentive for participation, only fire departments that report their responses are eligible to apply for this equipment.

Increased reporting would provide data to geographically focus grant assistance on those areas most prone to wildfire. The NFS has a database already in place that can easily be used to help with this. Planners and fire departments are urged to work together to gather and report wildfire data to assist fuels mitigation efforts and increase funding opportunities for fire equipment. Departments can report their wildfire responses online. From the NFS home page, www.nfs.unl.edu, go to Programs, Wildland Fire, and navigate to the fire reporting tab. Follow the login instructions the NFS provided to your department (or email to request instructions, trees@unl.edu), then follow the prompts to create the report. Although reporting has increased recently, VFDs are urged to continue stepping up this effort.

WUI Protection

Prepared communities reduce hazards, protect homes, and increase firefighter safety. Homeowners in WUI areas should be encouraged to establish and expand Firewise® Communities, Fire-Adapted Communities, and Ready, Set, Go! programs across the region. In a wildfire situation, responders often must quickly decide which homes have the best chance of being saved so they can focus their efforts on them. Some Nebraska fire departments have developed 'triage' documents to help firefighters quickly assess these homes and

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neighborhoods. Consider implementing this practice in the CWPP AoCs. Preparation by property owners prior to a wildfire can contribute to firefighter safety and help them protect structures. See Appendix J.

Work with counties and municipalities to evaluate one-way-in/one-way-out subdivisions for potential addition of alternate ingress/egress routes. Estimate costs and identify potential grants or other financial assistance to address these issues.

County zoning plans can be strengthened to include provisions to limit new construction in areas such as canyon rims that are at high risk from wildfire. Counties may want to consider both the monetary costs to taxpayers and the danger to fire department personnel responding to wildfires in these areas. At the very least, setbacks from the canyon rims, adequate emergency access, and specific Firewise® practices should be considered for implementation in the areas at highest risk. Communities across the planning area can adopt more stringent building codes which may include regulations and requirements to reduce wildfire risk for residents and structures.

Firebreaks and Fuelbreaks

Strategically placed fuelbreaks and firebreaks in the areas most at-risk from wildfire can give firefighters an edge when protecting WUI areas. These two terms are often confused, but it is important to understand the difference.

A fuelbreak, or shaded fuelbreak, is an easily accessible strip of land of varying width (depending on fuel type and terrain), in which fuel density is reduced, thus improving fire control opportunities. The forest is thinned, and remaining trees are pruned to remove ladder fuels. Brush, heavy ground fuels, snags, and dead trees are disposed of, leaving an open, park-like appearance.²¹ Fuelbreaks are commonly used to surround a community and slow the spread of a wildfire. Decreasing the fuel load significantly reduces the risk of extreme fire behavior.²²

Fuelbreaks provide quick access for wildfire suppression. Control activities can be conducted more safely due to low fuel volumes. Strategically located, they break up large, continuous tracts of dense trees, thus limiting uncontrolled spread of wildfire. This can aid firefighters greatly by slowing fire spread under normal burning conditions. However, under extreme conditions, even the best fuelbreaks stand little chance of arresting a large fire, regardless of firefighting efforts. Such fires, in a phenomenon called ‘spotting,’ can drop firebrands ½ mile or more ahead of the main fire, causing the fire to spread rapidly. These types of large fires may continue until there is a major change in weather conditions, topography, or fuel type.²¹

Generally narrower than a fuelbreak, a firebreak is a strip of land, 20 to 30 feet wide (or more), in which all vegetation is removed down to bare, mineral soil each year prior to fire season.²¹ A firebreak is a discontinuity in vegetation. It may be a gravel road, a river, or a dozer line. A ‘green firebreak’ uses grasses with high moisture content, such as winter rye or winter wheat, to provide a break in the continuity of the fuel. A firebreak, if it is wide enough, will stop the spread of direct flame. However, embers can still be lofted into the air and travel across the line.²²

It is critical to understand that both fuelbreaks and firebreaks are lines of defense. Homes and developments between the break and the fire may remain vulnerable.²²

Communities are encouraged to identify the best locations for vegetation breaks to protect the WUI. Fuelbreaks are most effective when placed along an existing firebreak such as a road. Choosing a site along a road also allows easy access for equipment.

There are multiple methods of creating breaks, including mechanical, mulching, herbicide, grazing, prescribed fire, and dozer lines. Each treatment has pros and cons, and some may be better suited to a particular site than

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others. When choosing a method, consider topography, potential for erosion and other environmental effects, access, aesthetics, and costs.

Fuelbreaks and firebreaks are most effective when they are regularly maintained. Dead vegetation and re-sprouting trees should be removed during maintenance.

Training and Education

Firefighter Training

All VFDs are encouraged to participate fully in wildland training opportunities provided through the NFS, the State Fire Marshal's office, and NEMA. Many of the fire departments in the CWPP region are annual participants in the Nebraska Wildland Fire Academy held at Fort Robinson State Park near Crawford. A complete description of this is in the training overview earlier in this document. Those departments that do not currently participate can be encouraged to do so.

Although not all VFDs have mandatory fitness requirements, local departments can be encouraged to participate, both for safety and to lower insurance costs.

Educational Opportunities for Property Owners and the Public

The Firewise® and Ready Set Go! programs offer excellent guidelines for reducing the loss from wildfire for both in-town and rural structures. The NFS 'Living with Fire' publications, for both prairie and woodland areas, are also valuable educational tools for property owners. Fire extinguisher inspections and operation training can be offered as part of Firewise® events that participating communities hold annually. Involving local communities in these voluntary programs increases public awareness regarding structure risk mitigation (see Appendix J).

When issuing building permits, county and municipal offices can distribute literature that includes recommended or required setbacks from canyon rims, lists of fire-resistant building materials, and fire-savvy landscaping suggestions. Service groups such as Rotary and Lions, and youth groups such as FFA, also may present opportunities for getting out wildfire planning information.

Fuels Mitigation Strategies

There are several approaches to reducing wildfire hazard through fuels management. In addition to active participation by property owners in the structural protection programs described above, practices such as prescribed grazing, prescribed fire, and mechanical fuels reduction can work together to provide protection over large areas containing a diversity of terrain and vegetative cover.

Prescribed Grazing

Grazing keeps fine fuels such as grasses in check. But overgrazed pastures are problematic for range and livestock health, as well as for wildlife. Landowners can work with range and wildlife management professionals to develop grazing plans that will benefit livestock while protecting grasslands and wildlife and managing fine fuels to reduce wildfire hazard.

The NRCS and the University of Nebraska's Institute of Agriculture and Natural Resources have specialists available to help landowners develop grazing systems that will address these concerns.

The Platte River Basin Environments staff stated that they would like the NGPC to graze the WMAs to help keep the fuel loads down. "Much of the lands that PRBE owns, and other lands that we manage, border their WMAs. The grazing income would be helpful to do capital improvements on these properties or to do other projects that would benefit the general public."

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Prescribed Fire

Several federal and state agencies, non-profit organizations, and private landowners use prescribed fire as a land management tool. Prescribed fire can be extremely efficient for keeping eastern redcedar encroachment in check on grasslands. In forested settings, prescribed fire is more effective and safer when used to maintain dense woodlands after they have been mechanically thinned. When tree densities are reduced prior to burning, it is easier to keep the fire on the ground, where it cleans up downed woody fuels without harming many live trees. Crown fires are difficult to control, and they kill healthy trees.

One objective for many of these burns is to reduce heavy fuel loads. Land managers in the CWPP region plan multiple prescribed fires of varying size each year, but weather and resources to conduct the burns impact how many they complete. Some VFDs have assisted with these efforts by sharing people and equipment to help with the burns, when agency or organizational regulations permit. It is recommended that VFDs continue with these cooperative efforts, as well as continuing to participate in the training available to help them do this safely and effectively.

Mechanical Fuels Reduction in High-Risk Wooded Settings

Many high-risk forested settings within the CWPP boundary are found in wooded recreation sites, rural residential neighborhoods, and forested and shrubby lands adjacent to population centers. In recreational and 'second home' residential areas there are added hazards of seasonal congestion, limited or difficult access, and structures adjacent to highly flammable conifers. Mechanical thinning will decrease tree density to healthy levels while reducing wildfire hazard.

There are two major types of high-risk wooded settings: dense, overgrown forests and areas with high tree mortality from wildfire, insects, and/or disease. This high mortality is nearly always a result of the dense, overgrown conditions that make woodlands more susceptible to pests and wildfire.

In live forests, mechanical thinning will decrease ponderosa pine density to healthy levels, and it will reduce eastern redcedar encroachment in both pine and deciduous forests. However, slash (unusable limbs and treetops left after thinning or logging) can present a fire hazard. Both old, decaying slash piles remaining from earlier timber harvests and slash residues from recent fuels reduction treatments constitute a fire hazard. Disposing of them by either burning during appropriate winter conditions or chipping on-site are acceptable means to mitigate this threat. Chips can help reduce soil erosion in disturbed areas. The chips should be spread, not piled, to allow vegetation to become established in these areas. Piles of chips not only prevent or delay revegetation; they can also be a source of spontaneous combustion.

In forests that have experienced high tree mortality, standing or downed dead trees can potentially provide large-diameter fuels for a wildfire. Responders should remain alert to the presence of these fuels. Where economically feasible, these sites should receive fuels mitigation treatment. It is extremely important to protect live 'green islands' within burned or insect/disease tree mortality areas from future high-intensity fires because these live trees provide seed sources for forest regeneration.

Because mechanical fuels reduction can be expensive, several agencies and organizations offer cost-share assistance to landowners. These programs are described in the overview section of this plan. It is recommended that private and state forest landowners continue to utilize these resources to maximize the acreage they treat for hazardous woody fuels.

Utilization of wood products generated by these treatments has the potential to offset fuels treatment costs. However, presently there is little local commercial market for this material. Researchers are currently working with the NFS and others to encourage markets for biomass and other wood products.

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Fuels Reduction in High-Risk Non-Forested Settings

Fuels management works best when it is conducted on a landscape basis. In addition to reducing woody fuels in forests, it is also important to manage the grass component on both wooded areas and grasslands. Well-planned grazing and prescribed fire can significantly reduce wildfire risk. Fuels treatments are only as effective as their weakest link. Unmanaged 'islands' of grass within managed areas pose a significant risk to the managed lands. Cost-share programs can encourage landowners to manage their non-forested lands. Property managers can check with their local NRCS office for cost share program information.

Another threat in grassland environments is the presence of unmanaged windbreaks intended to protect nearby structures. If those shelterbelts lie within the structures' Firewise® zones, they are a direct threat to the buildings and they must be managed. NFS foresters can provide windbreak management recommendations.

Some communities have expressed concerns about fires jumping over highways that are not properly mowed or managed, and locations along railroad rights-of-way. Regular maintenance of these areas, especially during dry conditions, could help address these concerns.

Much of the fuels reduction activity outside forested areas will involve creating defensible space around rural homes and other structures. The same Firewise® guidelines that apply in forested settings also apply in non-forested settings.

Maintenance

Reducing hazardous fuels is not a one-time event. Areas that have been treated by any method to reduce fuels must be maintained on a regular basis because the vegetation continues to grow. NFS fuels treatment agreements include a requirement that the work be maintained for a minimum of ten years after the project is completed. Treatment, particularly mechanical fuels reduction, can be costly, so continued maintenance by keeping regrowth in check not only prolongs the period of hazard protection; it also protects the monetary investment made by landowners and the cost-share program.

Monitoring and Evaluation

Monitoring and evaluation are important components of any planning document because they provide information on how well the plan is performing and whether it is achieving its stated goals and objectives. This provides guidance for planning future activities and is an important part of accountability to stakeholders and funding organizations. This section of the CWPP provides a proposed plan maintenance schedule; discussion of monitoring considerations; review of evaluation elements including suggested units of measure for assessing activities and projects; and a table summarizing the five-year action plan.

Schedule

The maintenance for this plan will be directed by the county boards in the CWPP region and coordinated with local fire officials and resource managers. Counties or their representatives will annually review the plan to evaluate progress, re-evaluate priorities for action items, and recommend updates as needed.

Review of the recommendations will be necessary as various projects or tasks are accomplished and the at-risk areas decline in hazard rating. Review will also be needed as infrastructure needs change or are met. The review team should include representation of stakeholders who participated in the development of this plan.

A complete update of the plan every five years is recommended because infrastructure needs, population, and land use can change, fuels reduction projects may be completed, emergency services in outlying areas may change, data are updated, and areas of extreme wildfire hazard decline or increase. Counties are urged, when possible, to coordinate this process with their regional HMP updates. By aligning the update schedules of various planning mechanisms, the goals, priorities, and actions identified can more easily be integrated into other plans.

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Monitoring and Evaluation Process

Continued public involvement is needed to accomplish many of these recommendations. It is important that the process allows for continued collaboration with stakeholders on how best to meet their needs, while at the same time achieving the objectives of this plan. Agency stakeholders will monitor their efforts according to their internal protocol, documenting accomplishments and redesigning strategies as needed.

Annual assessment of the identified tasks is very important to determine the degree of progress being made. Each agency is encouraged to prepare an after-action report, either per event or annually, to assist in plan maintenance and updates. Units of measure to be considered when updating the plan in the future for the purpose of reporting accomplishments can include, but are not limited to:

1. Number of projects or activities accomplished which aid fire agency/emergency service response time
2. Number of transportation issues resolved that improve road systems for access, ingress/egress
3. Number of water sources added or upgraded to improve firefighting response
4. Number of pieces/types of fire equipment obtained; number of departments that received them
5. Number of firefighters and fire departments receiving training courses; course hours completed
6. Number of properties/acres treated for fuels reduction and type(s) of treatment used
7. Number of new or retrofitted ignition-resistant structures
8. Number of events with prevention message delivery, number of prevention courses attended/ conducted, number of news releases or prevention campaigns conducted, and number of prevention team meetings held
9. Number of partners/agencies/groups cooperating on projects and activities
10. Number of people contacted (meetings, courses, etc.) and number of educational items distributed (brochures, etc.)

Each participating agency/organization can assess their activities and projects using the units of measure listed above and in Appendix B to determine progress. This plan is not intended to function as a means of bypassing the individual processes and regulations of the participating entities. Each project must adhere to any pertinent local, state and federal rules. The CWPP is a coordinating document for activities related to fire protection, fuels treatment, information development, and wildfire outreach and education.

Implementing and Updating the Action Plan

Appendix B contains a detailed description of this CWPP's goals, strategies, objectives, and tactics that can be used to implement this plan. It is highly recommended that planners review the appendix in its entirety when developing specific activities to implement this plan. The comprehensive information is intended to assist participants when they initiate action, evaluate progress, and update the CWPP. It may also aid grant writers in accurately describing CWPP targets and organizing fund assistance requests.

The following table summarizes the CWPP objectives, and the associated tasks needed to achieve each, suggests who might perform the tasks and when, provides benchmarks for evaluation, and identifies opportunities and limitations. When the CWPP is updated at the end of five years, a new action plan can be developed to accommodate new or expand current objectives for the following five years.

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Five-Year Action Plan for the Wildcat Hills CWPP 2021-2026				
Task(s)	Who	When	Benchmark(s)	Opportunities/Limits
Risk Assessment, Prioritization, and Analysis				
Identify/analyze Risk Assessment elements	Local officials, NFS	Done: reviewed/edited during CWPP update	Updated CWPP	n/a
Review county zoning plans for treatment of high fire risk areas	Local planning staffs	2021-2022	# of recommendations to county officials; # implemented	Consider access, building materials, building setbacks from canyon rims
Assess/prioritize areas based on vulnerability	Local officials & fire departments	2021-2022	Maps, checklist, report	Opportunity to further prioritize based on risk assessment
Perform individual structure or neighborhood analyses	Fire depts., agencies, contractors, others	Ongoing	Checklist/report	Opportunity: do during fuel reduction or other site visits. Limits: funding and staff availability.
Risk Reduction/Mitigation				
Identify mitigation practices	Local officials, NFS	Done: reviewed/edited during CWPP update	Updated CWPP	n/a
Expand WUI fuels reduction, including mechanical & RxB	Agencies, landowners; local officials (for public property)	Ongoing	# projects, # acres	Utilize existing & seek new cost share grants
Implement Firewise® & other community protection programs	Local officials, homeowner groups	Ongoing	# of programs established or expanded	NFS has staff available to help communities with this
Evaluate subdivision in/out access	Local officials, VFDs, developers	Ongoing	Report, cost estimates	Explore grant funding to address costs
Increase # of ignition-resistant buildings	Homeowners, planning officials	Ongoing	# New buildings to code; # bldgs. retrofitted	Retrofits can be costly; best opportunity is for new construction
Plan and implement fire & fuel breaks	Land managers, planning officials	Ongoing	# of vegetative breaks sited or established	Utilize federal, state, and local cost share programs
Expand water resources	Refer to local HMPs	Ongoing	# water sources added or upgraded	Explore grant funding to address costs
Assess and Enhance Local Response Capacity, Effectiveness, and Safety				
Review regional HMPs, VFD info, and county data	Local officials, VFDs	2021-2022	Checklist/report	Opportunity to identify gaps and needs
Increase fire response reporting	Fire chiefs	Ongoing	# of departments reporting	Opportunity for VFDs to acquire additional equipment
Increase/update fire equipment	VFDs, NFS	Ongoing	# of departments assisted, # of pieces/types of fire equipment obtained	VFDs can utilize NFS FEPP & FFP programs
Increase participation in firefighter training	VFDs, agencies	Ongoing	# of departments and firefighters receiving training	Many training options available through NFS & NEMA
Facilitate VFD monitoring of fire weather system indices	VFDs, NFS	Ongoing	# of departments able to monitor indices	Limit: # of weather stations. Opportunity: Weather apps and spot weather forecasts can be used on the fireline.
Develop 'triage' guidelines	VFDs, agencies	2022-2023	# documents created, # of VFDs using them	Increases firefighter safety by enabling quick property assessments during wildfires
Increase Communications Effectiveness				
Review local communications plans	Local and state officials	Annually	Document changes/updates	n/a
Ensure VFDs can communicate on the same radio band during mutual aid	Local and state officials	Ongoing	# VFD's using a common radio band during mutual aid operations	Limited by funding availability. Explore grant funding to address costs.

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Task(s)	Who	When	Benchmark(s)	Opportunities/Limits
Ensure prompt notification & involvement for assessment & assistance on fires	Local and state officials	Ongoing	Checklist/report	Opportunity to expedite response
Increase Aerial Support Effectiveness				
Train additional SEAT Base Managers	NFS, NEMA	Ongoing	# of new certified managers	Limitation: available personnel
Facilitate sharing managers with other states	NFS, NEMA	Ongoing	# of shared SEAT base managers	Helps trainees become qualified
Increase the number of aerial applicators in region	NFS, NEMA	Ongoing	# of new applicators	Increases options for fires on non-federal lands
Sustain/increase cooperation & communication with adjacent states' aviation resources	NFS, NEMA, neighboring state officials	Ongoing	# of new & renewed agreements; # of interstate assists	Helps make neighboring jurisdictions aware of available resources, times of planned contracted aviation availability, and enable sharing of resources across state borders
Increase Data Availability				
Identify and map restricted roads/ bridges	Local officials, contractors, others?	Ongoing	# of jurisdictions with restricted road/bridge maps	May be able to piggyback data collection with other tasks
Pre-identify potential staging locations	Local officials, VFDs, emergency managers	2022-2023	# of locations identified	Will expedite staging area placement decisions
Standardize map apps for use by VFDs	VFDs, emergency managers	Ongoing	# of VFDs using a standard map app	Cost depends on software and version.
Establish lists of non-fire equipment such as road graders	Local officials, VFDs	Ongoing	# of jurisdictions with equipment lists created	Can be included in regional mutual aid guide
Acquire GIS layers for locating critical infrastructure, water sources, etc.	Local officials and planners	Ongoing	# of new layers created or acquired	Opportunity: Provide in a format that can be easily accessed by hand-held devices
Realtime fire weather information	State, Local	Ongoing	# of units	Retrofit units and establish new to complete network
Provide early detection systems using technology	State, Local	Ongoing	# of units	May retrofit some units and establish new units
Increase Coordination Among Partners				
Develop & adopt regional WUI standards	Local officials, VFDs; NFS can assist with WUI info	2023-2025	Creation of regional standards document; # of counties adopting it	Opportunity: HOAs can also adopt standards
Expand inter-jurisdictional cooperation	Local, state, federal officials	Ongoing	# of mutual aid agreements and # MOUs in place & current	Explore MOUs with non-traditional partners, NGOs
Create a statewide Mutual Aid Guide	NFS, emergency managers, VFDs	2023-2024	Creation of document, # distributed	Having a guide in each engine enhances access to resources
Establish a region-wide public awareness program	Agencies, VFDs	2022-2025	# of participating entities; # of outreach activities	NFS can provide assistance
Engage partners to expand WUI fuels reduction and thinning	NFS, other agencies	Ongoing	# of participating entities, # of projects, # of acres treated	Leverage program effectiveness with multiple agencies, adjacent projects
Develop long-term multi-unit, multi-year fuel hazard reduction projects, including RxB	Agencies, NGOs	Ongoing	# of participating entities, # of projects, # of acres treated	Partners can co-locate projects to expand treated area on a landscape scale
Increase Public Awareness				
News releases, workshops, seminars, etc.	Local officials, planners, VFDs	Ongoing	# of people reached, # of events	NFS has info & materials, can help with planning
Provide literature to homeowners, developers, others	Local officials, planners, VFDs	Ongoing	# of people reached	NFS has brochures & handouts for general use

Wildcat Hills Region Community Wildfire Protection Plan

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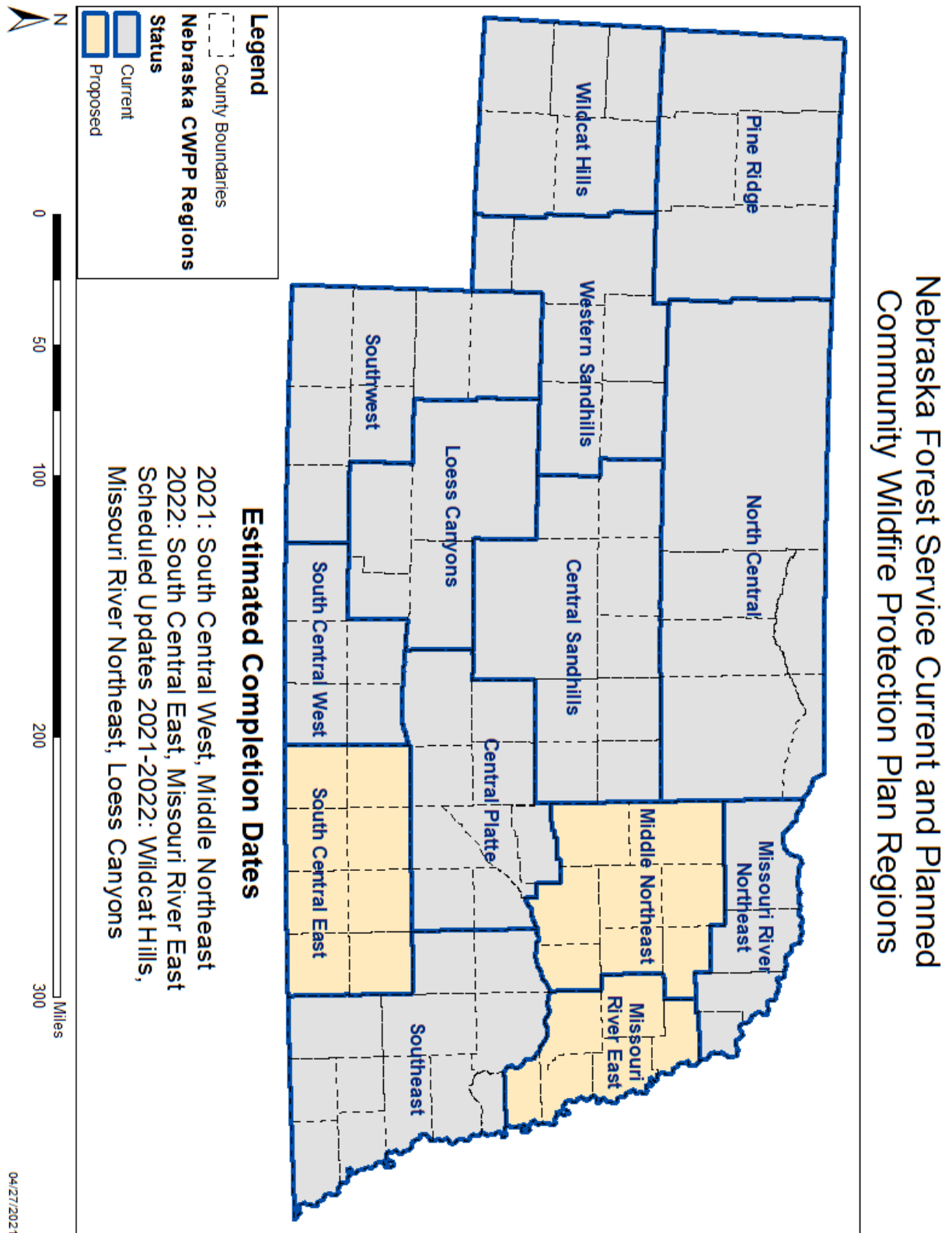
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Appendix A

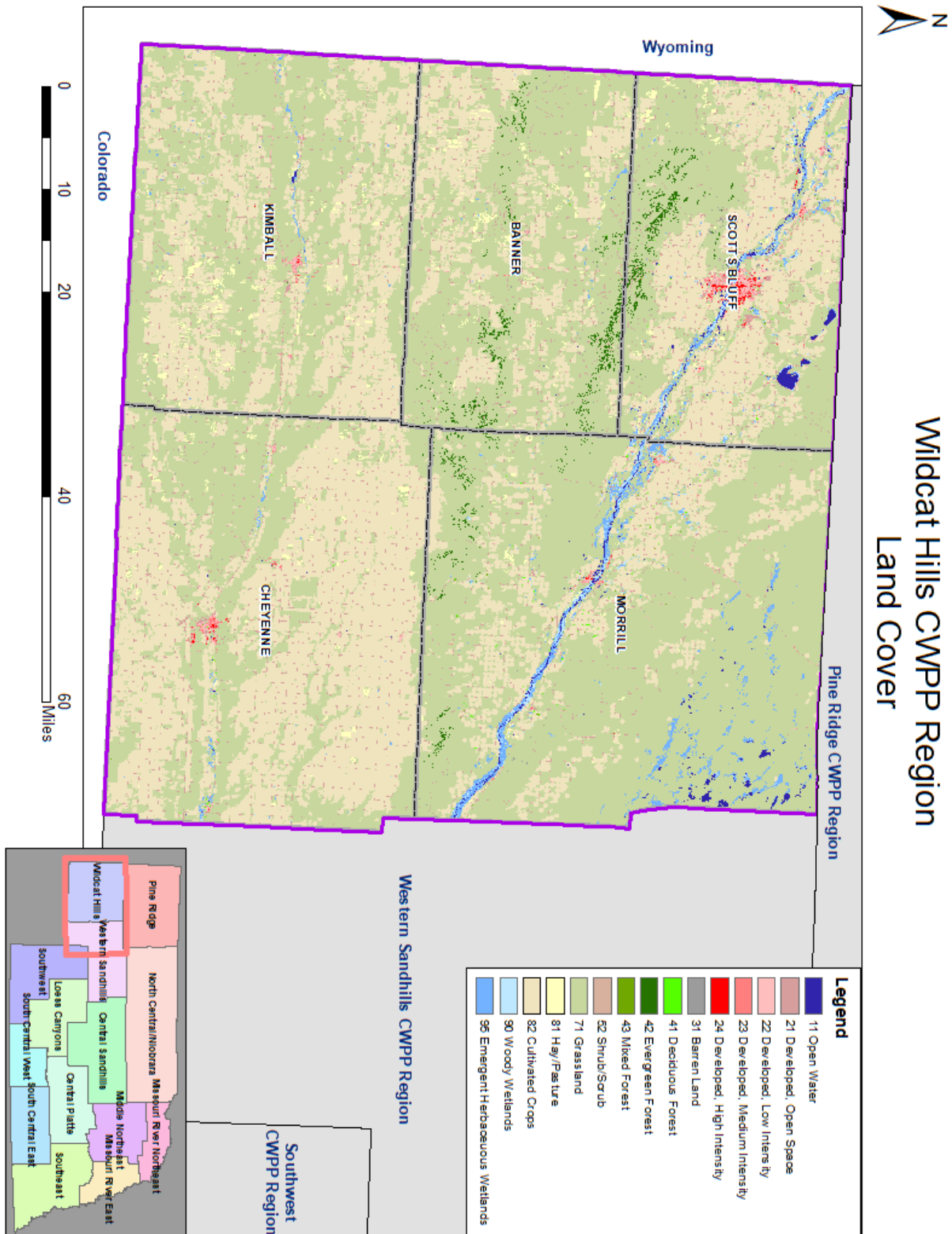
Maps

1. Nebraska CWPP Regions
2. Wildcat Hills Land Cover
3. Nebraska Natural Legacy Project: Biologically Unique Landscapes
4. Nebraska Local Emergency Management Areas
5. Nebraska Local Mitigation Planning Areas
6. Wildcat Hills CWPP Areas of Concern

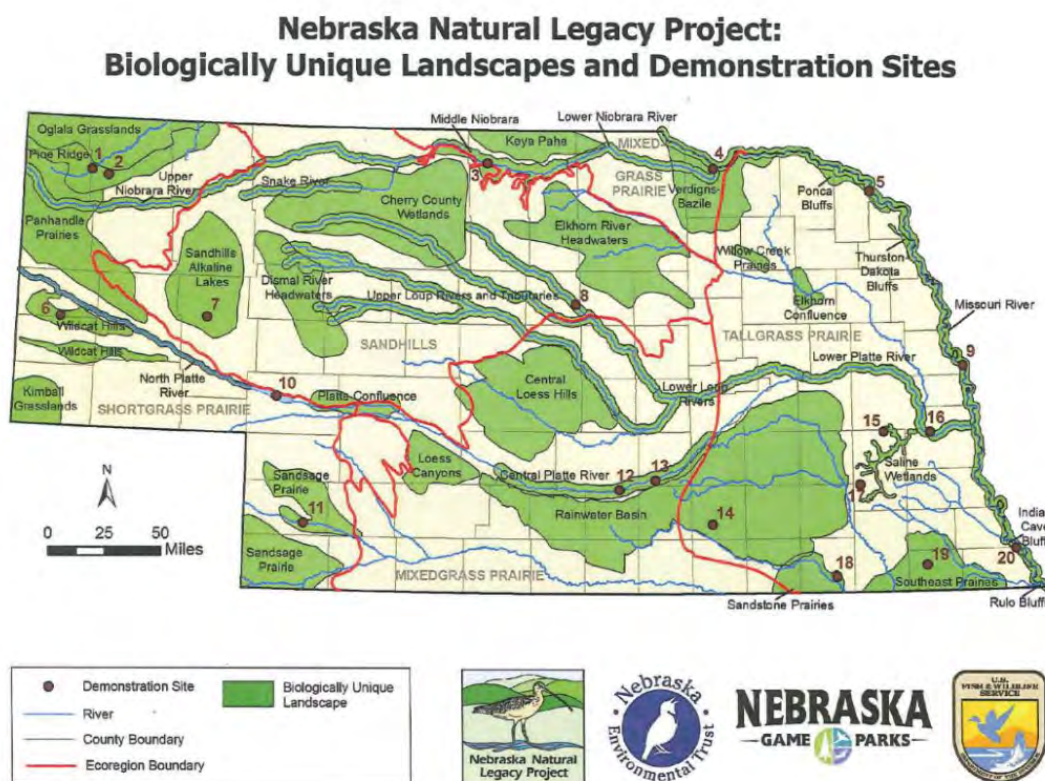
Map 1: Nebraska Community Wildfire Protection Plan Regions



Map 2: Wildcat Hills CWPP Region Land Cover



Map 3: Nebraska Natural Legacy Project: Biologically Unique Landscapes



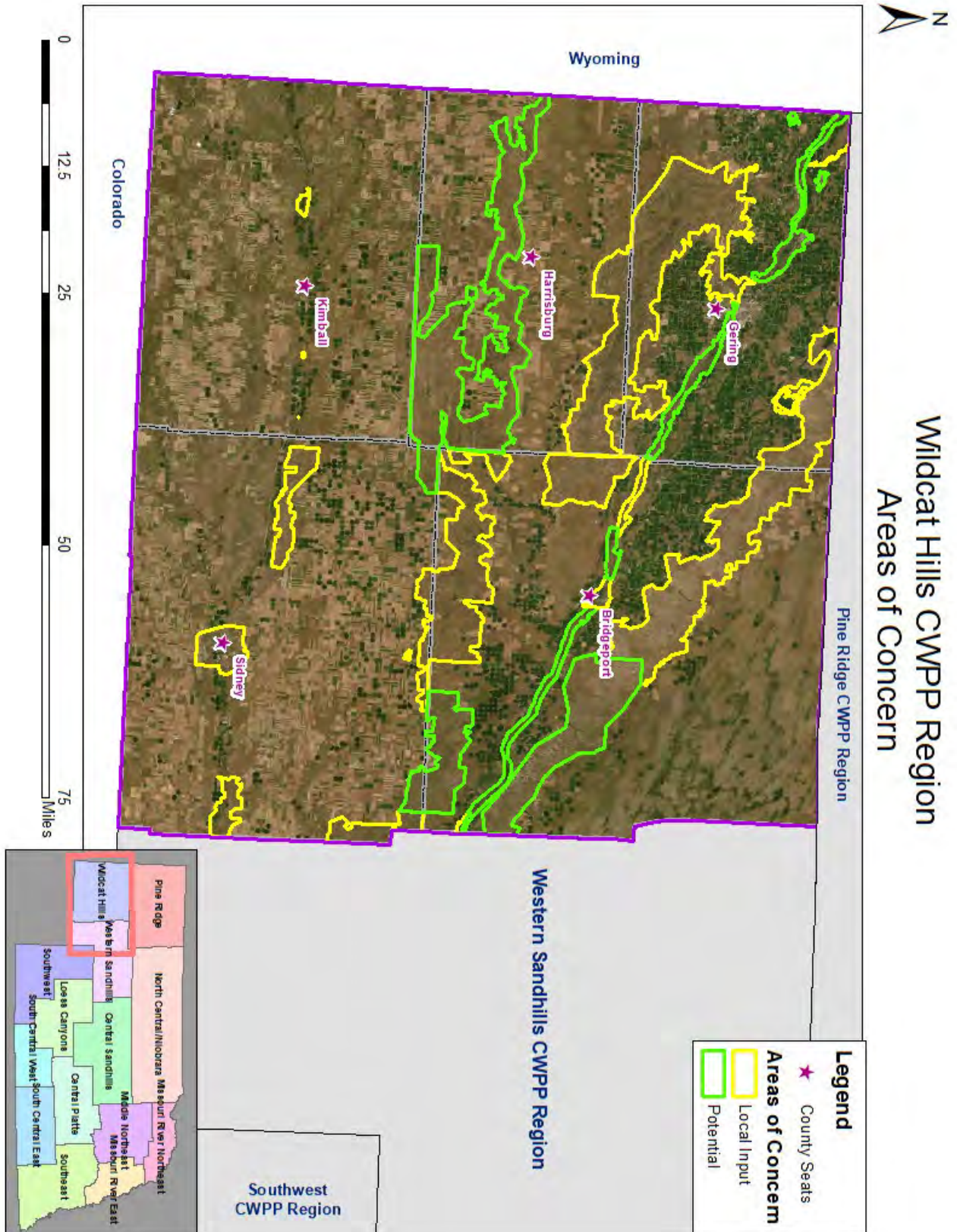
The full document is available at:

<http://outdoornebraska.gov/wp-content/uploads/2015/09/NebraskaNaturalLegacyProject2ndEdition.pdf>





Map 6: Wildcat Hills CWPP Areas of Concern



Appendix B

Goals, Strategies, Objectives, and Tactics

This appendix is intended to assist planners and grant writers in accurately describing overall CWPP goals, understanding strategies to accomplish them, defining measurable objectives needed to achieve the goals, and provide examples of tactics that could be used to achieve the objectives. Each objective includes suggested metrics, or performance-gauging tools that can be used to measure success.

Overall CWPP Purpose: Strengthen Community Wildfire Preparedness

Definitions

1. A **goal** is a broad primary outcome.
2. A **strategy** is the approach you take to achieve a **goal**.
3. An **objective** is a measurable step you take to achieve a **strategy**.
4. A **tactic** is a tool you use in pursuing an **objective** associated with a **strategy**.

Goal 1: Reduce wildfire risk

Strategy: Reduce the likelihood of fire entering communities; physical impacts and losses; the negative economic/social impacts by collaborating with stakeholders to define, understand, and address wildfire risks. Suppress unplanned ignitions to protect private property and natural and cultural resources from unacceptable impacts attributable to fire.

Objectives

- Identify wildfire risks (hazards/vulnerability), areas of concern that contain these risks, and a range of mitigation measures (*Metrics:* # risks, # locations, and # measures identified). *Tactics:*
 - Identify a baseline by considering historic data such as causes, frequency, and probability of wildfire
 - Use input from local responders and agency personnel to map specific areas at risk from wildfire
 - Utilize data from multiple sources to help identify appropriate fuels reduction practices for local at-risk areas
- Assess risks in the mapped areas (*Metrics:* Rating system implemented, prioritized list created). *Tactic:*
 - Devise a rating system to assess the degree of risk (i.e., High-Medium-Low) and establish hazard reduction priorities
- Mitigate risks: Implement mitigation measures to create defensible space and reduce structural ignitability (*Metrics:* # practices implemented, # projects implemented, # acres/structures protected). *Tactics:*
 - Use cost share programs and coordinate with partners to assist WUI landowners implementing mitigation activities such as mechanical fuels treatment, thinning, prescribed fire and grazing
 - Coordinate among adjacent large ownerships and/or public lands to protect communities on a landscape scale

Goal 2: Support emergency response

Strategy: Collaborate to assess local preparedness and capabilities, identify gaps and needs, and develop ways to enhance preparedness and response capability and improve firefighter readiness and safety.

Objectives

- Assess local response capacity (*Metrics:* # of VFD survey responses; list of items from HMP review, # of needs/gaps identified). *Tactics:*
 - VFD survey; review HMP data; consult with local officials
- Enhance local response capacity (*Metrics:* # pieces of equipment added or updated, # of VFDs able to monitor indices, # aerial applicators participating, # restricted roads/bridges mapped, # evacuation routes/staging locations identified, # of treatments conducted to improve access, # of water resources improved or added, # of WUI guidelines added). *Tactics:*
 - Increase and update equipment via VFD assistance programs
 - Facilitate VFD monitoring of the federal wildland fire weather system indices
 - Aerial support: Recruit and train additional aerial applicators and SEAT Managers
 - Roads/transportation:
 - Obtain critical infrastructure GIS layers
 - Map restricted roads/bridges
 - Identify evacuation routes, potential staging locations
 - Evacuation route treatments to improve access, including roads, development ingress/egress

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- Community planning:
 - Expand/improve water resources
 - To protect firefighters, property owners, and structures, consider developing county-level standards for buildings in WUI areas
 - WUI guidelines or regulations for new construction
 - Guidelines for retrofitting existing structures
- Increase firefighter readiness and safety (*Metrics: # of trainings offered, # VFDs participating, # of firefighter training hours completed*). *Tactic:*
 - Provide wildland fire training to VFDs
- Enhance communication among fire management agencies (*Metrics: # of agreements in place and current, # of VFDs trained in radio channel use, # of partners coordinating fire management programs, statewide mutual aid guide created/updated, quick notification process implemented*). *Tactics:*
 - Ensure all relevant Memorandums of Understanding (MOUs) and Mutual Aid Agreements (MAAs) are in place and current
 - Train fire departments in the use of the V-TAC and UHF mutual aid radio channels; educate fire departments and 911 dispatchers about notifying assisting mutual aid departments which V-TAC or UHF channel will be used when arriving at an event
 - Partner with landowners, land managers, fire personnel, natural resources agencies, and other organizations to incorporate local concerns and objectives into fire management programs
 - Create a statewide Mutual Aid Guide
 - Ensure quick notification and involvement process for assessment and assistance on fires, when needed (i.e., Wildfire Incident Response Assistance Team, Type 3 Team, FEMA and Type 1 or 2 teams)

Goal 3: Promote an informed and active citizenry for wildfire preparedness

Strategy: Partner with natural resources agencies, schools, prescribed fire organizations, and other groups to implement a CWPP region-wide public awareness and engagement program to improve wildfire hazard conditions within the WUI. Educate homeowners, neighborhoods, schools, municipalities, and others about wildfire risks and engage them in community preparedness actions. Ensure that outreach targets a broad audience, including the agricultural community, schools, landowners, home and business owners, recreationists, and the general public; identify specific ways to address this.

Objectives

- Increase local knowledge of wildfire risk and prevention (*Metrics: # handouts or news releases distributed, # of events or activities held, # of people reached*) *Tactics:*
 - Work with partners to establish a region-wide public awareness program
 - Use brochures/handouts and news releases to increase wildfire awareness and publicize mitigation activities
 - Offer mitigation/prevention-focused workshops, seminars, school presentations/activities
- Engage stakeholders in preparedness activities that promote the use of defensible space to reduce fuel loads to protect communities and resources (*Metrics: # landowners creating defensible space, # community programs established/expanded*). *Tactic:*
 - Introduce and encourage participation in programs such as Firewise, Fire-Adapted Communities, and Ready-Set-Go, as well as WUI fuels treatment programs

Goal 4: Restore fire-adapted ecosystems

Strategy: Work with partners to restore native fire-adapted ecosystems to increase community protection, enhance firefighter safety, and improve habitat health.

Objectives

- Encourage land managers to reduce heavy understory fuels in woodlands (*Metrics: # land managers reached, # of landowners implementing fuels reduction practices*). *Tactics:*
 - (See tactics listed under Goal 1, Objective 3)
- Encourage land managers to control non-native invasive plant species and to actively manage prolific and aggressive native species (*Metrics: # land managers reached, # of landowners implementing control/management practices*). *Tactics:*
 - Educate land managers in plant identification and control measures
 - Use cost share programs to defray landowner costs
- Encourage land managers to use native plant species when restoring ecosystems (*Metrics: # land managers reached, # land managers using native species*). *Tactics:*
 - Educate land managers about the benefits of using native plant species
 - Help land managers locate and obtain appropriate native plant species

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- Safely incorporate prescribed fire into historically fire-adapted ecosystems, using trained personnel and standard operating procedures (*Metrics: # acres treated safely*). *Tactic:*
 - Offer fire training

Goal 5: Enhance post-fire recovery

Strategy: Work with partners to quickly assess and stabilize burned lands to reduce erosion and protect property.

Objective

- Enable rapid assessments of burned lands and the implementation of stabilization techniques. (*Metrics: # trainings offered, # acres stabilized*). *Tactics:*
 - Provide training on burned area assessment
 - Provide financial assistance

Goal 6: Establish and implement a CWPP monitoring and evaluation process

Strategy: Strengthen CWPP effectiveness by working with stakeholders to evaluate progress and update regularly.

Objectives

- Annually evaluate progress in implementing the CWPP and recommend changes as needed. (*Metrics: Checklist and framework created, # projects/activities implemented*). *Tactic:*
 - Create a review checklist and framework for providing recommendations
- Conduct monitoring of selected projects and activities to assess progress and effectiveness (*Metrics: Process established, # of projects/activities/acres monitored*). *Tactic:*
 - Determine number of assessments needed and establish a process for choosing and evaluating them
- Improve grant eligibility (*Metric: # of successful grant applications*). *Tactic:*
 - Regularly review and update CWPP and other planning documents to ensure they reflect current activities and needs

Appendix C

Links to Other Planning Documents

Due to their large file sizes, these documents are available online

2008 Wildcat Hills Estates Community Wildfire Protection Plan

https://nfs.unl.edu/documents/CWPP/WHCWPP_2008.pdf

2015 Wildcat Hills CWPP Update

https://nfs.unl.edu/documents/CWPP/WHCWPP_2015.pdf

North Platte NRD Multi-Jurisdictional Hazard Mitigation Plan

<https://jeo.com/npnrd-hmp>

South Platte NRD Multi-Jurisdictional Hazard Mitigation Plan

<https://jeo.com/south-platte-nrd-hazard-mitigation-plan>

Nebraska Forest Action Plan

<https://nfs.unl.edu/statewide-forest-action-plan>

Nebraska Natural Legacy Project

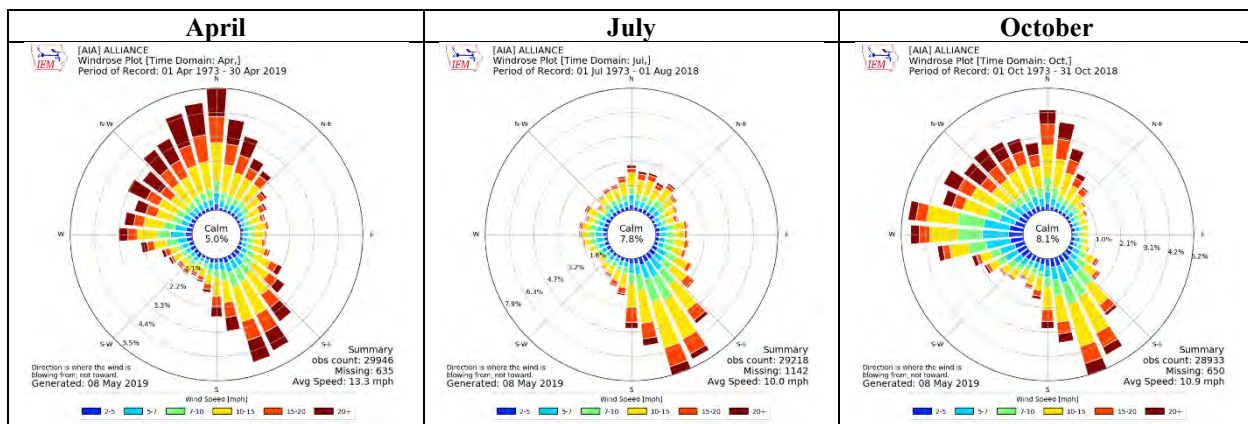
<http://outdoornebraska.gov/wp-content/uploads/2015/09/NebraskaNaturalLegacyProject2ndEdition.pdf>

Appendix D

Wind Rosettes For Selected Stations in the Wildcat Hills CWPP Region

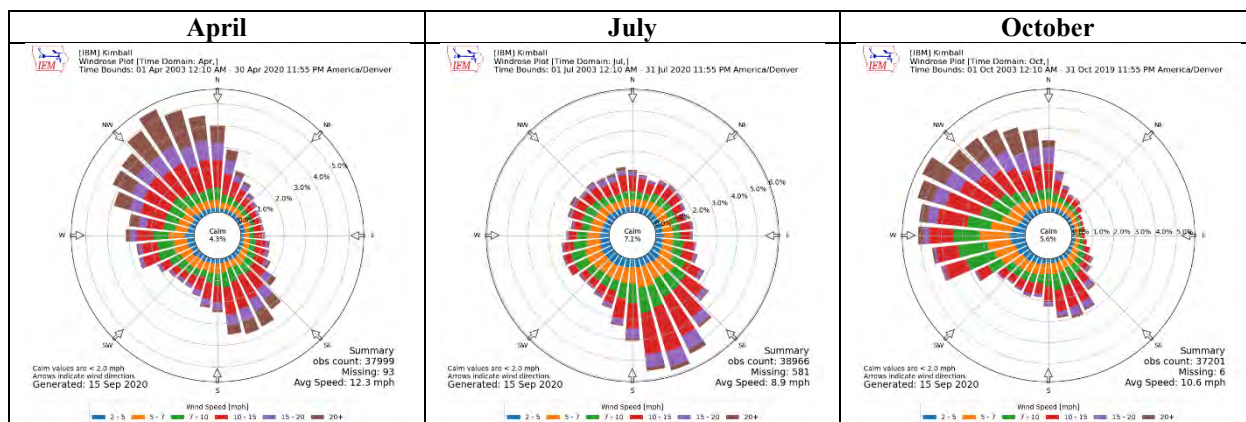
- a. Alliance
- b. Kimball
- c. Scottsbluff
- d. Sidney

Alliance, Nebraska Wind Direction and Speed 1973-2019

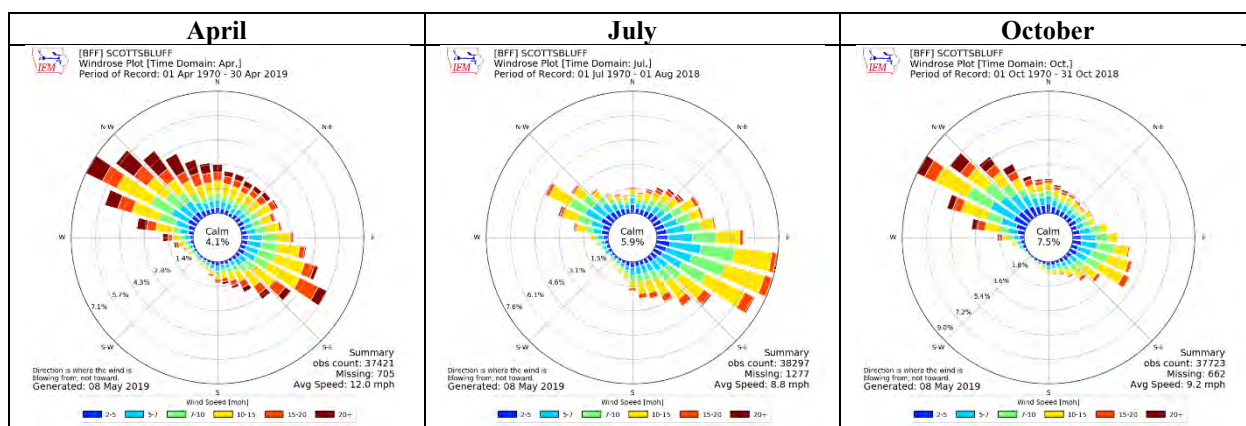


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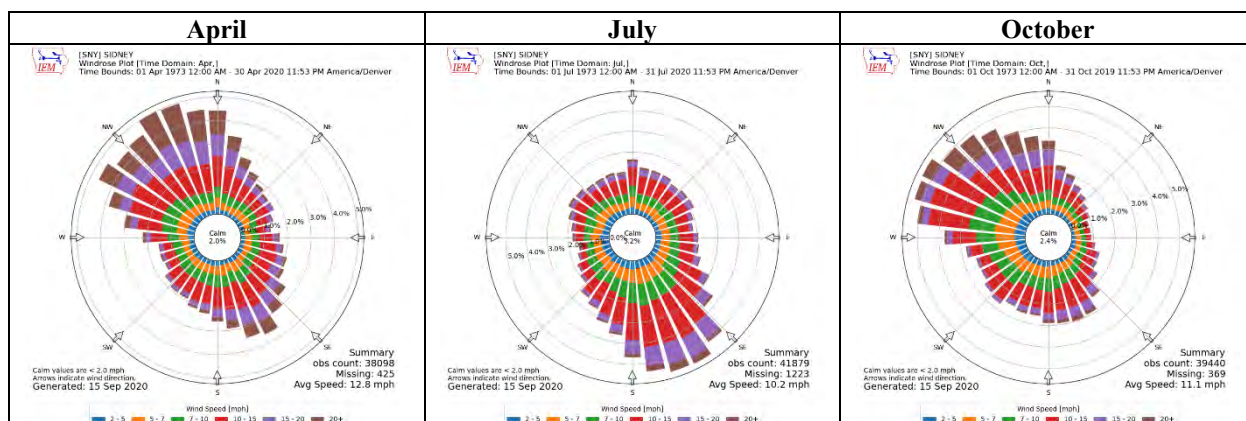
Kimball, Nebraska Wind Direction and Speed 2003-2020



Scottsbluff, Nebraska Wind Direction and Speed 1970-2019



Sidney, Nebraska Wind Direction and Speed 1973-2020



Appendix E

Fuel Models for the Wildcat Hills CWPP Region

Due to its length, the full Appendix D appears only in the online version of this document:

<https://nfs.unl.edu/documents/CWPP/WHCWPP.pdf>

USDA United States
Department
of Agriculture

Forest Service

Rocky Mountain
Research Station

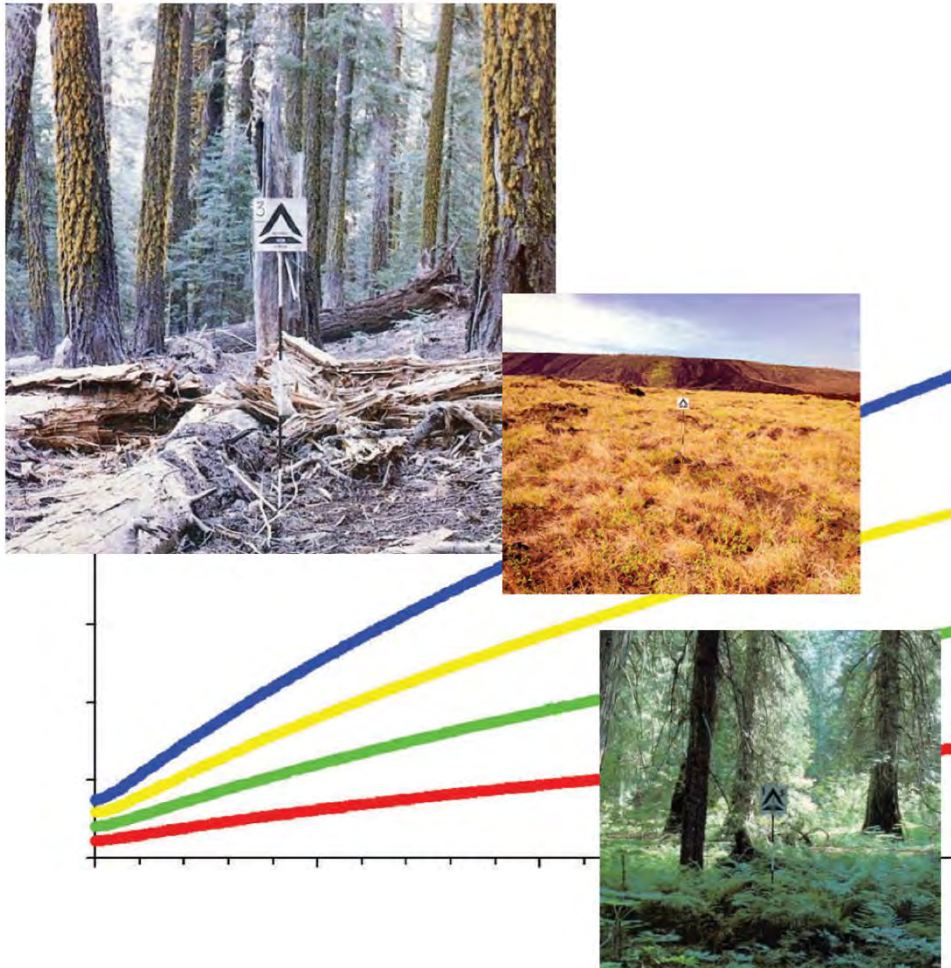
General Technical
Report RMRS-GTR-153

June 2005



Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model

Joe H. Scott
Robert E. Burgan



Wildcat Hills Region Community Wildfire Protection Plan

Fuel Models

In this section we list the fuel model parameters and describe each fuel model and fuel type.

Fuel Model Parameters

Parameters of the new fuel models include load by class and component, surface-area-to-volume (SAV) ratio by class and component, fuel model type (static or dynamic), fuelbed depth, extinction moisture content, and fuel particle heat content (table 7). Fuel inputs not listed are constant for the entire set: 10-hr dead fuel SAV ratio is 109 l/ft, and 100-hr SAV ratio is 30 l/ft. Total fuel particle mineral content is 5.55 percent; effective (silica-free) mineral content is 1.00 percent. Oven-dry fuel particle density is 32 lb/ft³.

Fuel Type Page

A fuel type page consists of a brief description of the fuel type followed by a pair of charts depicting predicted fire behavior over a range of midflame wind speeds, one for headfire spread rate and one for headfire flame length. These charts are for moisture scenario D2L2 (low dead fuel moisture, two-thirds cured live herbaceous, low live woody fuel moisture). The moisture contents by class and category are:

Dead 1-hr	6 percent
Dead 10-hr	7
Dead 100-hr	8
Live herbaceous	60 (2/3 cured)
Live woody	90

Use the charts to compare the relative behavior of the various models within a fuel type, but be aware that the relative behavior may be different at other moisture contents.

Fuel models with herbaceous load are sensitive to live herbaceous moisture content. The herbaceous fuel in moisture scenario D2L2 is two-thirds cured, which means that 67 percent of the herbaceous load is actually at the dead 1-hr moisture content, while the remaining 33 percent retains the 60 percent moisture content.

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Table 7—Fuel model parameters.

Fuel model code	Fuel load (t/ac)					Fuel model type ^a	SAV ratio (1/ft) ^b			Fuel bed depth (ft)	Dead fuel extinction moisture (percent)	Heat content BTU/lb ^c
	1-hr	10-hr	100-hr	Live herb	Live woody		Dead 1-hr	Live herb	Live woody			
GR1	0.10	0.00	0.00	0.30	0.00	dynamic	2200	2000	9999	0.4	15	8000
GR2	0.10	0.00	0.00	1.00	0.00	dynamic	2000	1800	9999	1.0	15	8000
GR3	0.10	0.40	0.00	1.50	0.00	dynamic	1500	1300	9999	2.0	30	8000
GR4	0.25	0.00	0.00	1.90	0.00	dynamic	2000	1800	9999	2.0	15	8000
GR5	0.40	0.00	0.00	2.50	0.00	dynamic	1800	1600	9999	1.5	40	8000
GR6	0.10	0.00	0.00	3.40	0.00	dynamic	2200	2000	9999	1.5	40	9000
GR7	1.00	0.00	0.00	5.40	0.00	dynamic	2000	1800	9999	3.0	15	8000
GR8	0.50	1.00	0.00	7.30	0.00	dynamic	1500	1300	9999	4.0	30	8000
GR9	1.00	1.00	0.00	9.00	0.00	dynamic	1800	1600	9999	5.0	40	8000
GS1	0.20	0.00	0.00	0.50	0.65	dynamic	2000	1800	1800	0.9	15	8000
GS2	0.50	0.50	0.00	0.60	1.00	dynamic	2000	1800	1800	1.5	15	8000
GS3	0.30	0.25	0.00	1.45	1.25	dynamic	1800	1600	1600	1.8	40	8000
GS4	1.90	0.30	0.10	3.40	7.10	dynamic	1900	1600	1600	2.1	40	8000
SH1	0.25	0.25	0.00	0.15	1.30	dynamic	2000	1800	1600	1.0	15	8000
SH2	1.35	2.40	0.75	0.00	3.85	N/A	2000	9999	1600	1.0	15	8000
SH3	0.45	3.00	0.00	0.00	6.20	N/A	1600	9999	1400	2.4	40	8000
SH4	0.85	1.15	0.20	0.00	2.55	N/A	2000	1800	1600	3.0	30	8000
SH5	3.60	2.10	0.00	0.00	2.90	N/A	750	9999	1600	6.0	15	8000
SH6	2.90	1.45	0.00	0.00	1.40	N/A	750	9999	1600	2.0	30	8000
SH7	3.50	5.30	2.20	0.00	3.40	N/A	750	9999	1600	6.0	15	8000
SH8	2.05	3.40	0.85	0.00	4.35	N/A	750	9999	1600	3.0	40	8000
SH9	4.50	2.45	0.00	1.55	7.00	dynamic	750	1800	1500	4.4	40	8000
TU1	0.20	0.90	1.50	0.20	0.90	dynamic	2000	1800	1600	0.6	20	8000
TU2	0.95	1.80	1.25	0.00	0.20	N/A	2000	9999	1600	1.0	30	8000
TU3	1.10	0.15	0.25	0.65	1.10	dynamic	1800	1600	1400	1.3	30	8000
TU4	4.50	0.00	0.00	0.00	2.00	N/A	2300	9999	2000	0.5	12	8000
TU5	4.00	4.00	3.00	0.00	3.00	N/A	1500	9999	750	1.0	25	8000
TL1	1.00	2.20	3.60	0.00	0.00	N/A	2000	9999	9999	0.2	30	8000
TL2	1.40	2.30	2.20	0.00	0.00	N/A	2000	9999	9999	0.2	25	8000
TL3	0.50	2.20	2.80	0.00	0.00	N/A	2000	9999	9999	0.3	20	8000
TL4	0.50	1.50	4.20	0.00	0.00	N/A	2000	9999	9999	0.4	25	8000
TL5	1.15	2.50	4.40	0.00	0.00	N/A	2000	9999	1600	0.6	25	8000
TL6	2.40	1.20	1.20	0.00	0.00	N/A	2000	9999	9999	0.3	25	8000
TL7	0.30	1.40	8.10	0.00	0.00	N/A	2000	9999	9999	0.4	25	8000
TL8	5.80	1.40	1.10	0.00	0.00	N/A	1800	9999	9999	0.3	35	8000
TL9	6.65	3.30	4.15	0.00	0.00	N/A	1800	9999	1600	0.6	35	8000
SB1	1.50	3.00	11.00	0.00	0.00	N/A	2000	9999	9999	1.0	25	8000
SB2	4.50	4.25	4.00	0.00	0.00	N/A	2000	9999	9999	1.0	25	8000
SB3	5.50	2.75	3.00	0.00	0.00	N/A	2000	9999	9999	1.2	25	8000
SB4	5.25	3.50	5.25	0.00	0.00	N/A	2000	9999	9999	2.7	25	8000

^a Fuel model type does not apply to fuel models without live herbaceous load.

^b The value 9999 was assigned in cases where there is no load in a particular fuel class or category.

^c The same heat content value was applied to both live and dead fuel categories.

Wildcat Hills Region Community Wildfire Protection Plan

Fuel Model Page

A fuel model page consists of:

- The three-part fuel model naming
- A set of three photos
- A brief description of the fuel model
- A summary of computed fuel model characteristics
- A pair of charts depicting fire behavior over a range of midflame wind speeds

Further details follow.

Naming—The fuel model code and number (in parentheses) are displayed on the first line, followed on the next line by the full fuel model name. The fuel model code is used for oral and written communication and for input to fire behavior models. The fuel model number is used internally by some fire behavior models and for mapping applications. The fuel model name is a brief description of the fuel model.

Photos—Up to three representative photos were selected to illustrate each fuel model. Conditions other than those illustrated may still be appropriate for the fuel model; use the photos as a general guide only.

Description—Main characteristics of each fuel model are briefly described.

Summary characteristics—Summary characteristics of each fuel model include fine fuel load, characteristic surface-area-to-volume ratio (SAV), packing ratio, and extinction moisture content.

Fine fuel load is defined as the dead 1-hr load plus the live herbaceous and live woody loads. Across the new set of 40 fuel models, fine fuel load ranges from 0.30 to 13.05 tons/acre.

Characteristic SAV is the average SAV across all fuel classes and categories, weighted by the surface area within each class and category. Characteristic SAV ranges from 1,144 to 2,216 1/ft in this new set of fuel models.

Packing ratio is the fraction of fuelbed volume that is occupied by fuel particles, a function of fuel load, fuelbed depth, and fuel particle density. In this fuel model set, packing ratio varies from 0.00143 to 0.04878 (dimensionless).

Extinction moisture content is the weighted average dead fuel moisture content at which the fire spread model predicts spread will not take place. More important, the amount by which the extinction moisture content exceeds the actual determines (in part) fire behavior. Thus, for a given dead fuel moisture content, predicted fire spread increases with increasing extinction moisture content.

Fire behavior charts—A pair of charts depicts predicted fire behavior (spread rate and flame length) for each fuel model over a range of midflame wind speeds. All predictions use live moisture scenario L2 (60 percent live herbaceous moisture content, 90 percent live woody), which corresponds to a two-thirds cured herbaceous fuelbed. The four lines on each chart refer to dead fuel moisture scenarios (table 3).

Nonburnable Fuel Type Models (NB)

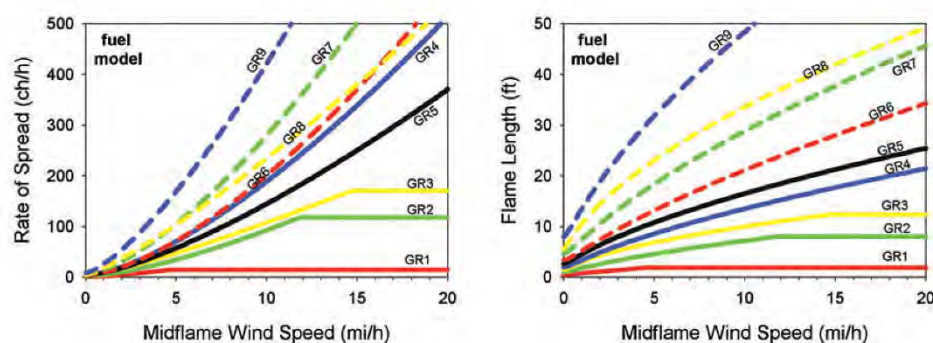
The nonburnable “fuel models” are included on the next five pages to provide consistency in how the nonburnable portions of the landscape are displayed on a fuel model map. In all NB fuel models there is no fuel load—wildland fire will not spread.

Wildcat Hills Region Community Wildfire Protection Plan

Grass Fuel Type Models (GR)

The primary carrier of fire in the GR fuel models is grass. Grass fuels can vary from heavily grazed grass stubble or sparse natural grass to dense grass more than 6 feet tall. Fire behavior varies from moderate spread rate and low flame length in the sparse grass to extreme spread rate and flame length in the tall grass models.

All GR fuel models are dynamic, meaning that their live herbaceous fuel load shifts from live to dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong.



Wildcat Hills Region Community Wildfire Protection Plan

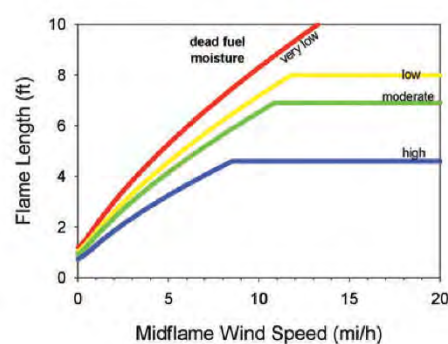
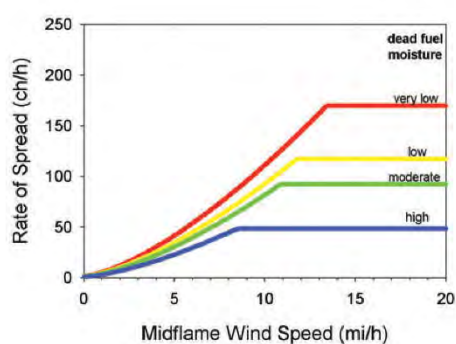
GR2 (102)

Low Load, Dry Climate Grass (Dynamic)



Description: The primary carrier of fire in GR2 is grass, though small amounts of fine dead fuel may be present. Load is greater than GR1, and fuelbed may be more continuous. Shrubs, if present, do not affect fire behavior.

Fine fuel load (t/ac)	1.10
Characteristic SAV (ft-1)	1820
Packing ratio (dimensionless)	0.00158
Extinction moisture content (percent)	15



Wildcat Hills Region Community Wildfire Protection Plan

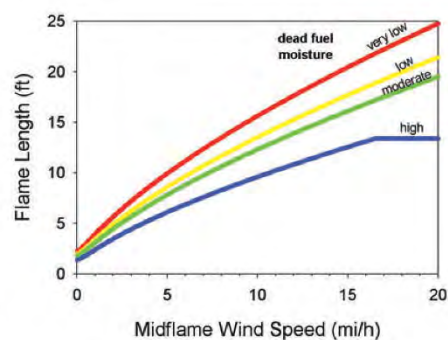
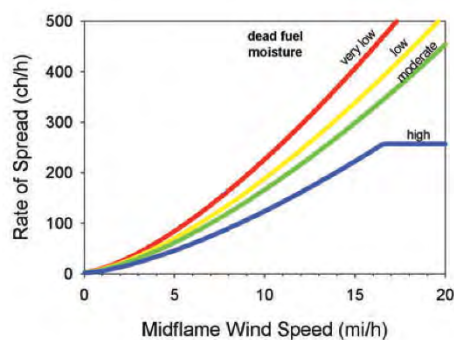
GR4 (104)

Moderate Load, Dry Climate Grass (Dynamic)



Description: The primary carrier of fire in GR4 is continuous, dry-climate grass. Load and depth are greater than GR2; fuelbed depth is about 2 feet.

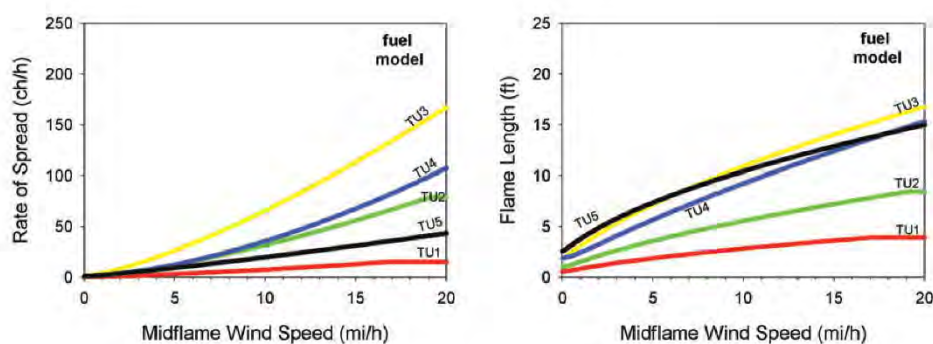
Fine fuel load (t/ac)	2.15
Characteristic SAV (ft-1)	1826
Packing ratio (dimensionless)	0.00154
Extinction moisture content (percent)	15



Wildcat Hills Region Community Wildfire Protection Plan

Timber-Understory Fuel Type Models (TU)

The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels. TU1 and TU3 contain live herbaceous load and are dynamic, meaning that their live herbaceous fuel load is allocated between live and dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong and depends on the relative amount of grass and shrub load in the fuel model.



Wildcat Hills Region Community Wildfire Protection Plan

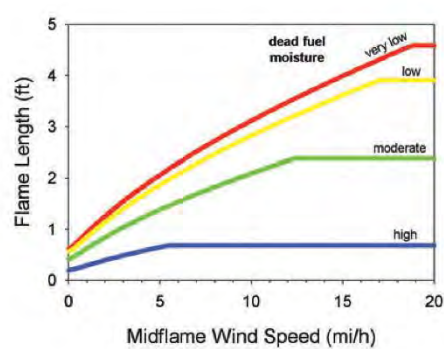
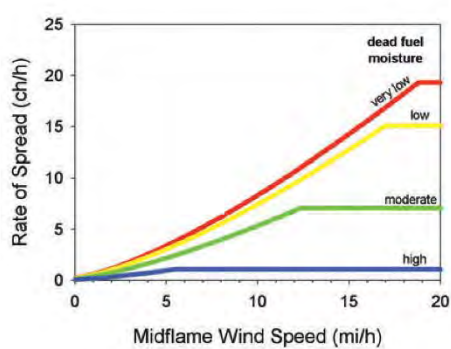
TU1 (161)

Low Load Dry Climate Timber-Grass-Shrub (Dynamic)



Description: The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

Fine fuel load (t/ac)	1.3
Characteristic SAV (ft-1)	1606
Packing ratio (dimensionless)	0.00885
Extinction moisture content (percent)	20



Wildcat Hills Region Community Wildfire Protection Plan

Appendix F

Nebraska Mutual Aid Associations

Updated 6/3/2021

3 & 33 MA

Adams, Barneston, Beatrice, Beatrice RFD, Blue Springs, Clatonia, Cortland, Dewitt, Diller, Fairbury RFD, Filley, Jansen, Odell, Pickrell, Plymouth, Swanton, Wymore

40 - 12 MA

Bloomfield, Brunswick, Creighton, Crofton, Magnet, Neligh, Niobrara, Orchard, Osmond, Page, Pierce, Plainview, Santee, Verdigre, Wausa

Big 8 MA

Bellwood, Columbus, David City, Duncan, Osceola, Rising City, Shelby, Stromsburg

Big 9 MA

Belden, Carroll, Coleridge, Concord, Crofton, Dixon, Fordyce, Hartington, Laurel, Magnet, Newcastle, Randolph, Wynot, Wausa

Boyd/Holt Counties MA

Atkinson, Bartlett, Bristow, Butte, Chambers, Ewing, Lynch, Naper, O'Neill, Page, Spencer, Stuart

Buffalo County MA

Amherst, Elm Creek, Gibbon, Kearney, Miller, Pleasanton, Ravenna, Shelton, Buffalo Co. Sheriff's Dept., Kearney Police Dept., Buffalo County EM, Good Samaritan Hospital EMS

Burt County MA

Craig, Decatur, Lyons, Oakland, Tekamah

Butler Co. MA

Abie, Bellwood, Brainerd, Bruno, David City, Dwight, Linwood, Rising City, Ulysses

Cass Co. MA

Alvo, Ashland, Avoca, Cedar Creek, Eagle, Elmwood, Greenwood, Louisville, Murdock, Murray, Nehawka, Plattsmouth, Union, Weeping Water

Central Nebraska MA

Ansley, Eddyville, Mason City, Miller, Oconto, Sumner

Central Nebraska Volunteer Fire Association MA

Alma, Amherst, Arapahoe, Axtell, Bertrand, Elm Creek, Franklin, Funk, Gibbon, Hildreth, Holdrege, Kearney, Loomis, Miller, Minden, Naponee, Orleans, Overton, Oxford, Red Cloud, Republican City, Stamford, Upland, Wilcox

Central Panhandle MA

Alliance, Banner Co., Bayard, Bridgeport, Broadwater, Dalton, Gurley, Heart of the Hills, Lisco/Garden Co., Oshkosh/Garden Co., Rackett, USFWS NP Refuge

Cherry County MA

Ainsworth, Barley RFD, Cody, Colome SD, Kilgore, Merriman, Mid-Cherry RFD, Mission SD, Mullen, St. Francis SD, Thedford, US Fish and Wildlife, US Forest Service, Valentine, White River SD, Wood Lake

Colfax County MA

Clarkson, Howells, Leigh, Schuyler

Cuming County MA

Bancroft, Beemer, Pilger, West Point, Wisner

Custer County MA

Anselmo, Ansley, Arnold, Broken Bow, Callaway, Comstock, Mason City, Merna, Oconto, Sargent

Dodge County MA

Dodge, Fremont, Fremont Rural, Hooper, Nickerson, North Bend, Scribner, Snyder, Uehling

Elkhorn Valley MA

Battle Creek, Carroll, Hadar, Hoskins, Madison, Meadow Grove, Norfolk, Pierce, Stanton, Wayne, Winside

Wildcat Hills Region Community Wildfire Protection Plan

Fillmore County MA

Bruning, Exeter, Fairmont, Geneva, Grafton, McCool Junction, Milligan, Ohioa, Shickley, Sutton

Frenchman Valley MA

Bartley, Beaver Valley (Danbury & Lebanon), Benkelman, Culbertson, Curtis, Haigler, Hayes Center, Imperial, Indianola, Lamar, Maywood/Wellfleet, McCook, Palisade, Red Willow Western, Stratton, Trenton, Wallace, Wauneta

Hamilton County MA

Aurora, Giltner, Hampton, Hordville, Marquette, Phillips, Hamilton County EMS

Hastings Area MA

Ayr (Hastings RFD), Bladen, Blue Hill, Campbell, Central Community College, Edgar, Fairfield, Glenville, Harvard, Hastings, Hastings CD, Holstein, Juniata, Kenesaw, Lawrence, Hruska MARC, Roseland, Trumbull

KBR&C MA

Ainsworth, Bassett, Calamus, Johnstown, Long Pine, Newport, Raven, Springview, Wood Lake

Lancaster County MA

Alvo, Ashland, Bennet, Ceresco, Clatonia, Cortland, Crete, Douglas, Eagle, Firth, Greenwood, Hallam, Hickman, Lincoln, Malcolm, NE Air Guard, Palmyra, Pleasant Dale, Raymond, Rural Metro, Southeast RFD, Southwest RFD, Valparaiso, Waverly

Loup Platte MA

Arcadia, Ashton, Litchfield, Loup City, Ravenna, Rockville

Loup Platte #2 MA

Central City, Chapman, Clarks, Fullerton, Hordville, Marquette, Osceola, Palmer, Polk, Shelby, Silver Creek, Stromsburg

Loup Valley MA

Arcadia, Bartlett, Burwell, Elba, Ericson, Greeley, North Loup, Ord, Primrose, Scotia, Spalding, Wolbach

Mid-Nebraska MA

Albion, Belgrade, Cedar Rapids, Columbus, Columbus RFD, Creston, Duncan, Fullerton, Genoa, Humphrey, Leigh, Lindsay, Madison, Monroe, Newman Grove, Platte Center, Silver Creek, St. Edward

Mid Plains MA

Arnold, Brady, Curtis, Hershey, Maywood, Maxwell, North Platte, Stapleton, Sutherland, Tyron, Wallace, Wellfleet

Nemaha County MA

Brock FD, Brownville FD / Rescue, Johnson FD, Julian FD, Nemaha FD / Rescue, Peru FD / Rescue, Nemaha County Emergency Management, Cooper Nuclear Station, Auburn Police Dept., Nemaha County Sheriff's Office

Northeast MA

Allen, Bancroft, Concord, Dakota City, Dixon, Emerson, Homer, Martinsburg, Newcastle, Pender, Ponca, Rosalie, South Sioux City, Thurston, Wakefield, Walthill, Wayne, Winnebago

Northeast Fireman's Association

Antelope Co., Burt Co., Butler Co., Cedar Co., Colfax Co., Cuming Co., Dakota Co., Dixon Co., Dodge Co., Douglas Co., Knox Co., Madison Co., Pierce Co., Platte Co., Stanton Co., Sarpy Co., Thurston Co., Washington Co., Wayne Co., Saunders Co.

Otoe County MA

Burr, Cook, Douglas, Dunbar, Nebraska City, Otoe, Palmyra, Syracuse, Talmage, Unadilla

Phelps County MA: Bertrand, Funk, Holdrege, Holdrege RFD, Loomis

Pine Ridge MA

Alliance, Ardmore SD, Chadron, Crawford, Gordon, Harrison, Hay Springs, Hemingford, Merriman, Rushville, US Forest Service

Platte Valley MA (was GI Area MA)

Alda, Cairo, Chapman, Doniphan, Grand Island, Grand Island SFD, Phillips, Wood River

Wildcat Hills Region Community Wildfire Protection Plan

Quad Cities MA (includes former Franklin Co. MA)

Alma, Axtell, Bloomington, Campbell, Franklin, Hildreth, Minden, Naponee, Republican City, Riverton, Upland, Wilcox, Kearney County EMA

Richardson County MA

Dawson, Falls City, Falls City RFD, Humboldt, Rulo, Salem, Shubert, Stella, Verdon

Saline County MA

Crete, DeWitt, Dorchester, Friend, Swanton, Tobias, Western, Wilbur, Saline County Sheriff, Saline County Emergency Management

Sandhills MA

Anselmo, Arnold, Arthur, Brewster, Dunning, Halsey, Hyannis, Keystone-Lemoyne, McPherson Co., Mid-Cherry, Mullen, Purdum, Stapleton, Thedford, US Fish & Wildlife, US Forest Service

Saunders County MA

Ashland, Cedar Bluffs, Ceresco, Colon, Ithaca, Malmo, Mead, Morse Bluff, Prague, Valparaiso, Wahoo, Weston, Yutan

Scotts Bluff County MA

Banner Co., Gering/Gering Rural, Lyman/Kiowa, McGrew, Minatare-Melbeta, Mitchell, Morrill (includes former Henry VFD), Scottsbluff, Scottsbluff RFD, Western Nebraska Regional Airport Fire Dept., Torrington WY, US Fish & Wildlife Service, Scotts Bluff County Communications Center, Region 22 Emergency Management, Hemingford VFD (Box Butte Co.), Bayard VFD (Morrill Co.)

Seward County MA

Beaver Crossing, Bee, Cordova, Garland, Goehner, Milford, Pleasant Dale, Seward, Staplehurst, Tamora, Utica

South Central Nebraska MA

Brady, Cozad, Curtis, Elwood, Eustis, Farnam, Gothenburg, Johnson Lake EMS, Lexington, Overton

South Central #2 MA

Clay Center, Davenport, Edgar, Fairfield, Glenvil, Hardy, Lawrence, Nelson, Ong, Ruskin, Shickley, Superior, Sutton, Clay County EM

Southeast MA

Adams, Burchard, Cook, Du Bois, Elk Creek, Johnson, Pawnee City, Steinauer, Sterling, Summerfield (KS), Table Rock, Tecumseh

Southwest MA

Arthur, Big Springs, Blue Creek, Brule, Chappell, Elsie, Grant, Imperial, Keystone-Lemoyne, Lamar, Lisco, Madrid, Ogallala, Oshkosh, Paxton, Sutherland, Venango, Wallace

Stateline MA

Bladen, Blue Hill, Campbell, Guide Rock, Lawrence, Red Cloud, Riverton, Superior

Thayer County MA

Alexandria, Belvidere, Bruning, Byron, Carlton, Chester, Davenport, Deshler, Eustis, Gilead, Hebron, Hubbell

Tri-Mutual Aid

Arlington, Bellevue, Bennington, Blair, Boys Town, Carter Lake, Cedar Bluffs, Elkhorn, Eppley Airport, Fremont, Ft. Calhoun, Gretna, Irvington, Kennard, LaVista, Louisville, Millard, Offutt AFB, Omaha FD, Papillion, Plattsmouth, Ponca Hills, Ralston, Springfield, Valley, Waterloo, Yutan

Tri-Valley MA

Arapahoe, Bartley, Beaver City, Cambridge, Edison, Holbrook, Oxford, Stamford, Wilsonville

Twin Loups MA

Ashton, Boelus, Dannebrog, Elba, Farwell, Rockville, St. Libory, St. Paul

Washington County MA

Arlington, Blair, Ft. Calhoun, Herman, Kennard

York County MA

Benedict, Bradshaw, Gresham, Henderson, McCool Junction, Waco, York

Appendix G

Fire Department Equipment and Contact Information for the Wildcat Hills CWPP Region

This section includes Annex F from county Local Emergency Operations Plans plus additional information from the departments that responded to the CWPP questionnaire.

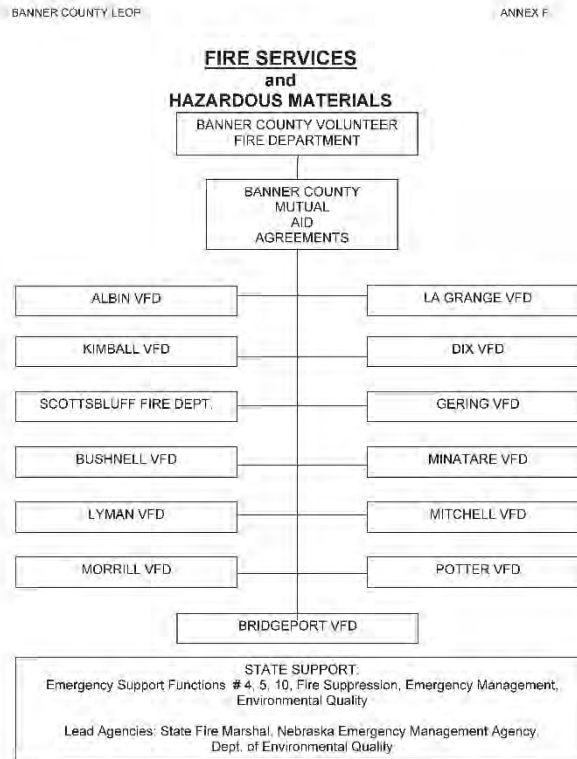
Due to its length, the full Appendix F appears only in the online version of this document, which may be accessed at:

<https://nfs.unl.edu/documents/CWPP/WHCWPP.pdf>

Wildcat Hills Region Community Wildfire Protection Plan

Banner County

Information from Banner Co. LEOP, Annex F:



F-1

2017

BANNER COUNTY FIRE RESOURCES

(List numbers of equipment)

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/ TANKER	GRASS/WEED TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDS/TYPES/ SPECIAL- TEAMS	KINDS/TYPES SPECIAL EQUIPMENT	RADIO- LOGICAL EQUIPMENT Yes / No
Banner County Fire	911		1	1		5	1	1		1 Support Bus	Y
Banner County Highway Dept	436-4460			1							
Nearest HAZMAT Response Team Scottsbluff Fire Dept	911										

F-11

2017

BANNER COUNTY LEOP

ANNEX F
ATTACHMENT 1

Wildcat Hills Region Community Wildfire Protection Plan

Survey Responses from Banner County Fire Departments

Banner County Volunteer Fire Department

Counties: Banner

Street Address: 300 Pennsylvania Ave. **Mailing Address:** PO Box 93, Harrisburg, NE 69345

Dept. Phone: 308-631-6888 **Dept. Email:** bcroads@vistabeam.com

Chief: Tim Grubbs; 308-631-6888; bcroads@vistabeam.com

Asst: Chief: Chris Olsen; 308- 641-3392

Secretary: Alan Elsen; 308- 631-9461

Treasurer: Genie Evans; 308- 225-0458

Personnel

50 **Vol.:**

MAD(s): Scotts Bluff County MA

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

1 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members

1 Type 4: Wildland: 50 GPM, 750 gal. capacity, two crew members

3 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

2 Other (Describe): School bus command center, suburban crew vehicle

Road Dept. Equip. (describe): 7 motor graders, 1 dozer, one 6,500 gal. water trailer

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby?
No

Bridges that won't support equipment weight: No

Greatest concerns: (none listed)

Rank:

n/a **Housing**

n/a **Infrastructure**

n/a **Bridge limits**

n/a **Hydrants**

1 **Other water sources**

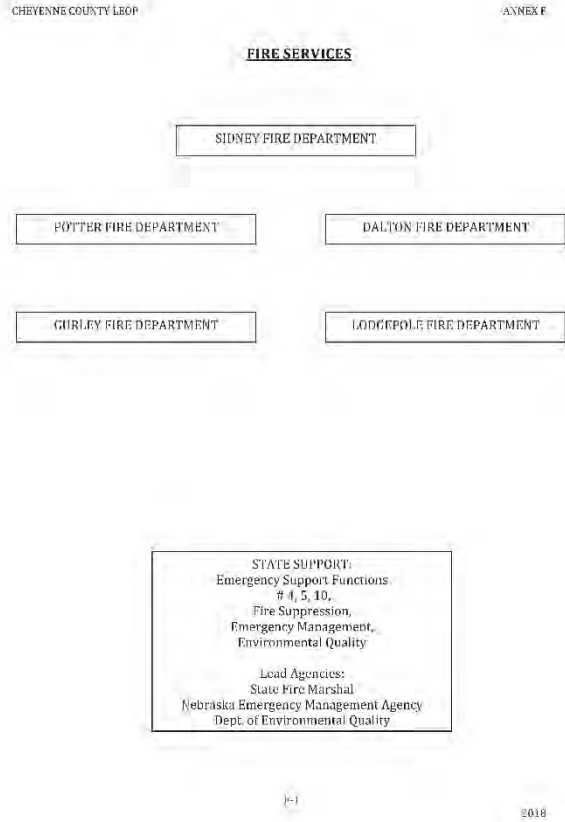
McGrew Volunteer Fire Department

(See listing under Scotts Bluff County)

Wildcat Hills Region Community Wildfire Protection Plan

Cheyenne County

Information from Cheyenne Co. LEOP, Annex F:



CHEYENNE COUNTY LEOP

CHEYENNE COUNTY FIRE RESOURCES

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/TANKER	GRASS-WEED TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDS/TYPES/SPECIAL TEAMS	KINDS/TYPES SPECIAL EQUIPMENT	RADIOLOGICAL EQUIPMENT Yes/No
Sidney VFD	308.260.1948	1	2	2	0	3	2	0	0	Extraction	2
Potter VFD	308.239.1597	0	2	3	1	3	1	1	0	Extraction	2
Dalton VFD	308.255.5105	0	1	2	0	3	0	1	0	Extraction	2
Gurley VFD	308.249.2668	0	1	2	0	2	0	1	0	0	0
Lodgepole VFD	308.230.2716	0	2	2	0	2	1	0	0	Bags/Lit	2
Regional HAZMAT Response Teams	Southeast 308.630.6231 North Platte 308.555.6762										
NEMA - State Emergency Response Team	402.471.7178										

16-1

2018

Wildcat Hills Region Community Wildfire Protection Plan

Survey Responses from Cheyenne County Fire Departments:

Dalton VFD

Counties: Cheyenne, Morrill

Street/Mailing Address: 404 US 385, Dalton, NE 69131 **Dept. Phone:** 308-277-2422

Chief: Jerred Berner; 308-249-0610; jbernertruck@yahoo.com **Asst. Chief:** Glen Bellmyer; 308-250-9041; bellmye2@gmail.com

Secretary: Hanna Geller; 308-249-1641 **Treasurer:** Shad Benish; 308-249-1951

Personnel

31 **Vol.:**

MAD(s): Central Panhandle MAD

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

3 Type 4: Wildland: 50 GPM, 750 gal. capacity, two crew members

1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members

1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

1 Equipment trucks: Command vehicle

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location1: North of Dalton, approximately 3 miles, and spanning the district. Heavy timber and grass; lots of box canyons and ravines.

Issues:

- x **Difficult access**
- x **Rough terrain**
- x **Heavy fuels**
- x **Lack of water within effective distance**

Location2: Dalton

Issues:

- x **Multiple structures**

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Water sources and access

Rank:

- 2 **Housing**
- 5 **Infrastructure**
- 4 **Bridge limits**
- 3 **Hydrants**
- 1 **Other water sources**

Lodgepole VFD

Counties: Cheyenne, Deuel, Garden

Street Address: 804 Sheldon St. **Mailing Address:** PO Box 181, Lodgepole 69149

Chief: Wade Dickinson; 308-249-2476, 308-203-3123; wdickinson@penningtonseed.com

Asst. Chief: Jay Dickinson; 308-249-5955; jdickinson@pwcbank.com

Sec/Treas.: Brandon George; 308-249-6237

Personnel

23 **Vol.:**

MAD(s): Central Panhandle MA; in process of starting a new MA group (old Interstate MA)

Other MA agreements: Have good working relationships with all Colorado neighboring districts.

Wildcat Hills Region Community Wildfire Protection Plan

Equipment

Engines

- 1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 1 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members
- 1 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members
- 2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

- 1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

- 1 Equipment trucks

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Bridges that won't support equipment weight: Yes. Various places along Lodgepole Creek, and also in a few areas in the county where heavy tankers must reroute.

Rank:

- 2 **Housing**
- 3 **Infrastructure**
- 4 **Bridge limits**
- 5 **Hydrants**
- 1 **Other water sources**

Potter Volunteer Fire/Rescue Department

Counties: Cheyenne

Street Address: 900 Front St. **Mailing Address:** PO Box 384, Potter, NE 69156 **Dept. Email:** potterfpd4@gmail.com

Chief: Mark Onstott; 308-249-5921; mark.onstott1965@gmail.com & m.onstott@yahoo.com

Asst: Chief: Scott Kasten; 308-249-5269; skkasten@embarqmail.com **Asst: Chief:** Jerry Gasseling; 308-249-0889

Secretary: Kim Sonnie; 308-991-3963; kimberlysonnie@gmail.com **Treasurer:** Kevin Frei; 308-250-1908; frei.kj@gmail.com

Personnel

22 **Vol.:**

MAD(s): Finalizing Tri-State Mutual Aid/Interlocal Association Agreement

Other MA agreements: Wyoming: Pine Bluffs; Colorado: Crook, Peete; Nebraska: Kimball, Dix, Sidney, Dalton, Lodgepole, Chappell, Big Springs, Gurley. May be additional departments once complete in early 2021.

Equipment

Engines

- 2 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members
- 1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

- 1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members
- 1 S-1 (support): 300 GPM pump, 4,000 gallon capacity, 1 crew member
- 1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member
- 1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

- 2 Class A pumpers (2-3 crew members)
- 1 Heavy Rescue
- 1 Type 3 Ambulance
- 1 Airport crash truck
- 1 Command Tahoe
- 1 Accident chase truck

Equipment housed away from main barn? Yes:

Alt Barn #1: Oshkosh airport crash truck; water tender (1,500 gal.); accident chase truck

Alt Barn #2: Freightliner structure truck; International water tender (4,000 gal.)

Command vehicle kept at an officer's home

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Bridges that won't support equipment weight: No

GIS layer & contact info: Via: I Am Responding; Mark Onstott, 303-249-5921; m.onstott@yahoo.com

Wildcat Hills Region Community Wildfire Protection Plan

Greatest concerns: Heavy fuel loads, water supplies, available personnel, weather (winds)

Rank:

- 3 **Housing**
- 2 **Infrastructure**
- 5 **Bridge limits**
- 4 **Hydrants**
- 1 **Other water sources**

Sidney VFD

Counties: Cheyenne

Street Address: 1115 13th Ave. **Mailing Address:** PO Box 79, Sidney, NE 69162

Dept. Phone: 308-254-5515 **Dept. Email:** sidneynevfd@cityofsidney.org

Chief: LaVerne Bown; 308-249-1720; lbown23@gmail.com **Asst:** Chief: Dana Reece; 308-249-6869; dreece8721@msn.com

Secretary: Mike Butts; 308-249-0345; firefighter21.mb@gmail.com

Treasurer: Glenn Morrison; 308-249-2670; Morrison.glenn@hotmail.com

Personnel

30 **Vol.:**

MAD(s): None at this time.

Other MA agreements: United States Air Force

Equipment

Engines

- 2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 2 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members
- 1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

- 1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members
- 1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

- 3 Equipment trucks
- 1 Other (Describe): 100 ft. platform

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location1: T14N R49W Sec. 19, Virginia Smith Substation (WAPA)

Issues:

- x **Multiple structures**
- x **Difficult access**

Location2: T14N R49W Sec. 7, Tallgrass Compressor Station

Issues:

- x **Multiple structures**
- x **Difficult access**

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Wildland-Urban Interface

Rank:

- 1 **Housing**
- 1 **Infrastructure**
- 5 **Bridge limits**
- 3 **Hydrants**
- 3 **Other water sources**

Wildcat Hills Region Community Wildfire Protection Plan

Kimball County

Information from Kimball Co. LEOP, Annex F:

KIMBALL COUNTY LEOP

ANNEX F

FIRE SERVICES

KIMBALL COUNTY MUTUAL AID
ASSOCIATION

KIMBALL FIRE DEPARTMENT

DIX FIRE DEPARTMENT

BUSHNELL FIRE DEPARTMENT

STATE SUPPORT:
Emergency Support Functions
4, 5, 10,
Fire Suppression,
Region 21 Emergency Management,
Environmental Quality

Lead Agencies:
State Fire Marshal

Nebraska Emergency Management Agency,
Dept. of Environmental Quality

F-4

2017

KIMBALL COUNTY FIRE RESOURCES

(List numbers of equipment)

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/ TANKER	GRASS-WEED TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDSTYPES/ SPECIAL- TEAMS	KINDSTYPES SPECIAL EQUIPMENT	RADIO- LOGICAL EQUIPMENT Yes / No
Kimball	911 or 235.7272	0	3	1	0	3	1	1	Dive Team, Rope/High Angle, Grain Elevator Rescue, HAZMAT	Dive, Jaws of Life, Air Lift	YES
Dix	911 or 682.5667	0	1	1	0	2	0	1	0	SCBA Compress	YES
Bushnell	911 or 673.5353		1	2	1	3	0	1			YES
Nearest HAZMAT Response Team											
Scottsbluff FD (45 miles)	308.630.6231 308.632.1211										
NSP NHIT (160 miles)	308.535.6762										
HazMat Contractor Huicher Services HazMat Inc.	800-229-5252 308.532.4152 (North Platte Division)										

KIMBALL COUNTY LEOP

ANNEX F
ATTACHMENT 1

F-10

2017

Wildcat Hills Region Community Wildfire Protection Plan

Survey Responses from Kimball County Fire Departments

Bushnell Fire Department

Counties: Kimball

Street Address: 312 Birch St.

Mailing Address: PO Box 186, Bushnell, NE 69128

Dept. Phone: 308-235-9251 **Dept. Email:** klent@goparterre.com

Chief: Klent Schnell; 308-235-9251; klent@goparterre.com

Asst: Chief: Dave Miller; 308-230-0578

Secretary: Doug Lukassen; 308-235-5027

Treasurer: Brandie Wasielewski; 308-235-5539

Personnel

17 **Vol.:**

MAD(s): No formal districts; have agreements with neighboring districts.

Other MA agreements: Banner Fire, Laramie Co. WY #5, Kimball Fire, New Raymer CO

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

4 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 S-1 (support): 300 GPM pump, 4,000 gallon capacity, 1 crew member

1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

Other (Describe): Trailer with ladders, extra O₂ bottles, grain bin rescue, foam, shovels, rakes

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No; water source and availability is the biggest factor in our district.

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Communication and manpower

Rank:

- 4 **Housing**
- 3 **Infrastructure**
- 5 **Bridge limits**
- 2 **Hydrants**
- 1 **Other water sources**

Dix Volunteer Fire Department

Counties: Kimball

Street Address: 300 Crownover

Mailing Address: PO Box 55, Dix, NE 69133

Dept. Phone: 308-250-0655

Dept. Email: keilianw@yahoo.com

Chief: Walter Kielian; 308-250-0655; keilianw@yahoo.com

Asst: Chief: Robert Lee; 308-241-0316; RobertiLee75@gmail.com

Sec/Treas.: Jason Hickman; 308-241-0922; jsmalibu66@gmail.com

Personnel

10 **Vol.:**

MAD(s): EM Region 21

Wildcat Hills Region Community Wildfire Protection Plan

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

1 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members

1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

1 Other (Describe): Command/Rescue-Light

Equipment housed away from main barn? Yes. Our command/rescue truck is parked outside adjacent to our fire hall.

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes.

Location: T15N R54W Sec. 29, south of UP tracks. Local name: Timber Express/Sam Gingerich

Issues:

x **Heavy fuels**

x **Other:** There are TONS of stockpiled power poles—some treated, some ‘white’—along with a LARGE amount of wood shavings. Site is located between RR tracks and Hwy. 30; heavy fuels and downwind of RR tracks.

Bridges that won’t support equipment weight: Yes: CR 67, ½ mile north of Hwy. 30; there is a ‘bypass’ on west side of bridge.

GIS layer & contact info: No

Greatest concerns: The prevalence of CRP acres. The fuel, mixed with wind, can support a hard-to-control, fast-moving fire.

Rank:

2 **Housing**

4 **Infrastructure**

5 **Bridge limits**

3 **Hydrants**

1 **Other water sources**

Kimball VFD

(Kimball VFD did not return the survey)

Wildcat Hills Region Community Wildfire Protection Plan

Morrill County

Information from Morrill Co. LEOP, Annex F:

MORRILL COUNTY LEOP

ANNEX F

FIRE SERVICES

BRIDGEPORT FIRE DEPARTMENT

BAYARD FIRE DEPARTMENT

BROADWATER FIRE DEPARTMENT

STATE SUPPORT:
Emergency Support Functions
4, 5, 10,
Fire Suppression,
Emergency Management,
Environmental Quality

Lead Agencies:
State Fire Marshal
Nebraska Emergency Management Agency
Dept. of Environmental Quality

F-1

2019

MORRILL COUNTY FIRE RESOURCES

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/TANKER	GRASS-WHEED TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDS/TYPES/SPECIAL TEAMS	KINDS/TYPES/SPECIAL EQUIPMENT	RADIO-LOGICAL EQUIPMENT Yes / No
Bridgeport VFD	308.262.1819		2	2	1	5	1	0	0	2	1
Bayard VFD	308.586.1123	0	2	2	0	3	1	1	0	1 Command Vehicle 2 Jaws	1
Broadwater VFD	308.489.5585	0	0	1	1	5	0	1	0	1	1
Regional HAZMAT Response Teams	Scottsbluff 308.630.6231										
	North Platte 308.535.6762										
NEMA - State Emergency Response Team	402.471.7176										

MORRILL COUNTY LEOP

F-9

2019

Wildcat Hills Region Community Wildfire Protection Plan

Survey Responses from Morrill County Fire Departments:

Alliance Fire Department

Counties: Box Butte, Morrill, Sheridan

Street/Mailing Address: 315 Cheyenne Ave, Alliance NE 69301

Dept. Phone: 308-762-2151

Dept. Email: firechief@cityofalliance.net

Chief: Troy Shoemaker; 308-762-2151, 308-760-7682; tshoemaker@cityofalliance.net

Ass't. Chief: Brad Schrum; 308-760-3946; bschrum@cityofalliance.net

Ass't. Chief: John Dahlberg; 308-763-8635; john.dahlberg@blackhillscorp.com

Personnel

43 **Vol.:**

4 **FT:**

MAD(s): Pine Ridge MA, Central Panhandle MA

Other MA agreements: Also intercept agreement with Grant Co. Rescue Squad

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

4 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

3 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

1 Equipment trucks

Equipment housed away from main barn? Yes

2,500 Gal. Hewitt and 1,000 gal. 6x6 at our south station in Morrill County

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Location: No location provided, but the following issues may apply to the entire district

Issues:

x Difficult access

x Rough terrain

x Lack of water within effective distance

Bridges that won't support equipment weight: Not completely sure

GIS layer & contact info: Possible. Check with Brent Kusek, Community Development Director, Alliance; 308-762-5400;

bkusek@cityofalliance.net

Greatest concerns: Stopping it

Rank:

1 **Other water sources** (water access locations)

Bayard VFD

Counties: Morrill

Street Address: 544 Main St. **Mailing Address:** PO Box 447, Bayard, NE 69334

Dept. Phone: 308-586-1123 **Dept. Email:** bayard.fire@yahoo.com

Chief: Michael Harimon; 308-672-7746, 308-586-1121; mikebanditt@yahoo.com

Asst. Chief: Paul Safford; 308-641-7628; paul.safford@charter.net

Secretary: Kacey Kreman; 308-631-2569

Treasurer: Chris Baird; 308-631-5878

Personnel

20 **Vol.:**

MAD(s): Central Panhandle

Wildcat Hills Region Community Wildfire Protection Plan

Equipment

Engines

- 1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 1 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members
- 1 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members
- 2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

- 2 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

- 1 Equipment trucks
- 1 Other (Describe): Command vehicle

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby?

Location1: Chimney Rock and surrounding area

Issues:

- x **Difficult access**
- x **Rough terrain**
- x **Lack of water within effective distance**

Location2: North Platte River area

Issues:

- x **Difficult access**
- x **Rough terrain**

Location3: Goodstreak area – 7 to 8 miles north of Bayard

Issues:

- x **Difficult access**
- x **Rough terrain**
- x **Heavy fuels**
- x **Lack of water within effective distance**

Bridges that won't support equipment weight: No

GIS layer & contact info: No. We have hydrant mapping on our 'Who's Responding' software. The city has infrastructure maps.

Greatest concerns: Available manpower

Bridgeport VFD

Counties: Morrill

Mailing Address: PO Box 578, Bridgeport, NE 69336 **Dept. Phone:** 308-262-1623

Chief: John Pankowski; 308-279-1268; john.pankowski@blackhillscorp.com

Asst. Chief: Boni Krahulik; 308-279-0339; bonilyn1975@gmail.com

Secretary: Kristie Mitchell; 308-279-1026; mitchellracin_30@yahoo.com

Treasurer: John Wallen; 307-338-7056; Native1164@yahoo.com

Personnel

16 **Vol.:**

MAD(s): Central Panhandle

Equipment

Engines

- 2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 1 Type 4: Wildland: 50 GPM, 750 gal. capacity, two crew members
- 4 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

- 1 S-1 (support): 300 GPM pump, 4,000 gallon capacity, 1 crew member
- 1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member

Other

- 2 Equipment trucks
- 1 Other (Describe): Rope rescue & dive trailer

Wildcat Hills Region Community Wildfire Protection Plan

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location1: Dove Ranch, NW Morrill County

Issues:

- x Difficult access
- x Rough terrain
- x 1 way in/out
- x Heavy fuels
- x Lack of water within effective distance

Location2: Wagon Box Ranch, SW Morrill County

Issues:

- x Difficult access
- x Rough terrain
- x 1 way in/out
- x Heavy fuels
- x Lack of water within effective distance

Bridges that won't support equipment weight: No

GIS layer & contact info: Unknown

Greatest concerns: Manpower

Rank:

- 5 Housing
- 2 Infrastructure
- 4 Bridge limits
- 3 Hydrants
- 1 Other water sources

Broadwater VFD

Counties: Morrill

Street & Mailing Address: 148 N. Starr St., Broadwater, NE 69125

Dept. Phone: 308-279-0947 Dept. Email: kay.anderson@andycofarms.com

Chief: Mike Goeman; 308-262-5980; mwgoeman@gmail.com

Asst: Chief: Mike Phillips; 308-279-0275; circlep@telecomwest.net

Secretary: Marci Goeman; 308-279-1438; mgoeman@embargo.com

Treasurer: Kay Anderson; 308-279-0947; kay.anderson@andycofarms.com

Personnel

19 Vol.:

MAD(s): Central Panhandle MA

Equipment

Engines

- 1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, two crew members
- 4 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Rank:

- x Other water sources

Wildcat Hills Region Community Wildfire Protection Plan

Lisco Volunteer Fire Department

Counties: Morrill (Garden Co. FD consists of Oshkosh (in Garden) and Lisco (in Morrill); they share a chief. This info taken from the combined questionnaire submitted for the adjacent CWPP in 2019.)

Street Address: 118 Coldwater St., Lisco, NE **Mailing Address:** PO Box 403, Oshkosh, NE 69154

Dept. Phone: 308-778-6243

Dept. Email: quinnjp10@gmail.com

Chief: Joe Quinn, 308-778-6243, quinnjp10@gmail.com

Asst: Chief: Charles Chadwick, 308-778-6094

Secretary: Missy Quinn, 308-778-6768

Treasurer: Chris Loomis, 308-778-6148

Personnel

23 **Vol.:**

MAD(s): Southwest and Central Panhandle

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

1 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members

1 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members

5 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members

2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members

Other

1 Equipment truck

Equipment housed away from main barn? Yes

1 Type 6 engine is stationed northeast of Oshkosh

2 Type 6 engine and 1 T-2 Tender are stationed at Lisco

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location: All ranches in the hills are vulnerable with grassland surrounding them

Issues:

Difficult access

Rough terrain

Heavy fuels – at times

Lack of water within effective distance

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Getting enough mutual aid and tenders

Rank:

4 **Housing**

3 **Infrastructure**

5 **Bridge limits**

2 **Hydrants**

1 **Other water sources**

Wildcat Hills Region Community Wildfire Protection Plan

Survey Responses from Scotts Bluff County Fire Departments

Gering Fire Department

Counties: Scotts Bluff

Street Address: 1025 M St. **Mailing Address:** PO Box 193, Gering, NE 69341

Dept. Phone: 308-436-2441 **Dept. Email:** firedept@gering.org

Chief: Nathan Flowers; 308-637-5135, 308-436-5880; firedept@gering.org

Asst: Chief: Jeff Vance; 308-641-0157, 308-436-2401; fndmhot@gmail.com

Sec/Treas.: Tim Maxcy; 308-672-5177, 308-436-2401; tmaxcy@gering.org

Personnel

40 **Vol.:**

2 **FT:**

MAD(s): Scotts Bluff County Mutual Aid Association

Other MA agreements: Scotts Bluff County has offered a Taskforce of engines available for wildfire response.

Equipment

Engines

3 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

4 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members

1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members

Other

4 Other (Describe): 2 command vehicles, 1 UTV, 1 rescue unit

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location1: Wildcat Hills: Six miles south of Gering, span of about 30 miles east/west

Issues:

- x **Multiple structures**
- x **Difficult access**
- x **Rough terrain**
- x **1 way in/out**
- x **Heavy fuels**
- x **Lack of water within effective distance**

Location2: Scotts Bluff National Monument

Issues:

- x **Multiple structures**
- x **Difficult access**
- x **Rough terrain**
- x **Lack of water within effective distance**

Location3: Wildcat Hills Estates: Subdivision west of Gering next to some canyons

Bridges that won't support equipment weight: No

GIS layer & contact info: Yes, Scotts Bluff County GIS

Rank:

- 1 **Housing**
- 3 **Infrastructure**
- 4 **Bridge limits**
- 5 **Hydrants**
- 2 **Other water sources**

Wildcat Hills Region Community Wildfire Protection Plan

Kiowa/Lyman VFD

Counties: Scotts Bluff

Street Address: 307 Jeffers **Mailing Address:** PO Box 326, Lyman, NE 69352

Chief: Mike Kindred; 308-641-1751, 308-631-4015; mkindred@swirecc.com

Asst. Chief: Robert French; 308-631-6297; frenchie1180@swirecc.com

Secretary: Kristy Pitts; 308-631-5773; mcpitts53@yahoo.com

Treasurer: Mike Hort; 308-637-4486; husker812@gmail.com

Personnel

22 **Vol.:**

MAD(s): Scotts Bluff County MA Assoc.

Equipment

Engines

2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

1 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members

2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members

Other

1 Other (Describe): Tanker 3,000 gal.

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes.

Location: East of Stegall Rd. to Banner County line. From Robidoux Rd. to Carter Canyon Rd.

Issues:

x **Difficult access**

x **Rough terrain**

x **Heavy fuels**

x **Lack of water within effective distance**

Bridges that won't support equipment weight: Yes.

GIS layer & contact info: No.

Rank:

1 **Housing**

3 **Infrastructure**

2 **Bridge limits**

4 **Hydrants**

5 **Other water sources**

McGrew Rural Fire District

Counties: Scotts Bluff, Banner

Street Address: 347 Main St. **Mailing Address:** PO Box 93, McGrew, NE 69353

Chief: Mike Wamboldt; 308-641-8595

Asst. Chief: Shawn Hopkins; 308-641-2494

Sec/Treas.: Harry Safford; 308-672-2796, 308-783-1103

Reporting Officer: Lena Baird; 308-641-2174; sbaird@vistabeam.com

Personnel

32 **Vol.:**

MAD(s): Scotts Bluff County MA

Equipment

Engines

2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members

Equipment housed away from main barn? No

Wildcat Hills Region Community Wildfire Protection Plan

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location: T20N R53W Sections 19, 20, 21, 22, 23, 24, 25: Williams Gap and west of there to Wright's Gap. CR 34 south of McGrew to CR Z west to hills

Issues:

- x Difficult access
- x Rough terrain
- x Heavy fuels

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Lack of equipment on hand

Minatare/Melbeta Fire and Rescue

Counties: Scotts Bluff, Sioux

Street Address: 211 Main **Mailing Address:** PO Box 165, Minatare NE 69356

Dept. Phone: 308-783-2763 **Dept. Email:** minatarefireddepartment@gmail.com

Chief/Treasurer: Brandi Ehler; 308-765-0303

Ass't. Chief: Brian Lore; 308-631-7479

Secretary: Vern Eberhardt; 308-783-2763

Personnel

14 Vol.:

MAD(s): Scotts Bluff County MA

Other MA agreements: Bayard

Equipment

Engines

1 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members #21

1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members #23

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members #41

1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members #22

1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member #40

Other

1 Equipment trucks: Command unit #60

1 Other (Describe): Yamaha side-by-side

Road Dept. Equip. (describe):

Equipment housed away from main barn? Yes

Tender in Melbeta

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location: Sandy hills north of Lake Minatare

Issues:

- x Difficult access
- x Rough terrain
- x 1 way in/out
- x Heavy fuels
- x Lack of water within effective distance

Bridges that won't support equipment weight: Yes, private wooden bridges with little maintenance

Greatest concerns: Personnel and lack of communication (15 different radio frequencies and lack of radios)

Rank:

- 1 Housing
- 4 Infrastructure
- 2 Bridge limits
- 5 Hydrants
- 3 Other water sources

Wildcat Hills Region Community Wildfire Protection Plan

Mitchell Fire Department

Counties: Scotts Bluff, Sioux

Street Address: 1203 Center Ave., Mitchell, NE 69357

Dept. Phone: 308-623-1311

Chief: Jon Wurdeman; 308-631-1311; jwurdeman56@gmail.com

Ass't. Chief: Jesse Wurdeman; 308-641-3258; jjw264@gmail.com

Secretary: Ray Schultz **Treasurer:** Jeff Jenkins; 308-641-3457; jjenkins@gmail.com

Personnel

37 **Vol.:**

MAD(s): Scotts Bluff County Mutual Aid Association

Equipment

Engines

2 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members

2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

2 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Bridges that won't support equipment weight: Yes

GIS layer & contact info: Yes: Susie Wick; 308-633-1806; swick@scottsbuffcounty.org

Rank:

2 **Housing**

4 **Infrastructure**

5 **Bridge limits**

3 **Hydrants**

1 **Other water sources**

Morrill (Sheep Creek & Farmers) Volunteer Fire and Rescue

Counties: Scotts Bluff, Sioux

Street Address: 314 Center Ave. **Mailing Address:** PO Box 207, Morrill, NE 69358

Dept. Phone: 308-247-2321 **Dept. Email:** morrillfire@gmail.com

Chief: Matt Hinman; 308-641-8619; mhinman47@gmail.com

Ass't. Chief: Art Steiner; 308-631-0885; art.steiner@simplot.com

Sec/Treas.: Tony Schuler; 308-641-4533

Personnel

30 **Vol.:**

MAD(s): Scotts Bluff County MA

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members

1 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members

3 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)

1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members

4 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

1 Equipment trucks: 4-door Ford V8

3 Other (Describe): 1 command vehicle (2500 Chevy Silerado) & 2 rescue units

1 Road Dept. Equip. (describe): Mobile light plant

Equipment housed away from main barn? No

Wildcat Hills Region Community Wildfire Protection Plan

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location1: 7 miles north of Morrill, soil becomes very sandy and tough terrain to get around on. This terrain is from the Wyoming border to the end of our district north and east.

Issues:

- x Difficult access
- x Rough terrain
- x Heavy fuels
- x Lack of water within effective distance

Locations 2, 3, & 4: Along UP railroad tracks, Sheep Creek, and Niobrara River

Issues:

- x Difficult access
- x Rough terrain
- x Other: Unfamiliar with some of the area (parts of the fire district) because of private property or access to the property itself.

Bridges that won't support equipment weight: Yes, in the areas of concern described above

GIS layer & contact info: Yes; Anthony Murphy, 308-631-0996, amurphy@scottsbluff.org

Greatest concerns: 1) Communication with other departments 2) Good routes to take to the fire

Rank:

- 4 **Housing**
- 5 **Infrastructure**
- 3 **Bridge limits**
- 1 **Hydrants**
- 2 **Other water sources**

Scottsbluff Fire Department (municipal)

Counties: Scotts Bluff

Street/Mailing Address: 1801 Avenue B, Scottsbluff, NE 69361

Dept. Phone: 308-630-6231 **Dept. Email:** fireinfo@scottsbluff.org

Chief: Thomas Schingle; 307-631-4363, 308-630-6229; tschingle@scottsbluff.org

Personnel

17 **FT:**

MAD(s): Scotts Bluff County MA Association

Equipment

Engines

- 2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Other

- 1 Other (Describe): Aerial platform

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? No

Bridges that won't support equipment weight: No

GIS layer & contact info: Taylor Stephens; 308-632-2177; tstephens@scottsbluff.org

Greatest concerns: N/A—No WUI close to jurisdiction

Rank:

- 2 **Housing**
- 1 **Infrastructure**
- 4 **Bridge limits**
- 5 **Hydrants**
- 3 **Other water sources**

Scottsbluff Rural Fire Department

Counties: Scotts Bluff, Sioux

Street/Mailing Address: 1717 E 15th St., Scottsbluff, NE 69361 **Dept. Phone:** 308-635-1654

Chief: Paul Reisig; 308-641-3748, 308-635-1654; sbruralfire@gmail.com

Ass't. Chief: None at this time / Trk Capt. #3, Chris Cawley; 308-631-6009; sbruralfire@gmail.com

Sec/Treas.: Robert Wells; 308-641-6117; bscco@brownsheep.com

Wildcat Hills Region Community Wildfire Protection Plan

Personnel

24 Vol.:

MAD(s): Scotts Bluff-Banner Co.

Equipment

Engines

- 2 Type 1 Structural: ~~1,000~~ 1,500 GPM, ~~300~~ 1,000 gal. capacity, four crew members
 - 2 Type 2 Structural: 500 GPM, ~~300~~ gal. capacity, three crew members
1- 1,000 gal. capacity; 1-2,000 gal. capacity
 - 2 Type 5: Wildland: ~~50~~ 250 GPM, ~~400~~ 600 gal. capacity, two crew members
 - 2 Type 6: Wildland: ~~50~~ 150 GPM, ~~150~~ 175 gal. capacity, two crew members
- Tenders (Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
- 2 Other: Conventional tenders, 1-200 GPM pump, 2,000 gallon capacity
1- 200 GPM pump, 1,500 gallon capacity

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location: 24 square miles in southern Sioux County with few water resources, several trailers and buildings on one-way roads, grassland, no roads, only one road – the sugar factory road – serves the area. Bad in wet conditions.

Issues:

- x Multiple structures
- x Difficult access
- x Rough terrain
- x 1 way in/out
- x Lack of water within effective distance

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Protection of lives and property; water resources; mutual aid

Rank:

- 1 Housing
- 2 Infrastructure
- 5 Bridge limits
- 4 Hydrants
- 3 Other water sources

Scotts Bluff National Monument (not a fire district) also submitted their information:

Counties: Scotts Bluff

Street Address: 190276 Old Oregon Trail Mailing Address: PO Box 27, Gering NE 69341 Phone: 308-436-9717

Chief: Fire Coordinator-Justin Cawezel; 308-436-9717, 402-305-4423; Justin_cawezel@nps.gov

Other MA agreements: Gering Fire Department

Equipment

Engines

- 1 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members

Equipment housed away from main barn? No

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes

Location: South Bluff

Issues:

- x Difficult access
- x Rough terrain
- x Lack of water within effective distance

Bridges that won't support equipment weight: No

Greatest concerns: Fire starting in an inaccessible area and moving quickly off park onto private land with structures threatened.

Rank:

- x Hydrants

Appendix H: Fire Department Survey and Distribution List

Fire Department Survey

Distributed 12/8/2020 to fire departments all or partly in the CWPP Region

Nebraska Fire Department Survey

Contact Information:

Department Name	County(s)
Street Address	Mailing Address
Dept. Phone	Dept. Email
Chief Name:	Best Phone
Email:	Alt. Phone
Assistant Chief Name:	Best Phone
Email:	Alt. Phone
Secretary Name:	Best Phone
Email:	Alt. Phone
Treasurer Name:	Best Phone
Email:	Alt. Phone

Personnel:

Number	Type
	Volunteer
	Part-time
	Full-time

What Mutual Aid District(s) is your department in? _____

If you have mutual aid agreements outside of formal MA districts please name the departments:

Wildcat Hills Region Community Wildfire Protection Plan

Equipment:

Engines (Fill in number of each type of equipment below)

Number	Type	Description
	Type 1	Structural: 1,000 GPM, 300 gal. capacity, four crew members
	Type 2	Structural: 500 GPM, 300 gal. capacity, three crew members
	Type 3	Wildland: 150 GPM, 500 gal. capacity, three crew members
	Type 4	Wildland: 50 GPM, 750 gal. capacity, two crew members
	Type 5	Wildland: 50 GPM, 400 gal. capacity, two crew members
	Type 6	Wildland: 50 GPM, 150 gal. capacity, two crew members
	Type 7	Wildland: 10 GPM, 50 gal. capacity, two crew members

Tenders (see below) Definition: Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive

Number	Type	Description
	T-1 (tactical)	250 GPM pump, 2,000 gallon capacity, 2 crew members
	T-2 (tactical)	250 GPM pump, 1,000 gallon capacity, 2 crew members
	S-1 (support)	300 GPM pump, 4,000 gallon capacity, 1 crew member
	S-2 (support)	200 GPM pump, 2,500 gallon capacity, 1 crew member
	S-3 (support)	200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

Number	Type
	Equipment trucks
	Other (Describe):
	Road Dept. Equipment (describe)
Yes/No (Circle)	Is any equipment housed away from the main fire barn?
	Describe:

Wildcat Hills Region Community Wildfire Protection Plan

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? ☐ Yes ☐ No

If yes, please describe where and why:

Township _____ Range _____ Section _____ Local Name: _____

Location Description:

Issues (check all that apply):

- ☐ Multiple Structures
- ☐ Difficult Access
- ☐ Rough Terrain
- ☐ One way in and out
- ☐ Heavy fuels
- ☐ Lack of water within effective distance
- ☐ Other (specify): _____

Additional areas:

Township _____ Range _____ Section _____ Local Name: _____

Location Description:

Issues (check all that apply):

- ☐ Multiple Structures
- ☐ Difficult Access
- ☐ Rough Terrain
- ☐ One way in and out
- ☐ Heavy fuels
- ☐ Lack of water within effective distance
- ☐ Other (specify): _____

Wildcat Hills Region Community Wildfire Protection Plan

Are there bridges in your jurisdiction that won't support equipment weight?

☐ Yes ☐ No

If yes, please describe:

Are there other areas in your jurisdiction with high home density, infrastructure or other resources at high risk, or populated areas with one way in/out?

☐ Yes ☐ No

If yes, please describe:

What are your greatest concerns if a wildfire were to start in or enter your jurisdiction?

Does your jurisdiction have GIS layer(s) that show housing, infrastructure, bridge limits, hydrants and other water sources (other than the county assessor's GIS information)?

☐ Yes ☐ No

If yes, please provide contact information:

Name: _____

Phone: _____

Email: _____

Which of these is of greatest concern in your jurisdiction?
(Please rank 1 to 5 with 1 being most important)

_____ Housing

_____ Infrastructure

_____ Bridge limits

_____ Hydrants

_____ Other water sources

Is there anything else you think we should know? _____

Thank you for providing this information.

Please email a scan of the completed form to sbenenson4@unl.edu or mail a hard copy to:

Nebraska Forest Service (Attn: Sandy Benson)
PO Box 830815
Lincoln, NE 68583-0815

Fire Department Survey Distribution List

Fire Departments

Alliance Fire Department
Banner County VFD
Bayard VFD
Bridgeport VFD
Broadwater VFD
Bushnell Fire Department
Dalton VFD
Dix VFD
Gering VFD
Kimball VFD
Kiowa/Lyman VFD
Lisco VFD
Lodgepole VFD
McGrew Rural Fire District
Minatare/Melbeta Fire & Rescue
Mitchell Fire Department
Morrill (Sheep Creek & Farmers) Vol. Fire & Rescue
Potter Volunteer Fire/Rescue Dept.
Scottsbluff Fire Department (municipal)
Scottsbluff Rural Fire Department
Sidney VFD

Also returned the survey:

National Park Service/Scotts Bluff National Monument

Appendix I

Public Engagement

This section includes outreach documents, media releases, and stakeholders list

Steering Committee

Name	Title/Affiliation
Baillie, Hunter	NGPC-NW District Manager, Mgmt. Section
Becker, Chris	NGPC Biologist II
Bown, LaVerne	Sidney Fire Chief
Dickinson, Kristin	NRCS-South Platte NRD
Feaster, Sonya	USFWS RxB Specialist, Great Plains Region
Filipi, Todd	NPNRD Resource Conservation Coordinator
Flowers, Nathan	Gering Fire Chief
Gerlach, Bryce	NFS Forester
Gray, Sarah	NRCS-North Platte NRD
Johnson, Colby	NGPC Parks Division Regional Supervisor
Leal, Ron	Region 21 Emergency Manager
Morford, Dan	NPS-Scotts Bluff Nat. Mon. Superintendent
Newman, Tim	Region 22 Emergency Manager
Onstott, Mark	Chief, Potter Volunteer Fire / Rescue Dept.
Peterson, Seth	NFS Fire Management Specialist
Post, Bob	Banner County Commissioner
Reisen, Dave	State Training/Exercise Officer/NEMA
Matt Steffl	NGPC NW District Manager, Private Lands
Thomason, Carmen	BLM Fire Mitigation Specialist
Walters, Rich	TNC Conservation Director
Wienk, Cody	NPS-MWR Fire Ecologist
Wittrock, Galen	SPNRD Assistant Manager
Benson, Sandy	CWPP Coordinator/NFS

Wildcat Hills Region Community Wildfire Protection Plan

Outreach Documents

This document was shared with county boards and emergency managers in December 2020

Updating Your Community Wildfire Protection Plan

The Nebraska Forest Service (NFS) is beginning the process of updating the **Wildcat Hills Community Wildfire Protection Plan (CWPP)** that was originally prepared in 2008 for the Wildcat Hills Estates and expanded in 2015 to include most of the fire districts in Banner, Cheyenne, Kimball, Morrill, and Scotts Bluff Counties. This plan is a wildfire-specific resource that coordinates with your county emergency and hazard mitigation plans, allowing local landowners to apply for federal and state cost-share funds for woody fuels reduction and other hazard mitigation efforts. **There is no cost to counties.**

The Wildcat Hills CWPP, part of a statewide network of CWPPs, assists communities in gathering resources, evaluating wildfire risk, and identifying strategies and mitigation actions to reduce overall vulnerability to wildfire events. This CWPP encompasses the entirety of Banner, Cheyenne, Kimball, Morrill, and Scotts Bluff Counties and the fire districts located within them.

Over the next several months, planners will review the 2015 plan, update outdated information, add any new topics that have emerged, and delete material that is no longer pertinent.

Community participation is welcome throughout the update process. Everyone who works with land management, fire, and community preparedness—particularly counties, local fire districts, natural resources agencies, as well as the general public—is encouraged to provide input on wildfire concerns.

Once we have gathered the information, we will prepare a draft update for your review, incorporate edits and changes, then finalize the plan for your signature.

Please address questions to Seth Peterson, sethpeterson@unl.edu or call 402-366-3540; or Sandy Benson at sbenson4@unl.edu, 402-684-2290.

Wildcat Hills Region Community Wildfire Protection Plan

Media Releases

Print Media and Radio

A public invitation to participate was sent via news release to local newspapers and radio stations January 5, 2021:

Community Wildfire Protection Plan update underway

Local counties, emergency managers, fire departments, and others who deal with wildfire are working with the Nebraska Forest Service to update the Community Wildfire Protection Plan (CWPP) adopted in 2015 for the Wildcat Hills region of Nebraska. This document is a wildfire-specific resource that coordinates with area emergency and hazard mitigation plans.

Landowners and others in counties with a CWPP in place can apply for federal and state cost-share funds for local woody fuels reduction and other hazard mitigation efforts within the CWPP region. There is no cost to counties.

The plan, which also includes areas adjacent to the Wildcat Hills, is part of a statewide CWPP network. It assists communities in gathering resources, evaluating wildfire risk, and identifying strategies and mitigation actions to reduce overall vulnerability to wildfire events. This CWPP encompasses the entirety of Banner, Cheyenne, Kimball, Morrill, and Scotts Bluff counties and the fire districts located within them.

Over the next several months, planners will review the 2015 plan, update outdated information, add any new topics that have emerged, and delete material that is no longer pertinent.

Community participation is welcome throughout the update process. Everyone who works with land management, fire, and community preparedness—particularly counties, local fire districts, natural resources agencies, as well as the general public—is encouraged to provide input on wildfire concerns.

The 2015 CWPP can be viewed or downloaded at https://nfs.unl.edu/documents/CWPP/WHCWPP_2015.pdf. For further information or to provide comments, email sbenson4@unl.edu or call 402-684-2290.

* * *

Public Meetings

Steering Committee members participated in the North Platte NRD Hazard Mitigation Plan update stakeholder meetings March 24 and 25, 2021 to provide information on the CWPP update, solicit input, and answer questions.

Follow-up News Releases

Media releases for draft review and publication of final plan were distributed in summer 2021.

Online Outreach

Information about the Wildcat Hills CWPP update process was placed on the Nebraska Forest Service website's CWPP page: <https://nfs.unl.edu/community-wildfire-protection-plan> and the Nebraska CWPP Facebook page: <https://www.facebook.com/groups/451134565293952/> on December 16, 2020. During the planning process, links to periodic updates and the draft and final documents were also posted to these locations.

Stakeholders List

County Boards, Emergency Management, and Municipalities in: Banner, Cheyenne, Kimball, Morrill, and Scotts Bluff Counties

Fire Departments: See Appendix H

Natural Resources Districts: North Platte, South Platte

State Agencies: Nebraska Forest Service, Nebraska Game and Parks Commission, Nebraska State Fire Marshal's Office, Board of Educational Lands and Funds, Nebraska Emergency Management Agency

Federal Agencies: National Park Service, Natural Resources Conservation Service, US Fish and Wildlife Service, Bureau of Land Mgmt.

Non-Government Conservation Organizations: The Nature Conservancy, Platte River Basin Environments, Ducks Unlimited, Pheasants Forever

Prescribed Fire Associations: Oregon Trail Prescribed Fire Association

Interested Individuals

Appendix J

- Wildland Urban Interface Mitigation Strategies
- Structural Ignitability Reduction Practices
- Firewise® Landscaping
- Nebraska Fire-Resistant Plant List

Wildcat Hills Region Community Wildfire Protection Plan

Wildland Urban Interface Mitigation Strategies and Structural Ignitability Reduction Practices

- 1) Develop a program to increase awareness of Firewise® standards for community defensibility and designate, for firefighter safety, which homes and/or parts of communities are not defensible
- 2) Introduce and expand the understanding of the 'Home Ignition Zone' and emphasize how survivability depends on maintenance necessary to reduce and manage home ignition potential
- 3) Create guidelines for developers and property owners who intend to construct roads, driveways and dwellings to provide the following:
 - a. Name, address, and GPS location for each road, driveway, and building site
 - b. Fuel treatment standards for the areas between building sites
 - c. Evidence that Firewise® building standards and defensible space information has been provided to every lot and homebuyer or develop Firewise® based requirements for new building construction standards
 - d. Road construction and maintenance standards that accommodate emergency equipment
 - e. Require at least two access routes for developed areas and subdivisions
 - f. Designate locations for maintained safety zones and water facilities
- 4) Subdivision residents can work together to improve defensibility of their whole subdivision; this could include connecting home site defensible space areas and/or fuel hazard reduction and thinning 150 to 200 feet from buildings
- 5) Develop accurate maps for subdivisions and access roads
- 6) Treat fuels along strategic roads
- 7) Long driveways in wooded areas should be graveled and provided with terminus turnaround that has at least a 45-foot radius or a pull-in and pull-out facility
- 8) Mark driveways without turnaround or with steep slopes with a sign indicating limitations
- 9) Mark safety zones and helispots where fuel continuity is dense and zones are not obvious
- 10) Develop and implement a standard for signing roads and addressing and marking homes for more efficient emergency access

Web Sources: Wildfire Preparedness

FEMA: Local Mitigation Planning: <https://www.fema.gov/local-mitigation-planning-resources>

Fire-Adapted Communities®: <http://www.fireadapted.org/>

Firewise® Communities: <http://www.firewise.org/>

Firewise Guide to Landscaping and Construction: <https://www.nfpa.org/-/media/Files/Firewise/Brochures-and-Guides/FirewiseGuideToLandscapeandConstruction.ashx>

I Am Responding (Emergency responder supplemental dispatch notification system): <https://iamresponding.com/v3/Pages/Default.aspx>

Nebraska Forest Service Wildland Fire Protection Program: <https://nfs.unl.edu/fires-nebraska>

Ready, Set, Go! <http://www.wildlandfirersg.org/>

USFS Wildfire Risk to Communities interactive website: <https://wildfirerisk.org/>

Wildcat Hills Region Community Wildfire Protection Plan

Firewise® Landscaping and Nebraska Fire-Resistant Plant List

Firewise® Landscapes

Homeowners value landscapes for the natural beauty, privacy, shade and recreation they offer and frequently select properties that include or are near woodlands or other natural areas to visually expand the landscape. One of the risks of properties adjoined to natural areas, however, is that they can be more vulnerable to wildfires.

Creating Defensible Space

In fire-prone areas, property owners can take measures to minimize the risk of wildfire damage by creating a 'defensible space' around the home or other buildings. Some of the ways to create more Firewise® landscapes include:

- Planting lower-growing plants or groundcovers near the home to form low, dense mats with strong root systems
- Avoiding the use of tall grasses close to buildings since they can ignite easily and burn rapidly
- Mulching with rocks, gravel or other hardscaping around the foundation instead of bark, pine needles or other flammable mulches
- Paving patio areas and creating raised beds to create firebreaks
- Planting low-growing succulent shrubs rather than taller, resinous evergreen shrubs
- Spacing trees so that tree crowns are 10 feet from each other
- Pruning dead limbs
- Removing dried annuals or perennials
- Raking leaves and litter as they build up
- Placing screens beneath decks to keep leaves or woody debris from collecting underneath
- Keeping wood piles at least 30 feet away from the house
- Providing open access for firefighting equipment that is not limited by fences, trees, or other obstructions
- Keeping propane tanks a good distance from buildings, and taking care when refueling garden equipment
- Using non-flammable outdoor furniture

Selecting Firewise Plant Materials

No plant species is entirely fireproof. Virtually any vegetation can fuel a fire, but some species are more resistant than others. The following information can help property owners select more fire-resistant plant materials, but where they are planted and how they are cared for can be just as important as the plants themselves.

- Planting a variety of sizes and species of plants in small, irregular clusters creates a better barrier than large masses of a single species
- Groundcovers or other plants that grow close to the ground offer less fuel
- Conifers or other plants are high in very flammable resin, so it's best to keep them thinned and pruned—especially close to the ground
- Conifers with thick bark and long needles are more able to withstand fire
- Salt-tolerant plants tend to be somewhat more fire-resistant
- Deciduous plants have higher moisture content, are less flammable and, when dormant, offer less fuel
- Drought-tolerant plants tend to be more fire-resistant as they are likely to contain lots of moisture (succulents) or to shed leaves or needles during extreme drought
- Plants with open, loose branches and minimal vegetation (such as currant and mountain mahogany) are less of a hazard, as are plants that grow slowly and need little pruning
- Plants, like aspen, that can resprout following a fire will more quickly rejuvenate a landscape

Using Native Prairie Plants

In Nebraska it is often the case that a 'Firewise' landscape should also be a 'waterwise' landscape where drought-tolerant plants are an important part of the mix. Obviously, our native plants have evolved to grow under natural moisture conditions and many of them are suitable for both a 'waterwise' and a 'Firewise' landscape. Just a little water here and there can go a long way to keeping such plants green and viable. Another important aspect of using native plants is that they play a vitally important role in supporting biodiversity and all the benefits derived from it. We strongly recommend that native plants be utilized within any landscape, including the Firewise landscape. The trick is to use them appropriately, especially near the home.

Wildcat Hills Region Community Wildfire Protection Plan

Although native prairie grasses and forbs make a lot of sense in a ‘waterwise’ landscape, they can also be highly combustible when they are brown and dry. For a Firewise landscape, prairie plants, especially taller grasses, should be used sparingly and judiciously within the 30 foot ‘Lean, Clean and Green Zone’ nearest the home. A few scattered here and there for ornamental affect are fine, but they should not be massed tightly close to the home. A prairie meadow or thick border planting should be reserved for those areas farther away from important structures.

Lawn and Groundcover

One of the best ways to defend a structure against wildfire is to maintain a closely cropped green zone near the home. This typically means the maintenance of a green lawn, but turf grass is not the only choice. Cool-season lawn grasses such as Kentucky bluegrass and tall fescue are good choices, although they can require significant amounts of supplemental irrigation to keep green in dry weather. For sunny areas, a good alternative is buffalo grass, which requires much less moisture than other lawn grasses. Our native blue grama can also be used as a turf alternative, however it will need to be mowed higher – at 8-10” while green and then mowed short when dormant. Recent years has brought the advent of many sedge species as lawn alternatives especially for more shady zones.

Groundcovers don’t need to be grasses or grass-like plants requiring mowing. There are several species of ‘Firewise’ groundcover perennials that make sense including such things as vinca, bergenia, hosta, bugleweed, geranium, sedum, primrose, pussytoes, snow in summer, Virginia creeper, wild strawberry and yarrow.

Introduced Perennials and Ornamental Grasses

As with native plants, there are many great non-native species that can be used in a ‘Firewise’ landscape that is also ‘waterwise.’ The trick is to place them appropriately and cut them back (clean them up) when they die back late in the season. Some of our favorites include sedum, geranium, coral bells, daylily, lamb’s ear, feather reed grass, Korean reed grass, and fountain grass.

Trees and Shrubs

Although nearly any tree or shrub could burn in a severe fire, it is the highly volatile evergreen species including pine, spruce, fir, juniper, and cedar that pose the most risk when growing near homes or other structures. Within the area nearest the home (30-foot interior zone) it is advisable to exclude volatile evergreens entirely. However, because deciduous trees are so important at casting shade and cooling the home and its surroundings, and because they are not nearly as prone to burning, they can be utilized relatively close to the home. Keep in mind that any branches directly overhanging the roof should be removed. Some of the best deciduous trees for planting near homes include our tough native species including hackberry, bur oak, coffeetree, and honeylocust.

Most deciduous shrubs are acceptable for use in a Firewise landscape. Nearest the home, the shrubs should be kept lower than 30 inches and they should not be massed in tight groupings. Beyond the 30-foot interior zone, the shrubs can be taller and more tightly spaced, however grouping should still be kept relatively small until at least 50 feet from the home. Native species will do the most for biodiversity. Species to consider include mountain mahogany, rabbit brush, sumac, serviceberry, currant, snowberry, gooseberry, plum, and chokecherry.

Firewise Plants for Nebraska

Perennials & Groundcovers

Artemisia
Bergenia
Blanket flower, *Gaillardia*
Bugleweed, *Ajuga*
Candytuft, *Iberis*
Catmint, *Nepeta*
Coneflowers, *Rudbeckia*
Columbine, *Aquilegia*
Coral bells, *Heuchera*
Coreopsis
Daylily, *Hemerocallis*
Flax, *Linum*
Geranium
Hens and chicks, *Sempervivum*
Iris
Lamb's ear, *Stachys*
Penstemon
Pinks, *Dianthus*
Primrose, *Oenothera*
Pussytoes, *Antennaria*
Sage, *Salvia*
Sedum
Snow-in-summer, *Cerastium*
Violets, *Viola*
Virginia creeper, *Parthenocissus*
Wild ginger, *Asarum*
Wild strawberry, *Fragaria*
Yarrow, *Achillea*

Shrubs

Buffaloberry, *Shepherdia*
Cherry and plum, *Prunus*
Cinquefoil, *Potentilla*
Coralberry, snowberry, *Symphoricarpos*
Cotoneaster
Currant and gooseberry, *Ribes*
Dogwood, *Cornus*
Lilac, *Syringa*
Mahonia
Mock orange, *Philadelphus*
Mountain mahogany, *Cercocarpus*
Ninebark, *Physocarpus*
Rose, *Rosa*
Sumac, *Rhus*

Trees

Aspen, cottonwood and poplar, *Populus*
Birch, *Betula*
Black cherry, *Prunus*
Boxelder, *Acer*
Bur, Gambel, Chinkapin oak, *Quercus*
Hackberry, *Celtis*
Maple and boxelder, *Acer*
Ohio buckeye, *Aesculus*
Willow, *Salix*

Appendix K

Link to the Nebraska Forest Service ‘Yellow Book’ Emergency Assistance for Wildfire Control

<https://nfs.unl.edu/documents/Yellowbook.pdf>

This reference is a ‘must have’ for Nebraska’s emergency responders. It contains:

- Contact information for state, federal and private agencies that have emergency suppression resources or can provide technical expertise in wildfire suppression
- Aerial Applicator and Foam Retardant Directory
- Deployment procedures and forms needed to order a Single Engine Air Tanker (SEAT)
- Map of cooperating aerial applicators and SEAT base locations