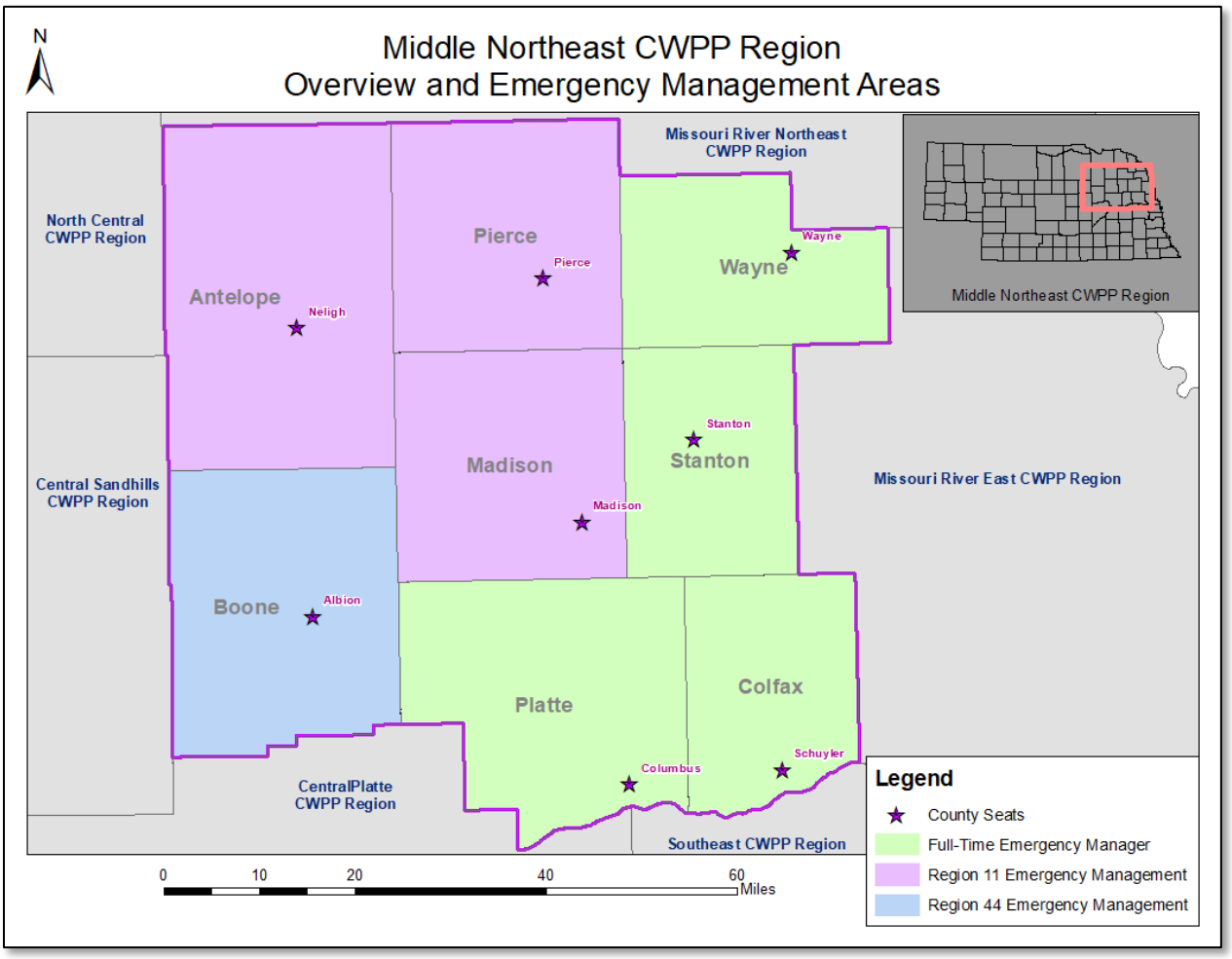
Middle Northeast Nebraska Community Wildfire Protection Plan

FOR THE COUNTIES OF ANTELOPE, BOONE, COLFAX, MADISON, PIERCE, PLATTE, STANTON, AND WAYNE

Photo courtesy of Sabrina Negus

October 2021



Map 1: Overview of the Middle Northeast CWPP Region and Emergency Management Areas.

Middle Northeast Community Wildfire Protection Plan

FACILITATED BY THE

Nebraska Forest Service

IN COLLABORATION AND COOPERATION WITH

ANTELOPE, BOONE, COLFAX, MADISON, PIERCE,
PLATTE, STANTON, AND WAYNE COUNTIES

LOCAL VOLUNTEER FIRE DISTRICTS

LOCAL AND REGIONAL EMERGENCY MANAGEMENT DIRECTORS
MIDDLE NORTHEAST CWPP STEERING COMMITTEE

LOCAL MUNICIPAL OFFICIALS

LOCAL, STATE, AND FEDERAL NATURAL RESOURCES AGENCIES

AREA LANDOWNERS

Photo courtesy of Mark Arps

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Community Wildfire Protection Plan Acronyms

Acronym	Meaning
ATV	All-Terrain Vehicle
BUL	Biologically Unique Landscape
CWPP	Community Wildfire Protection Plan
FAP	Forest Action Plan
FEMA	Federal Emergency Management Agency
FEPP; FFP	Federal Excess Property Program; Firefighter Property (program)
GIS	Geographic Information System
GPS	Global Positioning System
GR	Grass fuel models
HMP	Hazard Mitigation Plan
IC	Incident Commander
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
NRCS	Natural Resources Conservation Service
NRD, LLNRD, LENRD	Natural Resources District, Lower Loup NRD, Lower Elkhorn NRD
PBA	Prescribed Burn Association
PL	Priority Landscape
POA	Property Owners Association
PPD	Public Power District
RH	Relative Humidity
RPPD	Rural Public Power District
RxB	Prescribed Fire
SEAT	Single Engine Air Tanker
SRA	State Recreation Area
TL, TU	Timber-Litter and Timber Understory fuel models
USFS	US Forest Service
VFD	Volunteer Fire Department
WIRAT	Wildfire Incident Response Assistance Team
WMA	Wildlife Management Area
WUI	Wildland Urban Interface

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Introduction

The purpose of this 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 middle northeast portion of Nebraska. Having a CWPP in place allows the Nebraska Forest Service (NFS) to apply for federal 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 to seek grant funding for activities related to fire protection.

A CWPP can help people be proactive in their approach to wildfire. All of the CWPP counties have experienced wildfires, some large, particularly in the region's western counties. Historically, wildfires burned huge swaths of prairie and woodlands, destroying homes and lives. NFS data shows that between 2000 and 2020, volunteer fire departments (VFDs) in the CWPP area reported 68 fires greater than 99 acres in size that burned more than 55,500 acres. A dozen of those fires exceeded a thousand acres each. Because not all fire departments report every year, the actual numbers are likely much higher.

These incidents demonstrate 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 has designated the entire CWPP region as Wildland Urban Interface (WUI). Treatment to reduce dense vegetation can help lessen the risk of wildfire within the WUI. The NFS can utilize federal and state grant funding to cost-share fuels reduction treatments throughout the CWPP region.

Legislative Background

To be eligible for federal conservation cost-share funding assistance, the US 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 Middle Northeast CWPP region lies within the Mixedgrass and Tallgrass Prairie Ecoregions identified in the NNLP. All of the Elkhorn Confluence and Willow Creek Prairies and parts of the Verdigre-Bazile Watershed, Elkhorn River Headwaters, Lower Loup River, and Lower Platte River BULs are found within this CWPP boundary (see Appendix A).

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. Portions of the Elkhorn River, Lower Platte River, Loup Rivers, and Missouri River Priority Landscapes (PLs) are located within this CWPP boundary (Map 2). A full description of the PLs is found 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.

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. It

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 consists 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 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 also 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 Resources Districts (NRDs), and counties to update and maintain multi-jurisdictional hazard mitigation plans throughout the state.[2] Antelope County is part of the 2016 Tri-County HMP. The Lower Loup NRD (LLNRD) includes most of Boone County and part of Platte County. The Lower Elkhorn NRD (LENRD) HMP includes Pierce, Stanton, and Wayne Counties, plus parts of Colfax, Madison, and Platte Counties. The Lower Platte North NRD HMP includes parts of Boone, Colfax, Madison, and Platte Counties. Appendix C contains links to these HMPs.

Goals and Objectives

State Action Plan Goals and Objectives

The 2020 FAP goals and objectives are listed 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 negative 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.

CWPP Goals and Objectives

The steering committee identified the following goals and objectives that are consistent with the state FAP and specific to community wildfire protection planning in the middle northeast part of Nebraska. 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

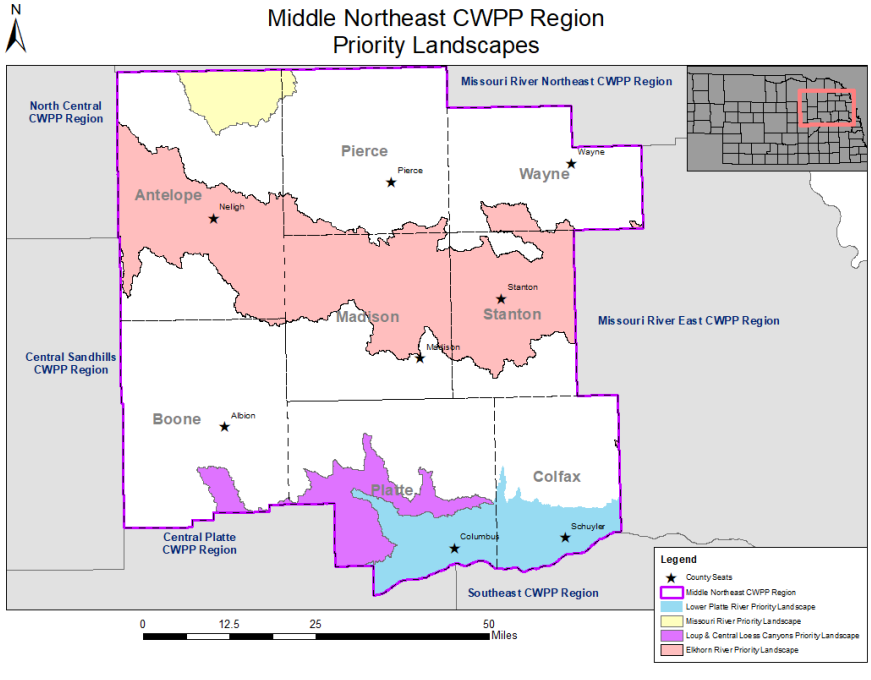
- Annually evaluate progress in implementing the CWPP and recommend changes as needed

- 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 approaches. This CWPP region includes portions of the Elkhorn River, Lower Platte River, Loup Rivers, and Missouri River PLs (see Map 2). These landscapes include many locally identified 'Areas of Concern' where vegetative fuels reduction activities can be targeted (see map in Appendix A).

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.

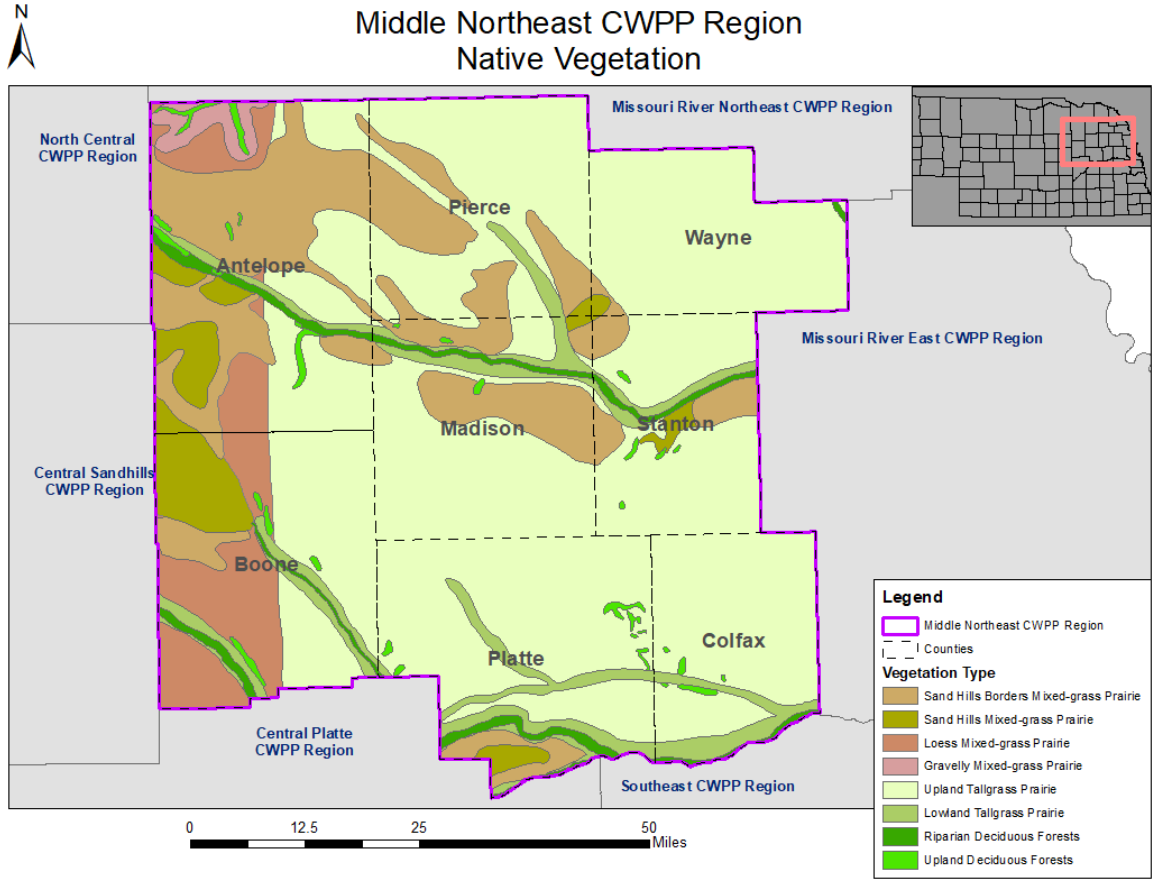


Map 2: The principal Priority Landscapes in this CWPP region are located along the Elkhorn, Platte, and Loup Rivers. These landscapes include many locally identified Areas of Concern. A map of the Areas of Concern is located in Appendix A.

Vegetation Types and Areas of Concern within Priority Landscapes

The PLs contain a range of topography and vegetation types including deciduous forest (upland mixed deciduous and riparian woodlands), mixed forest (deciduous and eastern redcedar, primarily in the western counties), upland tallgrass prairie, several types of mixed-grass prairie, and strips of lowland tallgrass prairie along the rivers (Map 3). 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 are located within the PLs. (See map in Appendix A.)

Managing the grass component of the forested areas is extremely important. Deciduous woodlands can 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' within managed areas pose a significant risk to the managed lands.



Map 3: The Middle Northeast CWPP counties are dominated by upland tallgrass prairie and several types of mixed-grass prairie, with lowland tallgrass prairie and riparian deciduous forests along the rivers. Patches of upland deciduous forest are scattered across the region.[3]

Process

The first step in the CWPP planning process was to establish a core working group of stakeholders to form a steering committee and planning team. Information about the purpose of the CWPP and an invitation to participate in the process was given to each of the eight county boards and their emergency managers within the region. Counties appointed individuals to the steering committee to help guide the process.

An outreach notice was sent to stakeholders and other potentially interested parties, including fire districts within the CWPP region, municipal governments, natural resources districts, federal and state agencies, state legislators, and non-government conservation organizations. The steering committee was rounded out from responses to this outreach. Containing a mix of county board appointments and volunteers, it included representatives from local and state emergency management, fire departments, NRDs, the NFS, the Natural Resources Conservation Service (NRCS), and the NGPC (See Appendix I).

For planning purposes, each county within the CWPP boundary is considered a WUI community. County officials, fire department personnel, and steering committee members identified areas of concern within each county that may be particularly at-risk from wildfire. The committee adopted CWPP goals and objectives and provided the locally focused framework for the plan.

The planning team (a subset of the steering committee) gathered pertinent data, seeking input from county officials, fire departments, and others as needed to provide background and overview information, determine local wildfire risk factors, and map areas of concern.

The NFS sent a questionnaire to the fire departments in the CWPP region asking for current contact information, list of equipment, as well as issues, concerns, and priorities. 30 of the 47 fire departments returned the survey. Their responses 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 planning process, encouraged input, and provided contact information for comments. CWPP information was posted on the NFS website and social media page to extend the outreach. The stakeholder list, outreach letters, and media releases appear in Appendix I.

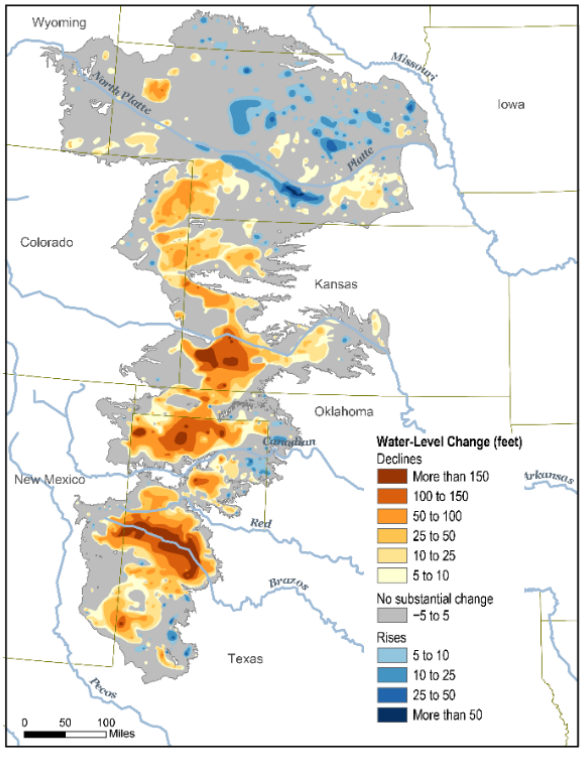
Feedback from the outreach was incorporated into a draft document, along with background information, risk assessment, and action plan. The draft was released for a 30-day public review period. Comments were incorporated into the final document, which was then sent to the county boards for signature. Final copies were provided to county boards and emergency managers. The plan is also available online at https://nfs.unl.edu/documents/CWPP/MNECWPP.pdf.

Overview

This section contains background information common to all counties within the CWPP region. Information specific to only certain areas is included in the individual county sections.

Landforms, Climate and Weather

The Middle Northeast CWPP region lies within the Tallgrass Prairie and Mixedgrass Prairie Ecoregions. This area sits atop the Ogallala Aquifer, which underlies about 175,000 square miles in eight states from Texas to South Dakota (Map 4).



Map 4: The Ogallala Aquifer underlies much of the Great Plains. This graphic[4] shows the water level change between the early 1900s and 2015.

Nebraska has a continental climate with cold winters and hot summers. Severe droughts have occurred in recent decades. Extreme wildfire years occurred in 1988, 1994, 2000, 2006, and 2012.

Weather data was obtained from the University of Nebraska High Plains Regional Climate Center[5] and Iowa State University.[6] Weather factors, including temperature, precipitation, humidity, and wind, define fire season, as well as fire direction and speed. 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 mid- to late July, but there is less growth, and consequently fewer fine fuels to catch sparks from farm equipment or motorists.

	April			July			October		
County	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH
Antelope	60.26	2.91	34	85.31	3.09	58	62.87	2.27	40.5
Boone	60.97	2.71	34.5	85.63	3.31	60	63.31	2.11	42
Colfax	61.33	2.88	39	85.92	3.57	65	63.34	2.14	47.5
Madison	60.83	2.74	34	85.28	3.43	61	63.22	2.26	44
Pierce	60.32	2.90	34	85.25	3.03	61	62.77	2.29	n/a
Platte	61.53	2.84	34.5	85.55	3.53	59	63.72	2.18	41
Stanton	60.99	2.82	39	85.51	3.55	65	63.10	2.21	47.5
Wayne	60.55	3.04	34.5	85.20	3.19	61	62.71	2.26	45

Table 1: Average maximum temperatures (degrees F), precipitation (inches) and median minimum relative humidity (percent) 1982-2020 for April, July, and October for the Middle Northeast CWPP counties. Relative humidity (RH) data interpolated from selected weather stations.[5]

Wind is a primary factor in fire spread, even where fuels are light and/or discontinuous as it is in much of the plan area. Many areas are more than half agriculture and grass fuels. Wind rosettes for April, July, and October from five stations in or near the plan area—Albion, Columbus, Norfolk, O'Neill, and Wayne—are in Appendix D.

Vegetation and Natural Communities

Native vegetation in the Middle Northeast CWPP Region is primarily tallgrass prairie and mixed-grass prairie, with riparian deciduous forests in the drainages and patches of upland deciduous forests scattered throughout the region (see Map 3). Eastern redcedar occurs within some of the deciduous woodlands along the rivers and their tributaries, and in some areas has encroached into the prairies, particularly in the western counties. Agricultural fields occupy most of the region. A land cover map[7] appears in Appendix A.

The principal deciduous tree species are bur oak, hackberry, red mulberry, green ash, and silver maple. Most of the green ash is expected to die when the emerald ash borer, an invasive pest, moves into the region. Other woody species that are locally abundant include chokecherry, American plum, and gooseberry. Riparian deciduous woodlands follow the major drainages. Most of the deciduous trees and shrubs are found in stringers and patches along the drainages with cooler, more humid environments. In areas where eastern redcedar has encroached, fuel continuity in the wooded areas is moderate to high.

Land Use

There are about 2,990,080 acres (4,672 sq. mi.) in the CWPP region, which includes Antelope, Boone, Colfax, Madison, Pierce, Platte, Stanton, and Wayne Counties. There are no federal lands in this area. In addition to county and municipal properties, public lands include 10,643 acres in 17 NGPC Wildlife Management Areas (WMAs), a State Recreation Area (SRA), a State Historical Park, and a fish hatchery; and 1,439 acres in four NRD-managed sites. Nebraska School Lands constitute approximately 23,140 acres in the region.[8] The remainder of the land in these counties is privately owned.

Agriculture (crops and livestock) is the predominant use on rural private and school lands. Residential, commercial, manufacturing, and industrial land uses dominate the region's 46 incorporated cities and villages and their immediate surroundings. Land use is primarily agricultural in the region's five unincorporated communities. Rural residential land use exists in conjunction with agricultural operations. According to US census data, there are 113,303 permanent residents in the eight counties within the CWPP region.

All counties in the CWPP region except for Platte and Wayne have county zoning plans in place. There are currently no restrictions in any of the counties for new building construction in fire-prone areas. However, the City of Plainview's Comprehensive Plan includes a WUI Code that extends beyond the municipal limits to unincorporated agricultural land.

Popular outdoor recreational activities include hunting, fishing, hiking, biking, and camping at public recreation areas in the region.

About 22,600 people visit Ashfall State Historical Park annually during their seven-month season. In 2019 and 2020, respectively, there were 91,300 and 124,950 visitors to the Willow Creek SRA.[9] Although no visitor numbers are available for state WMAs, NGPC staff reports significant use by recreationists.

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 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 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. 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 and 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 are primarily 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 the Nebraska Public Power District (PPD), Elkhorn Rural PPD, Cornhusker Public Power, Loup PPD, North Central PPD, Northeast Power, Stanton Co. Public Power, and the Omaha PPD. Both cellular and landline telephone services are available regionwide. Cellular reception is spotty in some parts of the region.

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 can be accomplished via several approaches, including forest thinning, fuelbreak and firebreak establishment, prescribed fire, prescribed grazing, and implementing Firewise® practices around structures. Table 2 shows acres of vegetation treatments implemented over the past five years in the CWPP region.

Mechanical Treatment

Mechanical treatment of eastern redcedar can be expensive, depending on access, terrain, and tree size and density. It is often accomplished by using equipment ranging from chainsaws and hand-held weed trimmers with saw blades to ATV-mounted cutters and hydraulic shears mounted on skid-steers or tractors. As tree size, tree density, and slope increase, so do the costs.

The NFS, NGPC, and NRCS offer cost share programs to help private landowners mechanically reduce hazardous woody fuels or improve wildlife habitat and range conditions on their properties. This CWPP enables the NFS to offer cost share for mechanical fuels reduction in counties that adopt it.

In addition to offering cost share assistance to private landowners, natural resources agencies also use mechanical treatments on the public lands they manage. 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 where eastern redcedar is present, 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, groups of landowners in organized prescribed burn associations (PBAs), non-profit organizations, and public agencies. The NGPC and many conservation organizations use prescribed fire as an effective land management tool on state and non-profit lands. The NGPC burns about 75 acres per year on the Willow Creek SRA in Pierce County.

The Northeast Nebraska PBA operates in Pierce and Wayne Counties, as well as in neighboring counties to the north of the CWPP region. The organization reported that its 123 members burned 7,042 acres in 121 prescribed burns conducted between 2014 and 2020. Since 2018, this group burned 1,130 acres in Pierce County alone. Their stated goal is to conduct safe burns, executed with a good burn plan. The Elkhorn Valley PBA operates in Colfax County as well as neighboring counties east of the CWPP region.

Chemical Treatment

Some entities use chemical treatments to manage vegetation for habitat improvement, noxious weed control, agricultural production, or other purposes. For example, at the 900-acre Willow Creek SRA in Pierce County, the NGPC typically spot sprays about 200 acres annually for noxious weeds such as leafy spurge, musk thistle, and Canada thistle.

Acres of Vegetation Treated During the Last Five Years in the Middle Northeast CWPP Region											
	NRCS/ Lower Elkhorn	NGPC/ Wildlife Division			NGPC/ Parks Division			Northeast Nebraska PBA	Elkhorn Valley PBA	Pierce Fire Dept.	Total Acres
County	RxB	RxB	Mech.	Chem.	RxB	Mech.	Chem.	RxB	RxB	RxB	
Antelope		1,000	500	500							**2,000**
Boone		500		250					100		**850**
Colfax		10		30					100		**140**
Madison		500	40	250							**790**
Pierce	1,620				200		1,000	1,130		1,000	**4,950**
Platte					400		200				**600**
Stanton					850	150	300				**1,300**
Wayne					80		40				**120**
Total Acres	**1,620**	**2,010**	**540**	**1,030**	**1,530**	**150**	**1,540**	**1,130**	**200**	**1,000**	**10,750**

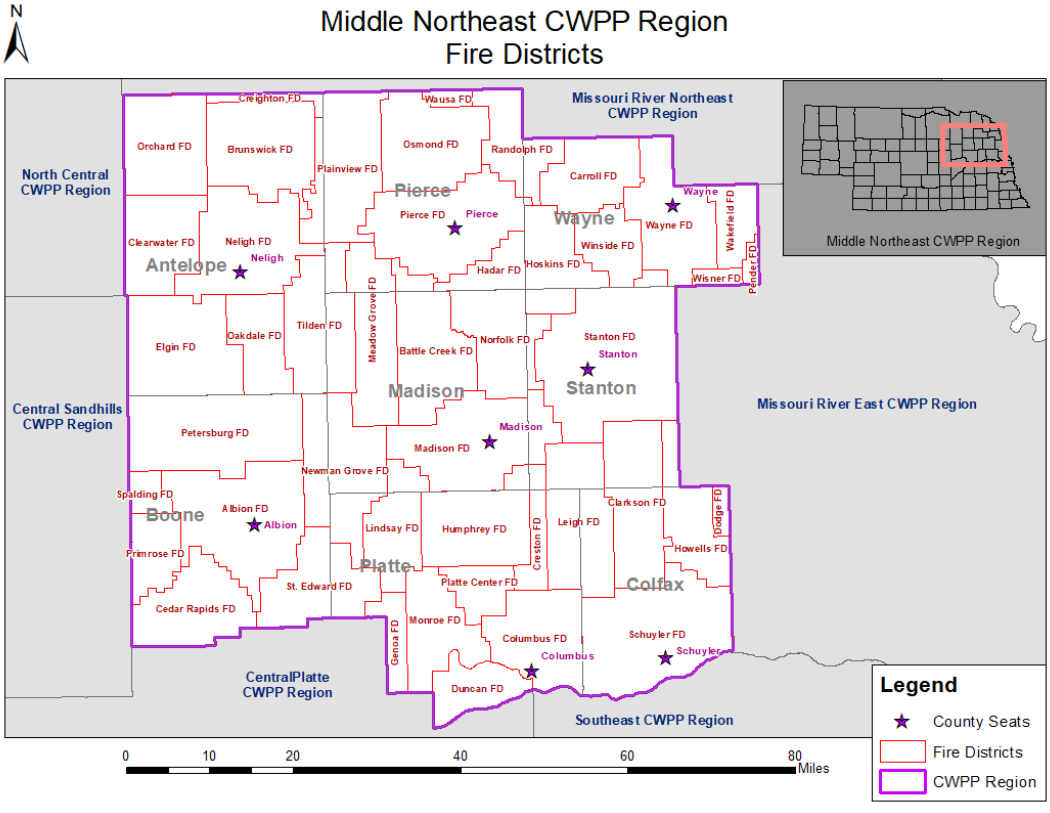
Table 2: Estimated acres of vegetation treatment (prescribed fire, mechanical, chemical) in the Middle Northeast CWPP Region counties during the past five years. Other treatments may have occurred, but only entities that reported treated acres are included in this table.

Emergency Management and Fire Districts

Antelope, Madison, and Pierce Counties are part of the Region 11 Emergency Management jurisdiction. Boone County is in the Region 44 Emergency Management area. Colfax, Platte, Stanton, and Wayne Counties each have their own full time emergency manager. Map 1 shows the CWPP's local emergency management areas. A map of statewide Local Emergency Management Areas appears in Appendix A.

There are 47 fire districts all or partially within the CWPP boundary (see Map 5). Some fire departments voluntarily report their fire responses to the NFS statewide wildfire tracking database. Reported fires by district are summarized in Table 4.

Each fire department in the CWPP region was asked to provide current contact information, equipment lists, and a summary of their wildfire issues and concerns. The responses received appear in Appendix G.



Map 5: Fire Districts all or partly within the Middle Northeast CWPP Region.

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, except along the rivers and streams. Table 2 shows the wooded draws and ravines experience a mean replacement fire interval of 45 years, while the mean replacement fire interval for floodplain forests was 500 years (*note: the flooding-caused replacement interval for these forests may be more frequent*). The prairies in the region may have experienced a replacement fire interval of five to fifteen years prior to Euro-American influence. However, since settlement, people have become increasingly adept at suppressing wildfire. Without fire, over time, forests became densely overcrowded and woody vegetation encroaches on prairies.

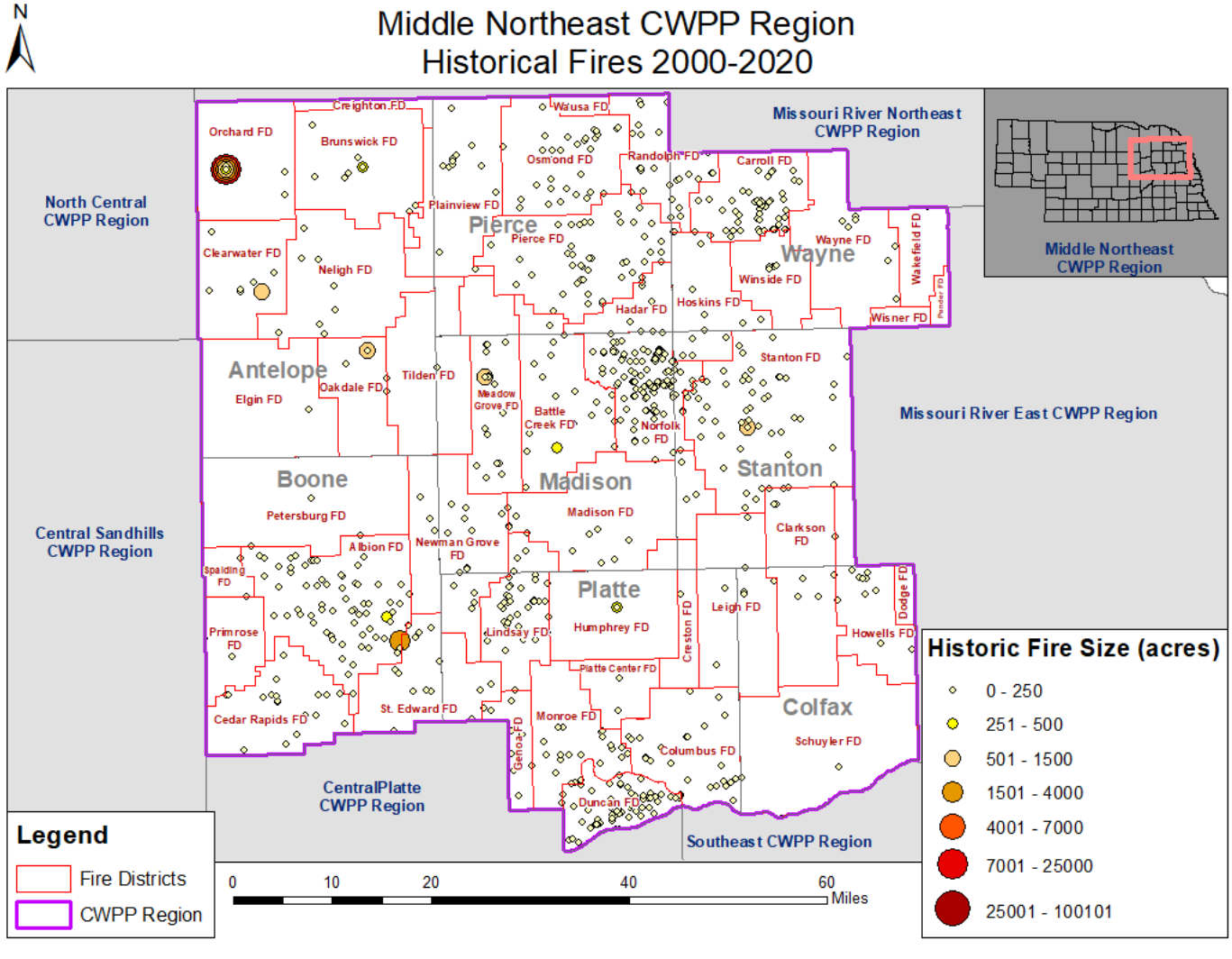
		Fire Regime Characteristics			
Vegetation Community	**Fire Severity**	**% of Fires**	**Mean Interval (years)**	**Min. Interval (years)**	**Maximum Interval (years)**
Northern Great Plains wooded draws/ravines	Replacement	38	45	30	100
	Mixed	18	94		
	Surface or Low	43	40		
Great Plains floodplain	Replacement	100	500		
Northern Mixed-grass Prairie	Replacement	67	15	8	25
	Mixed	33	30	15	35
Central Tallgrass Prairie	Replacement	75	5	3	5
	Mixed	11	34	1	100
	Surface or Low	13	28	1	50

Table 3: Fire intervals for the Middle Northeast CWPP vegetation communities.[10]

Local Fire History

Nebraska is no stranger to extremely large fires. 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.

In the CWPP area, wildfires exceeding 100 acres in size have occurred in all of the counties, and fires larger than 500 acres have occurred in all but Colfax, Pierce, and Wayne Counties. The largest fire reported to the NFS was a 10,000-acre lightning fire in the Orchard Fire District in September 2000. Map 6 shows the locations of some of the larger fires reported in the CWPP area since 2000. In 2012, fire departments from across the state, including some in the CWPP region, provided support for major wildfires that burned nearly half a million acres in the Niobrara Valley and the Pine Ridge areas of Nebraska. As observed that year, and evidenced in historical research, rivers are not always a barrier to fire spread.[11]



Map 6: Some of the larger fires reported in the CWPP area since 2000 are shown in the map above. Departments reported 68 fires greater than 100 acres that burned nearly 55,600 acres.

Some fire districts voluntarily report their annual fire response data to the NFS. Table 4 shows the fire data reported by fire departments from 2000 through 2020.[12] Because the fire districts 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
Albion	87	2,483	5	246	92	3,089	6
Battle Creek	97	1,198	4	1	101	1,199	11
Brunswick	67	911	1	1	68	912	15
Carroll	67	159	1	11	68	170	42
Cedar Rapids	21	215	0	0	21	215	4
Clarkson	10	86	1	1	11	87	2
Clearwater	6	1125	1	1	7	1126	2
Columbus	93	128	1	1	94	129	5
Creighton	44	2,659	0	0	44	2,659	5
Creston	46	543	0	0	46	543	0
Dodge	1	2	0	0	1	2	0
Duncan	137	872	2	1	139	873	1
Elgin	49	183	2	1	51	184	18
Genoa	113	1,345	2	41	115	1,386	6
Hadar	13	33	0	0	13	33	3
Hoskins/Woodland Park	25	273	0	0	25	273	3
Howells	26	156	1	1	27	157	4
Humphrey	38	244	22	1,305	60	1,549	0
Leigh	8	3,068	0	0	8	3,068	0
Lindsay	63	202	0	0	63	202	9
Madison	66	265	1	2	67	267	5
Meadow Grove	22	724	0	0	22	724	5
Monroe	41	126	0	0	41	126	10
Neligh	13	68	0	0	13	68	7
Newman Grove	36	367	0	0	36	367	3
Norfolk	209	822	2	1	211	823	13
Oakdale	13	1,207	0	0	13	1,207	1
Orchard	424	16,161	48	18,747	472	34,908	266
Osmond	48	252	0	0	48	252	5
Pender	3	1	0	0	3	1	0
Petersburg	4	26	1	4	5	30	0
Pierce	74	371	2	1	76	372	14
Pilger	11	95	1	1	12	96	0
Plainview	27	297	1	1	28	298	4
Platte Center	9	13	0	0	9	13	2
Primrose	12	90	0	0	12	90	8
Randolph	62	343	0	0	62	343	9
Schuyler	2	1	0	0	2	1	0
Spalding	19	10,198	1	15	20	10,213	1
St. Edward	26	236	1	1	27	237	1
Stanton	126	2,243	9	18	135	2,261	23
Tilden	34	143	0	0	34	143	1
Wakefield	3	92	0	0	3	92	1
Wausa	8	15	0	0	8	15	0

Department	# Fires Human	# Acres Human	# Fires Lightning	# Acres Lightning	Total # Fires	Total # Acres	Mutual Aid Responses
Wayne	9	37	0	0	9	37	1
Winside	33	317	1	2	34	319	49
Wisner	29	314	1	1	30	315	4
Total	**2,374**	**51,069**	**112**	**20,405**	**2,486**	**71,474**	**320**

Table 4: Fires reported by Middle Northeast CWPP fire departments from 2000 through 2020. Departments reported a total of 56,290 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 and prolific regeneration of eastern redcedar have increased the fire hazard in both prairies and woodlands. 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 over 95% of reported fires between 2000 and 2020 were human caused, those acres accounted for just over 71% of total acres burned. Over 28% 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, in some years medium-sized and large fires occur and burn with high intensity and extreme fire behavior, posing a threat to rural homes. Often the fires are wind-driven from the southwest or northwest and can burn at a rapid rate. This situation challenges fire suppression personnel and agency managers to remain vigilant while monitoring the fire danger ratings and indices. Fuel continuity is high in the forested areas and in some of the open grasslands in this region. 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.

Planning team members and local fire departments identified specific 'Areas of Concern' for wildfire response in each county in the CWPP region. These locations include the edges of municipalities and wooded areas along rivers and creeks where there are homes and other structures. Some of these areas experience heavy seasonal visitor use, have limited access and/or water availability, are high-risk ignition sources due to dense undergrowth, and they often experience dry weather conditions conducive to fire ignition from lightning and hot farm machinery. The team underscored the importance of addressing fuel load reduction in community mitigation plans. The Areas of Concern are described in each community-specific section of the CWPP and shown on a map in Appendix A.

A statewide map of local mitigation planning areas is included in Appendix A. Antelope County is in the Tri-County planning area; Boone and Platte Counties are in the LLNRD planning area; Colfax, Madison, Pierce, Stanton, and Wayne Counties are in the LENRD planning area. Each of the planning units has its own Multi-Jurisdictional HMP that includes a discussion of wildfire hazard. Appendix C contains links to these plans. This CWPP builds on these plans to address specific wildfire concerns.

Fuel Moisture

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. See Appendix E for more information on fuel models.

Fuel Models

According to the Nebraska Wildfire Risk Assessment Portal, the following fuel models[14] are the most prevalent within the CWPP region:

Grass Models

- GR2 (regionwide) Moderately coarse continuous grass, average depth about 1 foot. Spread rate high, flame length moderate.
- GR8 (Pierce, Madison, Wayne, eastern Antelope, and eastern Boone) Heavy, coarse, continuous grass 3 to 5 feet tall. Spread rate very high, flame length very high.
- GR1 (Antelope, Boone) Grass is short, patchy, and possibly heavily grazed. Spread rate moderate, flame length low.
- GR4 (Antelope, southwest Platte) Moderately coarse continuous grass, average depth about 2 feet. Spread rate very high, flame length high.
- GR6 (Pierce, Stanton) Dryland grass about 1 to 2 feet tall. Spread rate very high, flame length very high.

Timber Models

- TU1 (regionwide, along rivers and major streams) Fuelbed is low load of grass and/or shrub with litter. Spread rate low, flame length low.
- TL2 (Platte, Colfax, Stanton) Low load, compact. Spread rate very low, flame length very low.
- TL3 (Antelope, Boone) Moderate load conifer litter. Spread rate very low, flame length low.
- TL6 (Stanton) Moderate load, less compact. Spread rate moderate, flame length low.

Full descriptions of these fuel models appear in Appendix E.

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/or 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

Volunteer fire departments 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 agreements with neighboring jurisdictions. The 47 fire departments in the CWPP area belong to one or more of the 11 MA districts that overlap the region: 40-12, Big 8, Big 9, Colfax County, Cuming County, Dodge County, Elkhorn Valley, Loup Valley, Mid-Nebraska, Northeast, and the Northeast Fireman's Association. See Appendix F for a complete list of MA associations and member fire departments.

Emergency managers in the Region 11 and Region 44 Emergency Management areas and the individual county emergency managers work closely with fire departments and law enforcement when responding to wildfires

and other incidents. In addition to notification by sheriff's department personnel and/or dispatch, some emergency management areas use 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 other 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. Wayne County uses a mass notification product called CivicReady.

The state introduced the Salamander identification card check-in system for emergency response personnel and equipment prior to the 2012 wildfires. This identification and credentialing system allows first responders (agencies, personnel, and equipment) to respond to incidents more efficiently. It streamlines the incident check-in process and tracks time spent on an incident for both personnel and equipment. The cards use bar codes that identify equipment, people and their qualifications, and can track volunteers. Today the Salamander Command program and the Salamander Track App are used to track an incident.

Staging Areas and Safety Zones

The forested drainages in the CWPP region are separated by expanses of grasslands and farm ground. There are abundant staging area locations in the uplands away from the drainages. Grazed pastures, green alfalfa fields, and fallow farmland can provide staging areas away from forested areas. Fairgrounds and municipal parks are generally good staging areas, depending on the particular location of a wildfire. Safety zone sites are designated by fire officials and 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 in some of the counties. Developing such a map has been identified as a need that should be addressed (see *Action Plan* section). In Wayne County, the bridges are mapped with the posted weight restrictions on the publicly available Wayne County GIS website: https://wayne.gworks.com/. See the Wayne County section for details.

Communications

Some radio compatibility issues in Nebraska were addressed after the 2012 wildfire season. Location-specific information about communications is listed in each county section of this CWPP for those entities that responded to requests for information. Gaps in cellular service exist across some parts of the CWPP region, particularly in steeper drainages.

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 Volunteer Fire Departments (VFDs) in Nebraska.

Vehicles and Equipment

A listing of apparatus and staffing for each fire district is included in Appendix G. 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 rural fire districts, which are responsible for 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 rural fire districts and emergency management agencies across Nebraska, valued at $96,049,400. In this CWPP Region, there are 37 pieces of FEPP equipment, valued at $3,885,400 and housed at 16 fire districts.

These programs allow fire districts to obtain essential fire-fighting equipment at an affordable price. The NFS Fire Shop can provide cooperating fire districts 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 fire districts may use a trusted local mechanic. Two NFS mobile repair units are available to respond to the maintenance needs of cooperating fire districts. These units can provide routine repairs, as well as on-site support for cooperating districts in the event of catastrophic fires.

Aerial Resources

The Wildfire Control Act of 2013 enabled the establishment of Single Engine Air Tanker (SEAT) 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 (Type 1) 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 SEAT bases in Nebraska, Valentine's is the closest to this CWPP Region. The other bases are located in Alliance, Chadron, McCook, and Scottsbluff. 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, US Forest Service (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.

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 team 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.

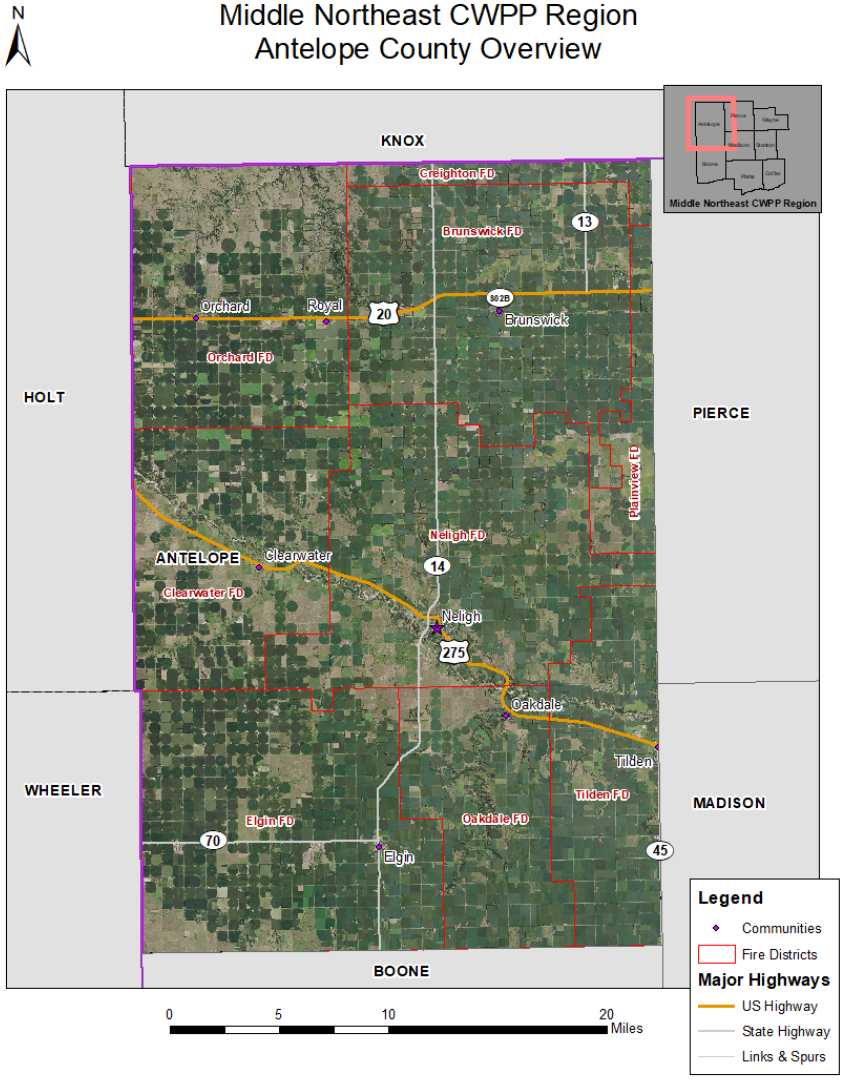
In addition, the NFS sponsors the Nebraska Wildland Fire Academy, held annually in April at Fort Robinson State Park. Launched as an interagency effort by the NFS and the USFS, the Academy provides opportunities for Nebraska volunteer firefighters to attend nationally recognized wildland fire and incident management training at little or no cost, on a schedule that doesn't 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.

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.

Community-Specific Considerations

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

ANTELOPE COUNTY
859 sq. miles
2019 population: 6,341



Community Profile

Antelope County forms the northwest corner of the CWPP region. It is bounded on the south by Boone County, on the east by Madison and Pierce Counties, on the north by Knox County, and on the west by Holt and Wheeler Counties. Incorporated municipalities include the county seat of Neligh (pop. 1,622), Brunswick (pop. 220), Clearwater (pop. 361), Elgin (pop. 720), Oakdale (pop. 366), Orchard (pop. 524), and Royal (pop. 71). Tilden (pop. 1,105) lies partly in Antelope County and partly in Madison County. Antelope county contains no unincorporated communities.

There are no federal lands within the county. State lands include 3,151 acres in five NGPC properties (3 WMAs, a state historical park, and a fish hatchery) and approximately 11,848 acres in school lands. Other than municipal properties, the balance of the land in the county is privately owned.

The Elkhorn River cuts diagonally across the county, entering from Holt County in the west and exiting into Madison County on the east. Most of the county's woodlands are located along the river and creeks.

Most of Antelope County lies within the mixed-prairie vegetation zone. Parts of the eastern side of the county are in the upland tallgrass prairie zone. Strips of lowland tallgrass prairie with riparian deciduous forests follow the Elkhorn River and many smaller streams. A few areas of upland deciduous forest are located in the northwest part of the county. Eastern redcedar has encroached into grasslands and deciduous woodlands, particularly in the western half of the county. Agriculture crop fields cover much of the area except the northwest and southwest corners and the western portion of the Elkhorn River corridor. Grazing lands occupy most of the rougher terrain.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and recreational and residential areas along drainages where there are heavy fuels and limited access. Neligh Fire Department personnel stated that access to rural locations in rough terrain with wooded areas are of particular concern due to heavy fuels, topography, and lack of water within effective distance. They would like to establish a rural water supply. The Orchard fire chief indicated that the villages of Orchard and Royal are a top concern. He identified the Grove Lake WMA north of Royal as a concern due to multiple structures, difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance. He also listed the Royal Hub CVA, east of Orchard, as a concern due to multiple structures, one way in/out, and lack of water within effective distance. Plainview Fire and Rescue named the Willow Creek bottom as of particular concern due to limited access, rough terrain, and wet ground.

The Oakdale fire chief said that Cedar Creek, which runs through all of their district until it dumps into the Elkhorn River, is a hard area to get to with ground equipment. It has difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance. The Tilden fire chief identified the Elkhorn River corridor as of particular concern due to difficult access, rough terrain, one way in/out, heavy fuels, and no established fuel breaks. He also named the area southwest of Tilden along Giles Creek as having difficult access, rough terrain, and one way in/out. He said the Tilden tree dump is problematic due to the presence of multiple houses and that heavy fuels and wooded areas surround the facility. The Brunswick VFD reported that canyons, trees, brush, and rough country make the Grove Lake area hard to get to. They also noted swampy locations with difficult access along Willow Creek near the south end of their district. Areas of concern in Antelope County were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis; a map is included in Appendix A. All of Antelope County lies within the boundaries of the WUI as defined in the introduction to this CWPP.

Infrastructure and Protection Capabilities

Fire Districts and Emergency Management Area

Fire districts all or partly within Antelope County include Brunswick, Clearwater, Creighton, Elgin, Neligh, Oakdale, Orchard, Plainview, and Tilden. The county is part of the Region 11 Emergency Management Area.

Water Sources

Most communities have municipal water systems. Farms and ranches are on wells. The Elkhorn River and its larger tributaries are reliable water sources. Windmills can provide water when they are operational. Ponds and stock tanks are located on farms and ranches throughout the county. During drought conditions some of the ponds may not be reliable water sources.

Utilities/Phone Service

The Elkhorn Rural Public Power District (RPPD) and the North Central Public Power District (PPD) provide electric service to Antelope County. Both cellular and landline telephone services are available.

Roads and Bridges

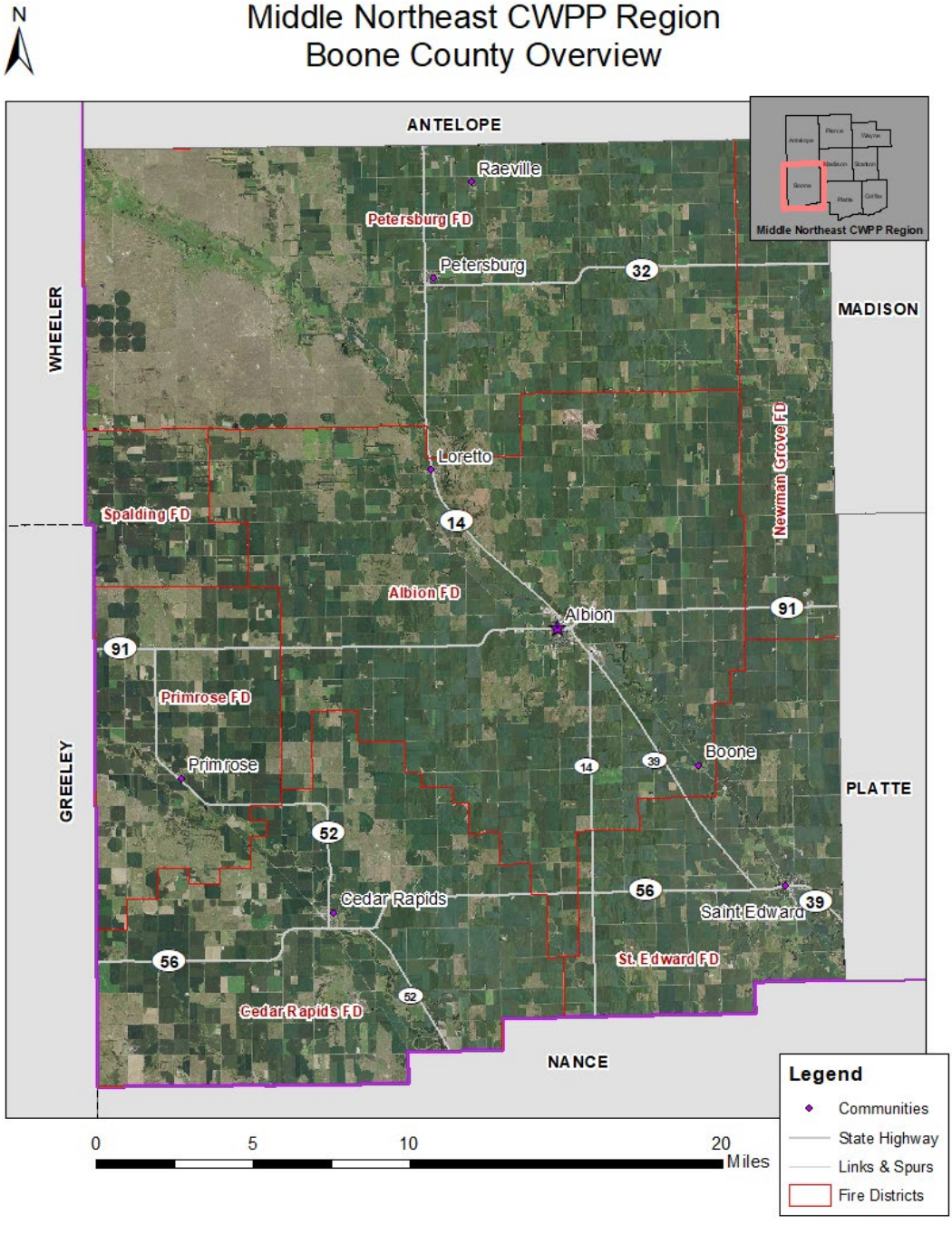
The Neligh Fire Department expressed concern that many county road bridges are unable to support equipment weight. According to the Village of Oakdale, some bridges in the Oakdale Fire District may not support equipment weight. The Tilden fire chief noted that there are bridges in their district that will not support truck weight, and that poor bridge management is an issue. The Brunswick VFD reported six bridges that won't support the weight of a tanker but will support grass rigs. The Creighton VFD stated that some bridges in their district have low weight limits for larger trucks. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	**Greatest Concerns**
Brunswick	Be able to get in there with fire trucks
Clearwater	None indicated
Creighton	Water sources, terrain
Elgin	(Survey not returned)
Neligh	Access to wooded areas in rough terrain; ton ratings of county bridges; daytime manpower
Oakdale	Lack of personnel and resources
Orchard	Towns of Orchard and Royal
Plainview	Crop loss, structure loss, help during certain times of the day
Tilden	Lack of fuel breaks & drought increasing chances fire could jump the river (access issues)

BOONE COUNTY
687 sq. miles
2019 population: 5,279



Community Profile

Boone County lies in the southwest corner of the CWPP region. It is bounded on the west by Greeley and Wheeler Counties, on the north by Antelope County, on the east by Madison and Platte Counties, and on the south by Nance County. Incorporated municipalities include the county seat of Albion (pop. 1,501), Cedar Rapids (pop. 467), Petersburg (pop. 408), Primrose (pop. 68), and St. Edward (pop. 744). Unincorporated communities include Boone, Loretto, and Raeville.

There are no federal lands within Boone County. State lands include 33 acres in one NGPC WMA and approximately 2,609 acres in school lands. Other than municipal properties, the balance of the land in the county is privately owned.

Beaver Creek crosses the county diagonally, entering from Wheeler County in the northwest corner and exiting into Platte County near the southeast corner. The Cedar River and the north branch of Timber Creek cut across the southwest corner of the county. The majority of the county's woodlands are located along these streams and their tributaries. Most of the west half of Boone County lies within the mixed-grass prairie vegetation zones, while much of the county's east half is in the upland tallgrass prairie zone. Strips of lowland tallgrass prairie with riparian deciduous forests follow Beaver Creek, the Cedar River, the north branch of Timber Creek, and their larger tributaries. A few areas of upland deciduous forest are located in the central and southern parts of the county. Eastern redcedar has encroached into grasslands and deciduous woodlands, particularly in the western half of the county. Agriculture crop fields, hayland, and grazing lands cover much of the county.

The lands most at-risk from wildfire are along Beaver Creek and the Cedar River some of their tributaries, where topography is rough and woody fuels are dense in some places, creating high fire hazard. The Primrose Rural Fire District stated that locations with difficult access, rough terrain, and lack of water within effective distance are areas of primary concern in their district. The Newman Grove fire chief said that creek bottoms with limited access are concerns. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Boone County lies within the WUI boundary as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Fire districts all or partly within Boone County include Albion, Cedar Rapids, Newman Grove, Petersburg, Primrose, Spalding, and St. Edward. The county is part of the Region 44 Emergency Management Area.

Water Sources

Most communities have municipal water systems. Farms and ranches are on wells. Beaver Creek and the Cedar River and its larger tributaries are generally reliable water sources. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the county. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service is provided by the Cornhusker PPD and Elkhorn RPPD. Both cellular and landline telephone services are available in the county.

Roads and Bridges

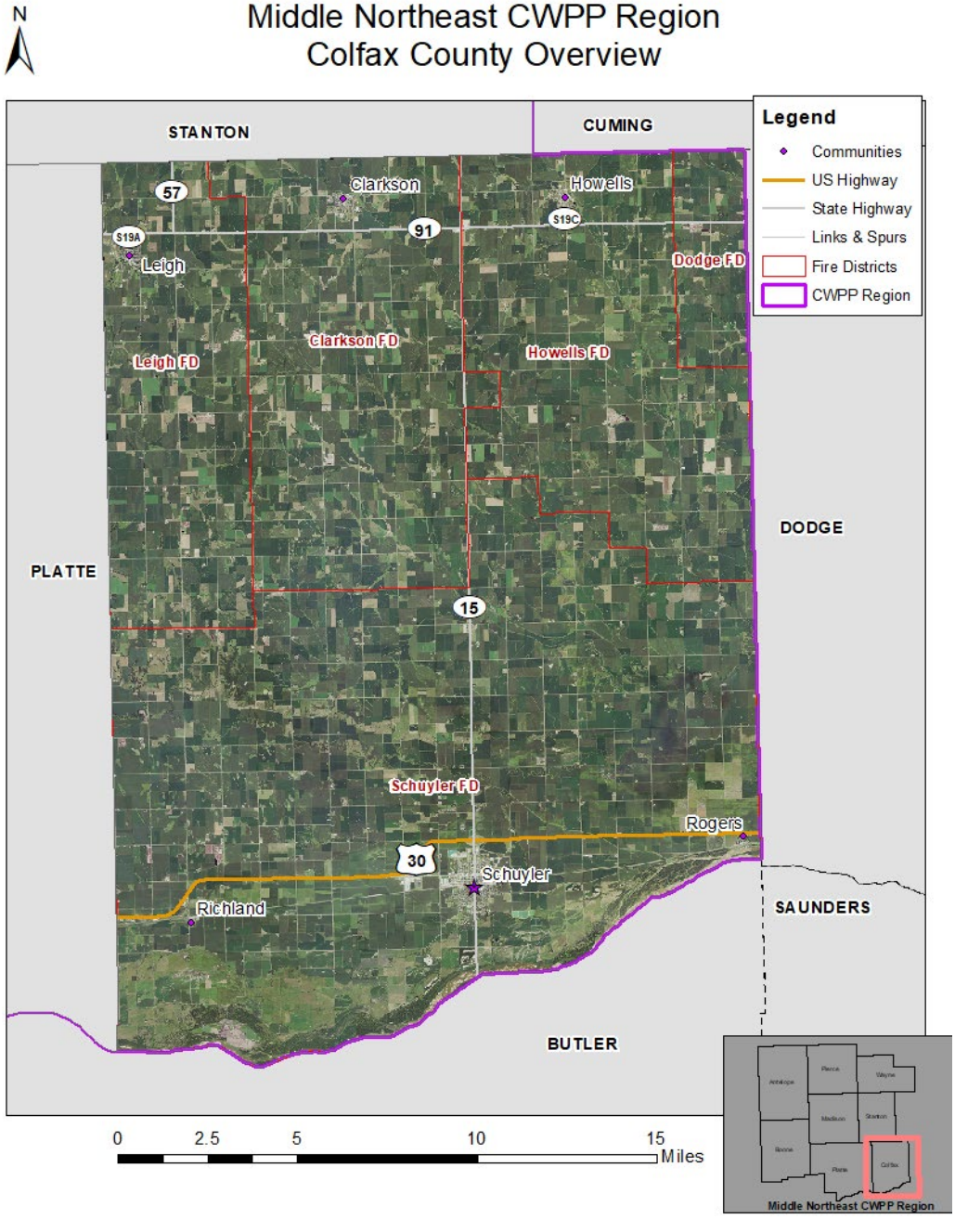
The Newman Grove fire chief stated that some older bridges on minimum maintenance roads may not support equipment weight. The regional HMP contains critical infrastructure lists; see link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Albion	(Survey not returned)
Cedar Rapids	(Survey not returned)
Newman Grove	Creek bottoms with limited access
Petersburg	(Survey not returned)
Primrose	There are a few areas that access could possibly be a problem
Spalding	(Survey not returned)
St. Edward	(Survey not returned)

COLFAX COUNTY
417 sq. miles
2019 population: 10,714



Community Profile

Colfax County forms the southeast corner of the CWPP region. It is bounded on the west by Platte County, on the north by Stanton and Cuming Counties, on the east by Dodge County, and on the south by Butler County. Incorporated communities include the county seat of Schuyler (pop. 6,284), Clarkson (pop. 631), Howells (pop. 657), Leigh (pop. 396), Richland (pop. 134), and Rogers (pop. 124). There are no unincorporated communities in the county.

There are no federal lands in Colfax County. The only state land is a 214-acre NGPC WMA. There are no state school lands in the county. Just under half of the Lower Elkhorn NRD's 553-acre Maple Creek Recreation Area is in Colfax County, with the remainder in Platte County. Other than municipal properties, the balance of the land in Colfax County is privately owned.

The Platte River forms the south county line. Major creeks include Shell Creek, Taylor Creek, and the west and east forks of Maple Creek. Most of the area's woodlands are located along these streams. Most of the county lies within the upland tallgrass prairie vegetation zone. Strips of lowland tallgrass prairie with riparian deciduous forests follow the Platte River and Shell Creek. Areas of upland deciduous forest are located north and south of Shell Creek in the western part of the county. Agriculture crop fields and grazing lands cover much of the county.

Locations of special concern include population centers adjacent to wildlands where topography is rough and woody fuels are dense in some areas, creating high fire hazard. The areas most at-risk from wildfire are located along the river and major creeks. The Schuyler VFD noted that sites with multiple structures, difficult access, rough terrain, and lack of water within effective distance are areas of concern but did not name specific locations. The Clarkson fire chief noted that the northern ¼ of their district (in Stanton County) becomes very rough and sandy ground making it difficult to get around in the fields, and pasture ground limits access into the area. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Colfax County's population centers, dispersed farms and ranches, and wooded areas along the river and streams lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

The Clarkson, Dodge, Howells, Leigh, and Schuyler Fire Districts lie all or partly within Colfax County. The county has a full-time emergency management director.

Water Sources

Most communities have municipal water systems. Farms and ranches are on wells. The Platte River and its larger tributaries are generally reliable water sources. The Kasal irrigation canal runs approximately five miles from near the junction of County Roads N and 11 southeast to the West Fork of Maple Creek. Several irrigation ditches are located in the south part of the county between US Highway 30 and the Platte River. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the area. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service is provided by Cornhusker PPD, Cuming Co. PPD, and the Nebraska Public Power District (NPPD). Both cellular and landline telephone services are available in the county. Cellular reception is poor in the northwest corner of the county.

Roads and Bridges

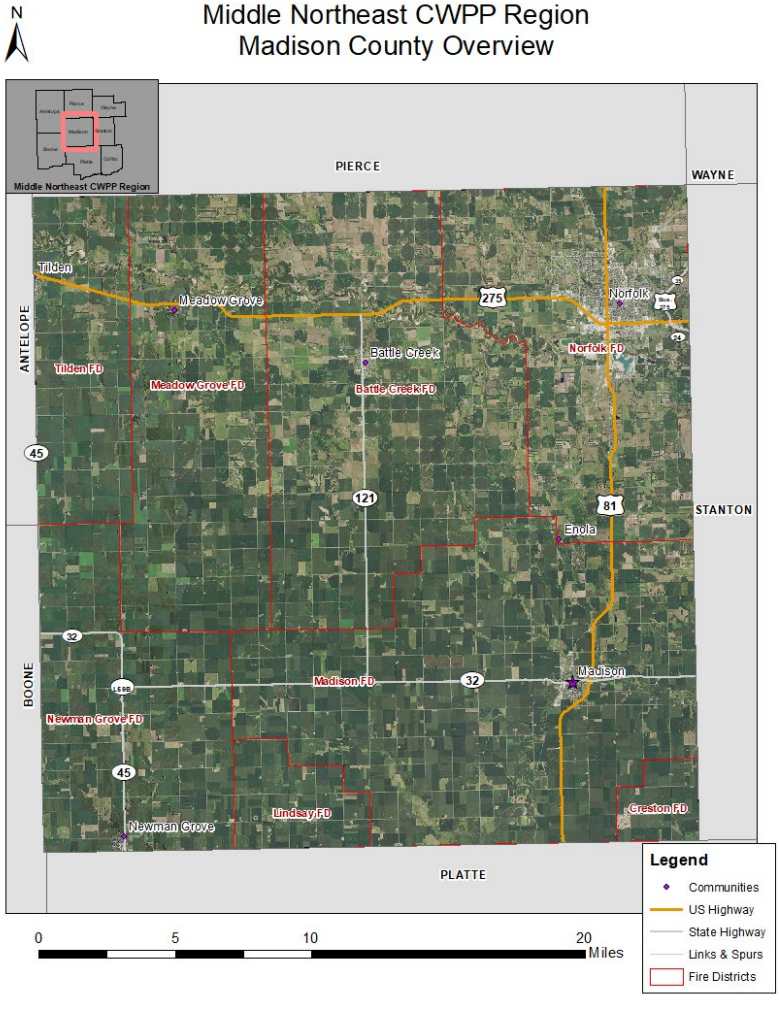
Local officials did not report any specific issues with roads. The Leigh and Schuyler fire chiefs noted that there are bridges in their districts that will not support equipment weight. The Clarkson fire chief said improvements have been made in the last several years to the bridges in their district by replacement with new and/or replacement with box culverts, but some very low ton bridges still exist which they have to work around. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Clarkson	Lack of manpower and water supply when we get to the edges of our fire district
Dodge	(Survey not returned)
Howells	(Survey not returned)
Leigh	Water supply/shuttling
Schuyler	Water, access

MADISON COUNTY
575 sq. miles
2019 population: 35,099



Community Profile

Madison County is in the center of the CWPP region. It is bounded on the south by Platte County, on the west by Boone and Antelope Counties, on the north by Pierce County, and on the east by Stanton County. Incorporated municipalities include the county seat of Madison (pop. 2,561), Battle Creek (pop. 1,215), Meadow Grove (pop. 249), Newman Grove (pop. 723), and Norfolk (pop. 24,424). Tilden (pop. 1,105) lies partly in Madison County and partly in Antelope County. Enola (no pop. data available) is listed as an unincorporated community.

There are no federal lands in Madison County. State lands include 1,335 acres in three NGPC WMAs, and approximately 2,264 acres of school lands. The Lower Elkhorn NRD manages 36 acres in three segments of the Cowboy Trail. Other than municipal properties, the balance of the land in the county is privately owned.

Most of Madison County's woodlands are located along waterways. The Elkhorn River crosses the north part of the county, entering from Antelope County north of Tilden and exiting southeast of Norfolk into Stanton County. The North Fork of the Elkhorn River enters from Pierce County south of Hadar and runs southeast to meet the main stem of the river just east of the Stanton County line.

The south half and parts of the north half of the county lie within the upland tallgrass prairie vegetation zone. Large areas of mixed-grass prairie can be found in the central and northern portions of the county. A strip of

lowland tallgrass prairie follows the Elkhorn River's main stem and north fork. Riparian deciduous forests can be found along the main stem. Agriculture crop fields and grazing land cover most of the county, except in the northeast, where the Norfolk area contains high and medium density development.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and rural residential and recreational developments along drainages where there are heavy fuels and limited access. The Battle Creek fire chief identified three areas of concern: Oak Valley, southwest of Battle Creek, due to difficult access, rough terrain, heavy fuels, and lack of water within effective distance; Yellowbanks WMA and the Elkhorn River north of US 275/State Hwy. 121 due to difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance; and the golf course (north side) due to a one-lane road. The Meadow Grove VFD identified an area 8-12 miles north of town with rough terrain and difficult access due to sand roads. The Newman Grove fire chief said that creek bottoms with limited access are concerns. The Tilden fire chief identified the Elkhorn River corridor as of particular concern due to difficult access, rough terrain, one way in/out, heavy fuels, and no established fuel breaks. He also said the Tilden tree dump is problematic due to the presence of multiple houses and that heavy fuels and wooded areas surround the facility. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Madison County's population centers, rural areas, and wooded waterways lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Fire districts all or partly within Madison County include Battle Creek, Creston, Lindsay, Madison, Meadow Grove, Newman Grove, Norfolk, and Tilden. The county is part of the Region 11 Emergency Management Area.

Water Sources

Most communities have municipal water systems. Farms and ranches are on wells. The rivers and larger creeks are generally reliable water sources. There are small ponds and stock tanks on farms and ranches throughout the county. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service in Madison County is provided by the Elkhorn RPPD. Both cellular and landline telephone services are available in the county.

Roads and Bridges

The Norfolk Fire Department noted that they avoid one bridge northeast of town because it may not be able to support their equipment. The Madison VFD also noted that there are bridges in their district that will not support equipment weight. The Newman Grove fire chief stated that some older bridges on minimum maintenance roads may not support equipment weight. The Tilden fire chief noted that there are bridges in their district that will not support truck weight, and that poor bridge management is an issue. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

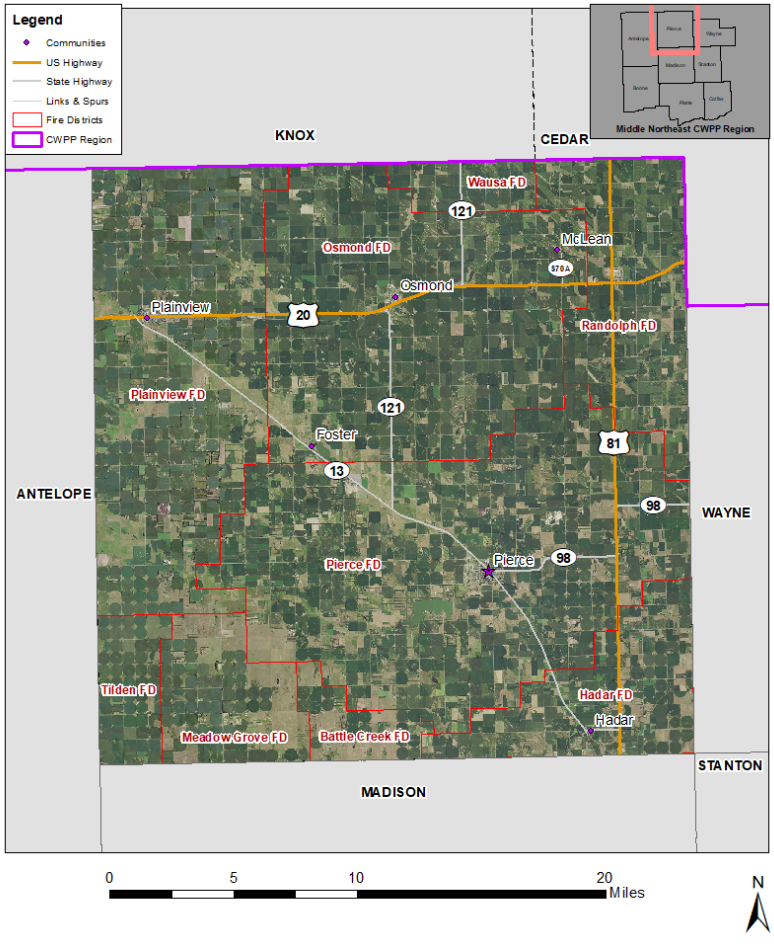
Greatest Concerns

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

Department	Greatest Concerns
Battle Creek	Safety of people and property
Creston	(Survey not returned)
Lindsay	(Survey not returned)
Madison	(None indicated)
Meadow Grove	Lack of manpower during daytime hours; members work out of town
Newman Grove	Creek bottoms with limited access
Norfolk	Availability of on-duty staff due to other calls; mutual aid availability
Tilden	Lack of fuel breaks & drought increasing chances fire could jump the river (access issues)

PIERCE COUNTY
575 sq. miles
2019 population: 7,148

Middle Northeast CWPP Region
Pierce County Overview



Community Profile

Pierce County is located in the center of the north tier of counties in the CWPP region. It is bounded on the north by Knox and Cedar Counties, on the east by Cedar and Wayne Counties, on the south by Madison County, and on the west by Antelope County. Incorporated municipalities include the county seat of Pierce (pop. 2,013), Foster (pop. 50), Hadar (pop. 268), McLean (pop. 25), Osmond (pop. 873), and Plainview (pop. 1,398). There are no unincorporated communities in the county. There are no federal lands in Pierce County. State lands include 1,586 acres in one NGPC SRA and about 5,855 acres of state school lands. Other than municipal properties, the balance of the land in the county is privately owned.

The North Fork of the Elkhorn River crosses Pierce County from northwest to southeast. The county lies within the upland tallgrass prairie vegetation zone, interspersed with large areas of mixed-grass prairie. A strip of lowland tallgrass prairie follows the North Fork of the Elkhorn River. Agriculture crop fields cover most of the county, with grazing lands occupying some portions of the west side. Most woodlands are located in the western part of the county, often along streams.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and rural recreational and residential developments along drainages where there are heavy fuels and limited access. The Pierce VFD noted

the Willow Creek State Recreation Area as an area of concern due to heavy fuels, and the western part of Pierce County due to difficult access, rough terrain, heavy fuels, and lack of water within effective distance. Plainview Volunteer Fire & Rescue identified two areas of concern: the Willow Creek Bottom with limited road access, rough terrain and wet ground, and the Husker Ag facility between Plainview and Osmond due to multiple structures and ethanol production. The Randolph VFD named the CVA Co-op north of the junction of US Highways 20 and 81 as a concern due to multiple structures and heavy fuels. The Meadow Grove VFD identified an area 8-12 miles north of Meadow Grove (in Pierce County) with rough terrain and difficult access due to sand roads. The Osmond fire chief stated that shelter belts and areas with multiple structures present concerns. The Tilden VFD identified the tree dump as problematic due to the presence of multiple houses and said that heavy fuels and wooded areas surround the facility. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Pierce County's population centers, rural areas, and wooded waterways lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Nine fire districts lie all or partly within Pierce County: Battle Creek, Hadar, Meadow Grove, Pierce, Plainview, Osmond, Randolph, Tilden, and Wausa. The county is part of the Region 11 Emergency Management Area.

Water Sources

The larger communities have municipal water systems. Farms and ranches are on wells. The North Fork of the Elkhorn River and its larger tributaries are generally reliable water sources. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the area. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service in Pierce County is provided by the Elkhorn RPPD, North Central PPD, Northeast Power, and Cedar-Knox PPD. Both cellular and landline telephone services are available in the county.

Roads and Bridges

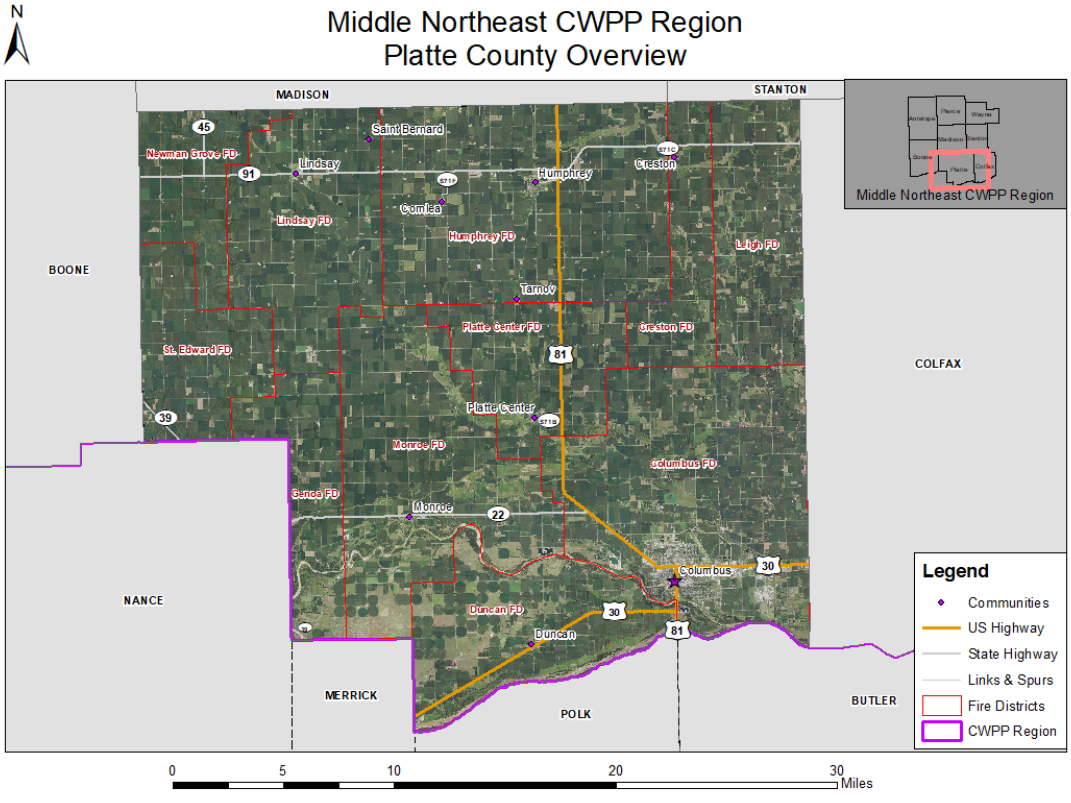
The Randolph VFD stated that the bridge on 558 Road just west of Randolph will not support equipment weight, but it will be replaced during the current floodplain project. The Wausa VFD noted that there is a possibility that bridges on certain gravel or minimum maintenance roads may not be able to support equipment weight. The Tilden fire chief noted that there are bridges in their district that will not support truck weight, and that poor bridge management is an issue. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Battle Creek	Safety of people and property
Hadar	(Survey not returned)
Meadow Grove	Lack of manpower during daytime hours; members work out of town
Osmond	Shelter belts
Pierce	The western part of the district has limited access & roadways
Plainview	Crop loss, structure loss, help during certain times of the day
Randolph	Water supply
Tilden	Lack of fuel breaks
Wausa	Having enough manpower and equipment

PLATTE COUNTY
685 sq. miles
2019 population: 33,470



Community Profile

Platte County is located in the center of the south tier of counties in the CWPP region. It is bounded on the north by Madison and Stanton Counties, on the east by Colfax County, on the south by Nance, Merrick, Polk, and Butler Counties, and on the west by Boone County. Incorporated municipalities include the county seat of Columbus (pop. 23,195), Cornlea (pop. 10), Creston (pop. 206), Duncan (pop. 547), Humphrey (pop. 896), Lindsay (pop. 276), Monroe (pop. 388), Platte Center (384), and Tarnov (pop. 15). Saint Bernard is listed as an unincorporated community.

There are no federal lands in Platte County. State lands include 1,937 acres in five NGPC WMAs and about 1,064 acres of state school lands. Other than municipal properties, the balance of the land in the county is privately owned. The Platte River forms the county's south border. The Loup River enters the southern part of the county south of Genoa and runs eastward until it joins the Platte southeast of Columbus. Most of the county's woodlands are located along the rivers and creeks. The majority of the county lies within the upland tallgrass prairie vegetation zone, with mixed-grass prairie occupying much of the southwest corner adjacent to Polk and Merrick Counties. Strips of lowland tallgrass prairie follow the Platte and Loup Rivers and Shell Creek. Riparian deciduous forest can be found along the rivers. Patches of upland deciduous forest are scattered on the east side of the county and along the southern west edge. Agriculture crop fields cover most of the county, with grazing lands occupying some parts of the southwest corner. In the southeast corner, the Columbus area contains high and medium density development.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and rural recreational and residential areas along drainages where there are heavy fuels and limited access. Columbus Fire Department staff identified sites along the Loup River southeast of Columbus, as well as no-till areas in entire district as areas

of concern due to multiple structures, difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance. They also stated that there are many rural subdivisions with immediate exposure to wildland and no-till fields and CRP land. The Duncan Volunteer Fire reported that the Duncan Lakes area has only one way in/out, and small clearances for apparatus. The Genoa VFD stated that river bottoms are a concern due to rough terrain, one way in/out, and heavy fuels. The Newman Grove fire chief said that creek bottoms with limited access are concerns. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Platte County's population centers, rural areas, and wooded waterways lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Eleven fire districts lie all or partly within Platte County: Columbus, Creston, Duncan, Genoa, Humphrey, Leigh, Lindsay, Monroe, Newman Grove, Platte Center, and St. Edward. The county has a full-time emergency manager.

Water Sources

The larger communities have municipal water systems. Farms and ranches are on wells. The Platte and Loup Rivers and their larger tributaries are generally reliable water sources. The Loup River Irrigation Canal runs north of the Loup River from the Nance County line to the Platte River just west of the Colfax County line. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the county. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service in Platte County is provided by the Cornhusker PPD. Both cellular and landline telephone services are available in the county.

Roads and Bridges

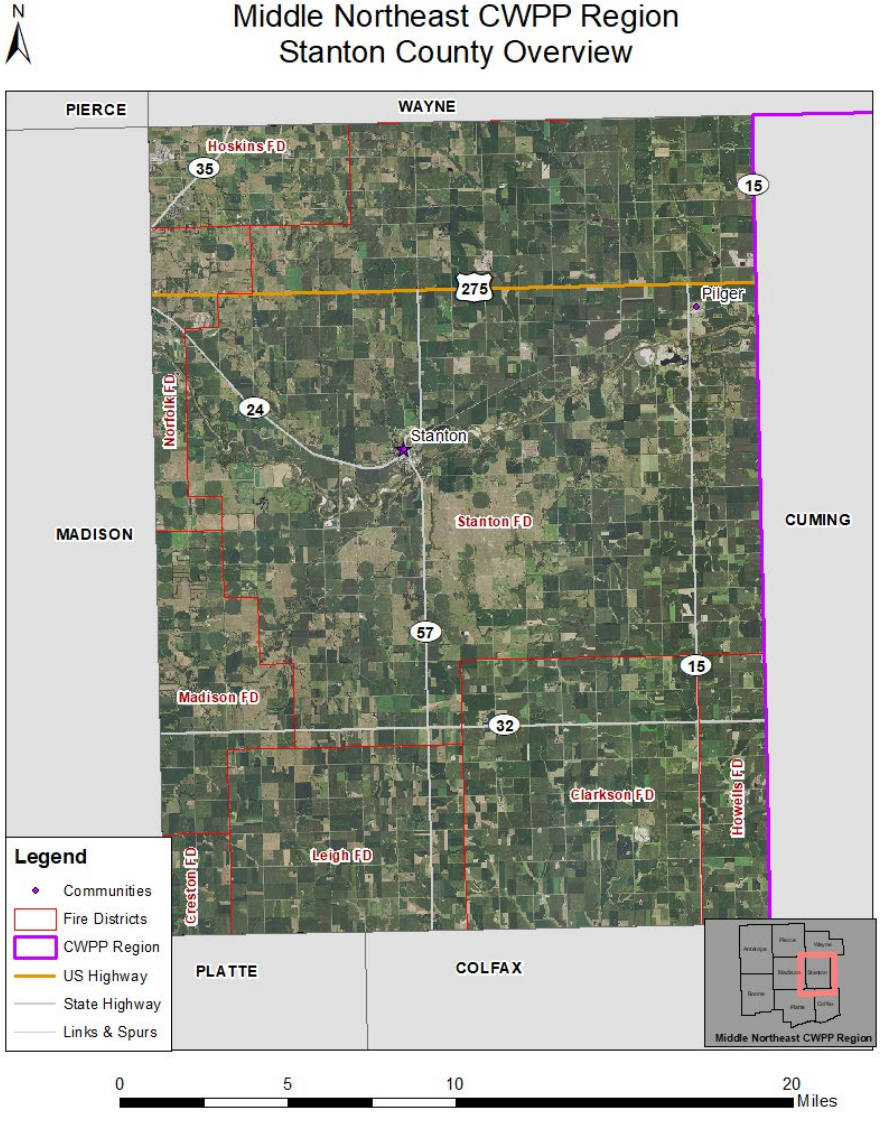
The Columbus Fire Department stated that their district contains wood-deck bridges that will not support equipment weight. Duncan Volunteer Fire named three bridges that won't support equipment weight: Prairie Creek bridge (115th St. near 355 Ave.) – 8, 15, 19 Ton Limits; Clear Creek Bridge (142 Rd. east of V Rd.) – 18, 27, 39 Ton Limits; South Channel Bridge (V Rd just South of Island Road and North of 142 Rd) – 24 Ton Limit. The Leigh VFD noted that there are bridges in their district that will not support equipment weight. The Newman Grove fire chief stated that some older bridges on minimum maintenance roads may not support equipment weight. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Columbus	Exposure to fast-moving fires; personnel safety; no-till interface areas
Creston	(Survey not returned)
Duncan	Initial response times to edges of district are 20+ minutes
Genoa	(none listed)
Humphrey	(Survey not returned)
Leigh	Water supply/shuttling
Lindsay	(Survey not returned)
Monroe	Housing areas
Newman Grove	Creek bottoms with limited access
Platte Center	(Survey not returned)
St. Edward	(Survey not returned)

STANTON COUNTY
431 sq. miles
2019 population: 5,920



Community Profile

Stanton County is located in the center of the east tier of counties in the CWPP region. It is bounded on the north by Wayne County, on the east by Cuming County, on the south by Platte and Colfax Counties, and on the west by Madison County. Incorporated municipalities include the county seat of Stanton (pop. 1,632) and Pilger (pop. 305). There are no unincorporated communities in the county.

There are no federal lands in Pierce County. State lands include 2,207 acres in two NGPC WMAs and about 564 acres of state school lands. The Lower Elkhorn NRD has 850 acres in two recreation areas. Other than municipal properties, the balance of the land in the county is privately owned.

Most woodlands are located in the western and central portions of the county, often along streams. The Elkhorn River crosses the central part of Stanton County from west to east. The county lies within the upland tallgrass prairie vegetation zone, interspersed with areas of mixed-grass prairie. A strip of lowland tallgrass prairie with

riparian deciduous forests follows the Elkhorn River. A few pockets of upland deciduous forest are scattered in the county's central and western regions. Agriculture crop fields cover most of the county, with grazing lands occupying rougher terrain in the central and west.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and recreational and residential areas along drainages where there are heavy fuels and limited access. The Clarkson fire chief noted that the northern ¼ of their district becomes very rough and sandy ground making it difficult to get around in the fields, and pasture ground limits access into the area. There is a landfill in that part of the district. He said the facility is well run but they have had a few fires there over the years which don't seem to spread very far but have the potential to do so. The Pilger VFD reported the Lakeside residential area as having high home density, infrastructure or other resources at high risk. They noted concerns about the areas in their district with difficult access and rough terrain. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown in Appendix A. All of Stanton County's population centers, rural areas, and wooded waterways lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Eight fire districts lie all or partly within Stanton County: Clarkson, Creston, Hoskins, Howells, Leigh, Madison, Norfolk, and Stanton. The Stanton Fire District includes the Stanton and Pilger VFDs. The county has a full-time emergency manager.

Water Sources

Stanton and Pilger have municipal water systems. Farms and ranches are on wells. Reservoirs, the Elkhorn River, and its larger tributaries are generally reliable water sources. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the county. During drought conditions many ponds may not be reliable water sources.

Utilities/Phone Service

Electric service in Stanton County is provided by the Stanton Co. PPD and the Elkhorn RPPD. Both cellular and landline telephone services are available in the county.

Roads and Bridges

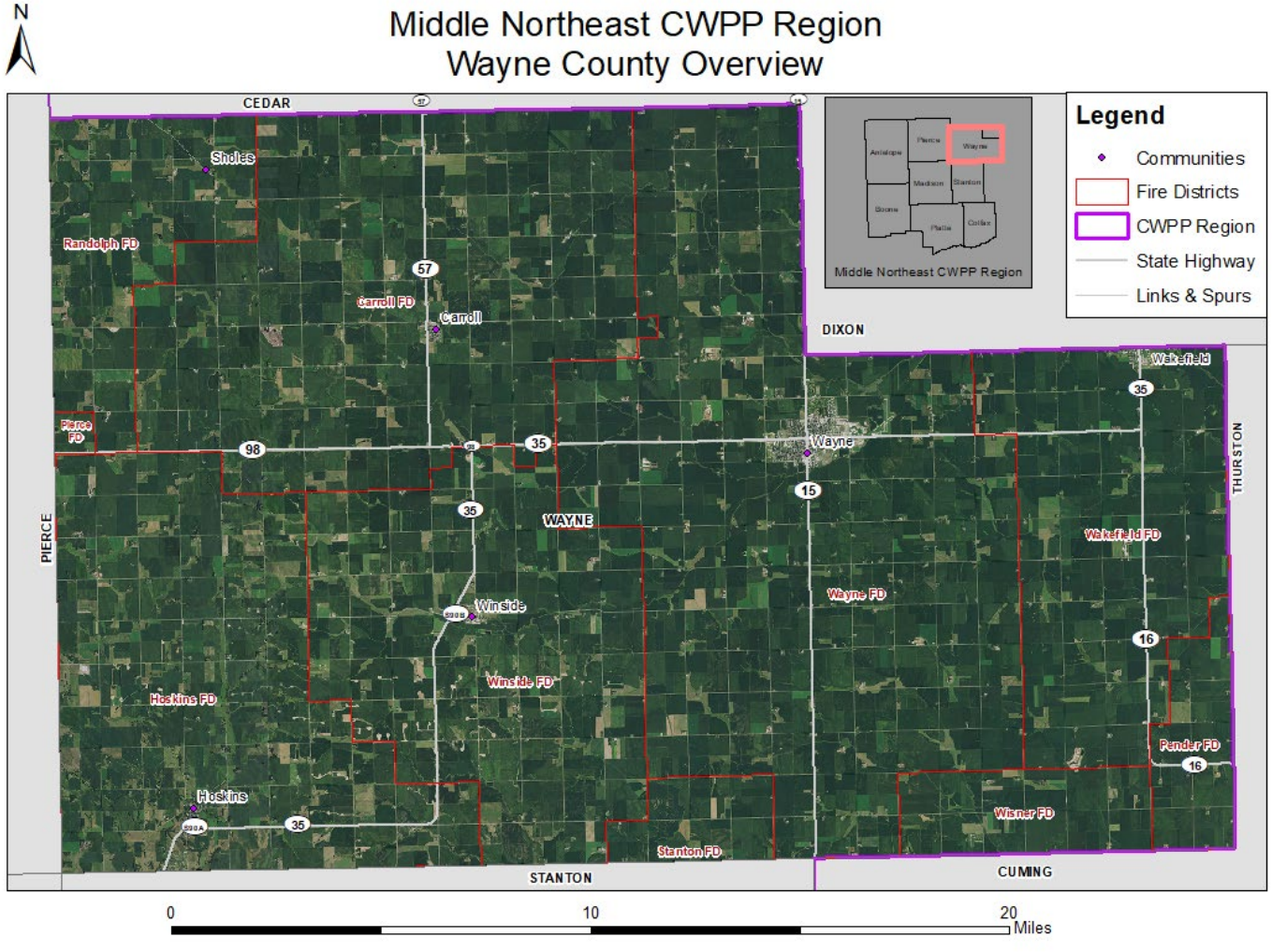
Local officials did not provide specific information on roads. The Leigh and Madison VFDs noted that there are bridges in their district that will not support equipment weight. The Clarkson fire chief said improvements have been made in the last several years to the bridges in their district by replacement with new and/or replacement with box culverts, but some very low ton bridges still exist which they have to work around. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Clarkson	Lack of manpower and water supply when we get to the edges of our fire district
Creston	(Survey not returned)
Hoskins	(Survey not returned)
Howells	(Survey not returned)
Leigh	Water supply/shuttling
Madison	(None indicated)
Norfolk	Availability of on-duty staff due to other calls; mutual aid availability
Pilger	Personnel responding
Stanton	(None indicated)

WAYNE COUNTY
443 sq. miles
2019 population: 9,332



Community Profile

Wayne County forms the northeast corner of the CWPP region. It is bounded on the north by Cedar and Dixon Counties, on the east by Dixon and Thurston Counties, on the south by Cuming and Stanton Counties, and on the west by Pierce County. Incorporated municipalities include the county seat of Wayne (pop. 5,557), Carroll (pop. 237), Hoskins (pop. 281), Sholes (pop. 31), and Winside (pop. 574). Wakefield (pop. 1,545) is located in both Wayne and Dixon Counties. There are no unincorporated communities in Wayne county.

There are no federal lands in Wayne County. State lands include 180 acres in two NGPC WMAs. There are no state school lands in the county. Other than municipal properties, the balance of the land in the county is privately owned.

Nearly all of the county lies within the upland tallgrass prairie vegetation zone. Mixed-grass prairie dominates the southwest corner, where riparian deciduous woodlands exist along a few streams. Agriculture crop fields cover most of the county (237,503 acres), and 24,587 acres of grazing lands occupy some parts of the county, mostly in the southwest corner. Non-agricultural lands occupy 15,374 acres, and roads occupy 6,158 acres.

Locations of special concern include population centers adjacent to wildlands and wooded areas along streams. The Carroll VFD noted that they are concerned about areas with row crops. The Wayne fire chief identified the Thompson-Barnes WMA as a concern, and listed lack of water within effective distance as an issue. The Wisner VFD identified several areas of concern in the portion of their district that lies south of Wayne County and the CWPP region. Areas of Concern identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Wayne County's population centers, rural areas, and wooded waterways lie within the boundaries of the WUI as defined in the introduction to this CWPP.

Protection Capabilities and Infrastructure

Fire Districts and Emergency Management Area

Ten fire districts lie all or partly within Wayne County: Carroll, Hoskins, Pender, Pierce, Randolph, Stanton, Wakefield, Wayne, Winside, and Wisner. The county has a full-time emergency manager.

Water Sources

The larger communities have municipal water systems. Farms and ranches are on wells. The larger creeks may be reliable water sources. Windmills can provide water when they are operational. There are small ponds and stock tanks on farms and ranches throughout the area. During drought conditions many ponds may not be reliable water sources. The Carroll VFD listed hydrants as a concern. The Randolph VFD identified water supply as a concern. The Wisner VFD noted that water sources are an issue in rural areas.

Utilities/Phone Service

Electric service in nearly all of Wayne County is provided by Northeast Power. Cedar-Knox PPD, Cuming County PPD, and Stanton Co. PPD serve a few areas adjacent to those counties. Both cellular and landline telephone services are available in the county.

Roads and Bridges

The Wisner and Wayne fire chiefs said there are some bridges in their districts that will not support equipment weight. Wayne County bridges are mapped with the posted weight restrictions on the publicly available Wayne County GIS website: https://wayne.gworks.com/. On the website, click on the round blue 'Roads' button at the top. On the left side of the screen click on the blue 'Layers' tab and select 'Bridges over 20 Ft.' layer. Click on the 'i' (info) button on the toolbar above the map, then click on any bridge emblem to identify the bridge. The results tab shows the selected bridge; click on the bridge structure number to get more information about the bridge, which includes the posted weight limit if there is one. The regional Hazard Mitigation Plan contains complete critical infrastructure lists; see HMP link in Appendix C.

Greatest Concerns

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

Department	Greatest Concerns
Carroll	(None indicated)
Hoskins	(Survey not returned)
Pender	(Survey not returned)
Pierce	The western part of the district has limited access & roadways
Randolph	Water supply
Stanton	(None indicated)
Wakefield	(Survey not returned)
Wayne	(None indicated)
Winside	(Survey not returned)
Wisner	Getting truck to wet or sandy locations along lake developments and rivers

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 offers specific preparedness recommendations and describes wildfire risk reduction strategies, 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 assessments provide a method by which we can calculate risk based on measurements or estimates of various risk components such as likelihood of fire occurrence, intensity of fire should it occur, and susceptibility to fire of the various values being evaluated. Qualitative risk assessment is the application of judgment based in knowledge and experience when assessing wildfire risk, the potential for ignitions and recommendations regarding possible ways to mitigate the risk. [15]

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 fuel type and amount, 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.[16]

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 for 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.[17]

Wildfire-Related Concerns Identified in HMPs by Local Participants

The first step in the assessment process is to identify risks that need to be examined. Looking at wildfire-related concerns identified by local HMP participants is a good place to begin. The 2020 LENRD HMP and the 2017 LLNRD HMP cover all but Antelope County in the CWPP region. Both of these HMPs identify their entire planning areas as being at 100% risk of wildfire. The plans include general wildfire risk assessments (but do not map specific at-risk areas) and list some mitigation alternatives.

In the LENRD HMP, the City of Battle Creek, in Madison County, listed wildfire as a top concern in relation to the impact on both structures in the community and nearby crops and livestock. The City of Tilden has a concern that the operational response to a wildfire can quickly exhaust a fire department's personnel and equipment. The city does not have regulations such as defensible spaces or a wildland/urban interface code to mitigate the risk associated with wildfires. In Pierce County, the City of Plainview stated that wildfire threats may occur in crop lands surrounding the city. The Village of Pilger, in Stanton County, listed wildfire as a concern due the village's location in a heavily agricultural area where the possibility of a brush fire is always present and could expand rapidly beyond the capabilities of local fire departments. Presently, Pilger property owners are neither required nor encouraged to incorporate defensible space around their structures and there are no incentives to build ignition-resistant buildings. Wayne County considers wildfires to be a risk if they are not suppressed quickly, possibly causing widespread damage. No planning or zoning exists in Wayne County to develop a WUI code or impose defensible space requirements on private property.

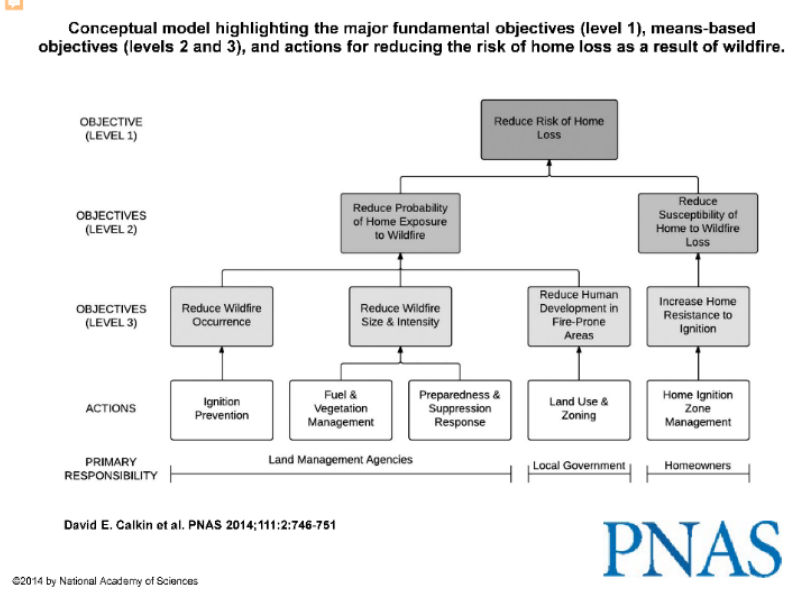
The LLNRD HMP participants included two Boone County municipalities that identified wildfire as a threat. The City of St. Edward listed wildfire as a concern due to the potential for property damages and loss of life. The City of Albion considers accessibility to canyon areas and rural water supply to be local concerns regarding wildfires in the community.

The 2016 Tri-County HMP, which includes Antelope County (along with Knox and Holt Counties), does not address wildfire risk. It refers readers to the CWPPs that cover the HMP counties.

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.

Overcoming perceptions of WUI fire disasters as a wildfire control problem rather than a home ignition problem, determined by 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.[18]



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. Eastern redcedar-encroached deciduous forests along the rivers and their tributaries have high priority for hazardous woody fuels reduction, as do areas with recreational development and rural residential subdivisions. All of the WUI edges of population centers, unincorporated residential developments, and dispersed recreational developments in the CWPP region have high priority for fuels treatment and Firewise® preparation. 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, the steering committee, and the planning team. The sites 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. [19] These areas can be prioritized according to locally identified criteria such as hazardous vegetation, structure density, access, and water availability.

The Assessment Process

Many actions can be taken to reduce the fire potential in both existing housing developments and planned new subdivisions. People can assess the potential of a structure located in a wildland environment to withstand an approaching wildfire without the intervention of firefighting personnel and equipment. Assessments focus on proactive, pre-fire preventative actions rather than reactive fire suppression plans. Several excellent fire hazard assessment methodologies are widely available. Below are excerpts from the National Wildland/Urban Interface Fire Protection Program's methodology [20] publication:

First, it is important to understand how three ignition sources (radiation, convection, and firebrands) can impact a structure located in a wildland environment and how they affect certain building components—roofs, eaves/overhangs, walls, windows, vents, and attachments. Fire potential can be reduced when building a structure or altering an existing structure by conducting mitigation measures on the structure itself and in the surrounding wildland area. The following is a five-step method for assessing the hazards of a WUI area:

Step 1: Select the area to be evaluated.

Step 2: Select the hazard components to be considered. These can include but are not limited to:

- Vegetative fuel hazards both in and beyond the immediate vicinity of the structure
- Structure density (lot size, structures per lot)
- Slope (steeper slopes are more hazardous)
- Weather patterns (temperature, humidity, winds, drought)
- Fire occurrence (increased fire probability where fires have occurred in the past)

Step 3: Rank the hazard components. Develop or use an existing system to define the significance of each component. The system, though subjective in nature, should be specific and consistent.

- Define a system to rank the hazard level of the components (e.g., low-medium-high or numeric)
- Evaluate and rank each individual component that is included in the assessment
- Develop an overall hazard rating system
- Calculate the overall hazard rating

Step 4: Compile the hazard rankings in a usable format that reveals the relationships between the individual hazards and categories of hazards. Three methods are often used to analyze the data collected:

- A geographic information system can define the hazards components and display each hazard on clear overlays, rather than on a single map, allowing analysis of various combinations of data

- A grid index system references specific points of interest on a map. The coordinates of the grid define the hazard rating of a specific property or area
- A matrix system describes the severity of each hazard for each area within the assessment

Step 5: Develop future actions—use the information developed to reduce fire loss potential in the WUI:

- Develop mitigation strategies to improve firefighter and public safety
- Develop fire response/evacuation plans
- Provide reference tools for planners, insurers, bankers, and local code adoption
- Develop region-wide cooperative fire protection agreements
- Perform cost/benefit analyses
- Implement or evaluate existing programs
- Strategically focus fuel reduction projects
- Distribute this information along with public fire safety education materials to educate property owners, local and state governments, and fire-service agencies

Wildfire Risk Reduction

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

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

Homeowners can 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 structure more resistant to ignition. To reduce the risk for the long term, actions need to be maintained over time.

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 already implemented one or more of these. Planners may want to periodically review and implement or expand upon 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
- Expand water storage capacity/emergency water supplies/dry hydrants
- Upgrade rural water systems; improve well and water systems

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.

Wildfire-Related Mitigation Practices Identified in HMPs by Local Participants
Wildfire-related mitigations selected by CWPP area participants in the LENRD HMP included: Comprehensive Disaster/Emergency Response Plan (Stanton, Wayne Counties); Emergency Communications (Colfax and Stanton Counties and the municipalities of Clarkson, Howells, Humphrey, Leigh, Plainview, Randolph, Tilden, and Wayne); Public Awareness (all jurisdictions); Update Bridges (Pierce, Stanton Counties); and Emergency Operations (Norfolk).

The LENRD HMP states that in Pierce County, Plainview's Comprehensive Plan uses a WUI Code to enhance local resilience to wildfires in crop lands surrounding the city. The designated WUI is beyond the municipal limits and approaches unincorporated agricultural land. Mitigation actions identified by the local planning team for grass/wildfires include public awareness and civil service improvements.

Wildfire-related mitigations selected by Boone County participants in the LLNRD HMP included: Community Education and Awareness (Albion, Cedar Rapids, Petersburg, schools); Develop/Implement Hazard/Emergency Operations/Actions/Response Plan, Emergency Operations Center (county, LLNRD); Fire Prevention Program/ Planning and Training, Firewise® Community, Hazardous Fire Fuels Reduction, and Wildfire Education (Albion); improve emergency communications (county, Petersburg, schools); improve emergency responder Access (county); Provide Info to Citizens About Hazard Events/Preparedness (county, LLNRD, St. Edward); Alert Sirens (Petersburg); and Reduce Wildfire Damage, Wildfire Hazard Identification and Mitigation System (LLNRD). The City of St. Edward listed wildfires as a local concern. The Boone County Zoning Ordinance was last updated in 2014. In future updates, the comprehensive plan will consider wildfire and the wildland urban interface.

Wildfire-related mitigations selected by Platte County participants in the LLNRD HMP included: Community Education and Awareness (Monroe); Develop/Implement Hazard/Emergency Operations/Actions/Response Plan and Emergency Operations Center (Columbus); and Improve Emergency Communications (county, Columbus).

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 or 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. The following opportunities have been identified to address common issues and concerns:

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.
3) Engage partners such as the NRCS, NGPC, and conservation organizations to implement or 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.
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., WIRAT, Type 3, 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 Managers have made the following recommendations:

1) Having 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 within the CWPP region who cooperate with NFS and NEMA to provide aerial fire suppression to requesting fire departments. Having fewer applicators 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 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 in the most at-risk locations can be provided to emergency managers, fire chiefs, and others to help them decide where to establish the 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): GIS technology can be incorporated into the action plan. A Global Positioning System (GPS) can be utilized to provide locations of tanks, water supplies, and other useful information in each fire district and made available for hand-held devices. Counties and communities 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. Water hydrant systems at golf courses could be mapped and added to this database. GPS locations of stock tanks and other water sources on public lands could also be provided to emergency responders. Other map data that would be useful 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.

In the past there have been issues with sharing map layers between different programs and applications. Many natural resources agencies, including the NFS, now use Avenza™, a mobile map app that allows users to download geospatial-enabled pdf maps for offline use on a smart phone or tablet, using the device's built-in GPS to track their location, plot and record location information, measure distance and area, and more. Some VFDs may also use this app, but there currently is no standardized protocol. Creating such standardization over time would likely prove useful.

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 for fire districts, not all fire districts 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 might imply that there is no pressing need for this type of equipment. This could potentially put the status of the program in jeopardy. In response to this, NFS offers an incentive to VFDs for participation: Only fire departments that report their responses are eligible to apply for this equipment.

Although reporting has increased recently, VFDs are urged to continue stepping up this effort. The information provides data to geographically focus grant assistance on those areas most prone to wildfire. The NFS has a database already in place to facilitate 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 trees@unl.edu), then follow the prompts to create the report.

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 neighborhoods. Consider implementing this practice in the CWPP Areas of Concern. 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 ⅛ 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 firebreaks and fuelbreaks are lines of defense. Homes and developments between the break and the fire may remain vulnerable.[21]

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 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. Some of the fire departments in the CWPP region are annual participants in the Nebraska Wildland Fire Academies held at Fort Robinson State Park near Crawford and Ponca State Park in Dixon County. A complete description of these 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.

Public events such as county fairs can be used to provide wildfire awareness education. Workshops and seminars can offer specific 'how-to' fire protection information for homeowners and land managers.

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.

Prescribed Fire
Some 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 killing 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 can complete. Some VFDs assist 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, forested or shrubby lands adjacent to population centers, and in cedar-encroached riparian bottoms. Wooded recreational and 'second home' residential areas add the hazards of seasonal congestion, limited or difficult access, and structures adjacent to highly flammable vegetation. Mechanical thinning will decrease tree density to healthy levels and reduce eastern redcedar encroachment in deciduous forests while reducing wildfire hazard.

Slash (unusable limbs and treetops left after thinning) can be chipped, mulched, or piled. Slash piles can present 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 sources of spontaneous combustion.

The cost of mechanical fuels reduction depends on access, terrain, and tree density. Utilization of wood products generated by these treatments has the potential to offset the costs of doing the work. However, presently there is little local commercial market for this material. Researchers are currently working with the NFS to expand markets for wood products.

Because mechanical fuels reduction can be expensive, some 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.

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 cost share programs.

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 the NRCS 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 pose 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 areas 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 prolongs the period of hazard abatement and 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

expand, 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.

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. Counties and fire departments can formally or informally monitor progress and coordinate with agency stakeholders who 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 whether or not progress is being made. Each participant 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 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 units of measure such as those 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 funding 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.

Five-Year Action Plan for the Middle Northeast CWPP 2022-2026				
Task(s)	**Who**	**When**	**Benchmark(s)**	**Opportunities/Limits**
Risk Assessment, Prioritization, and Analysis				
Identify/analyze Risk Assessment elements	Local officials, NFS	Done during CWPP preparation	Completed CWPP	n/a
Review county zoning plans for treatment of high fire risk areas	Local planning staffs (zoned counties)	2022-2023	# 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	2022-2023	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 during CWPP prep & HMP updates	Completed CWPP & HMPs	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	# of new buildings to code; # of buildings 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
Assess and Enhance Local Response Capacity, Effectiveness, and Safety				
Review regional HMPs, VFD info, and county data	Local officials, VFDs	2022-2023	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 assist-ed, # 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; # hours	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.
Ensure prompt notifi-cation and involvement process for assessment and assistance on fires	Local and state officials	Ongoing	Checklist/report	Opportunity to expedite response

Task(s)	Who	When	Benchmark(s)	Opportunities/Limits
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 within the 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	2022-2024	# 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: POAs 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	2023-2025	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

Endnotes

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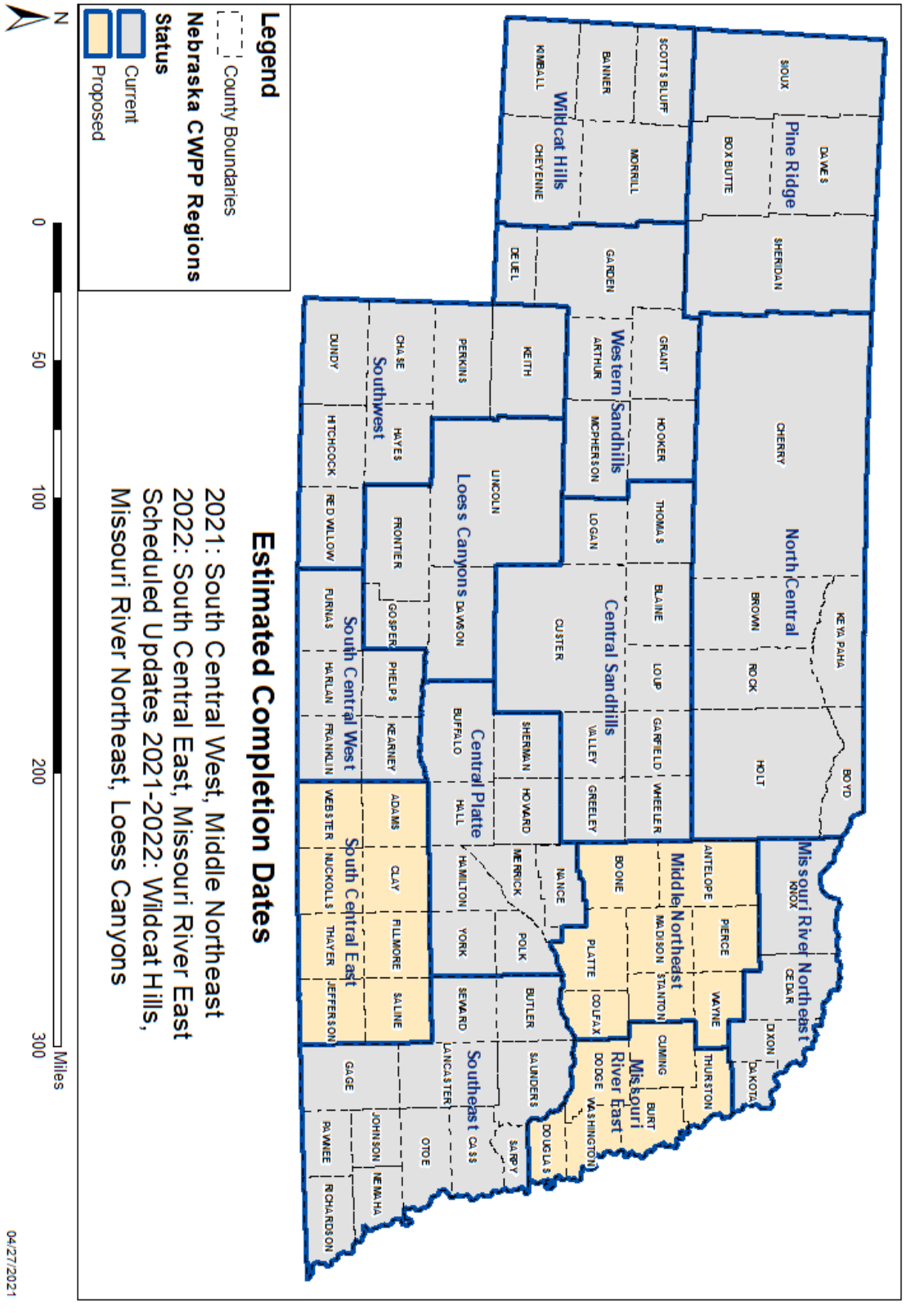
List of Appendices

Appendix A

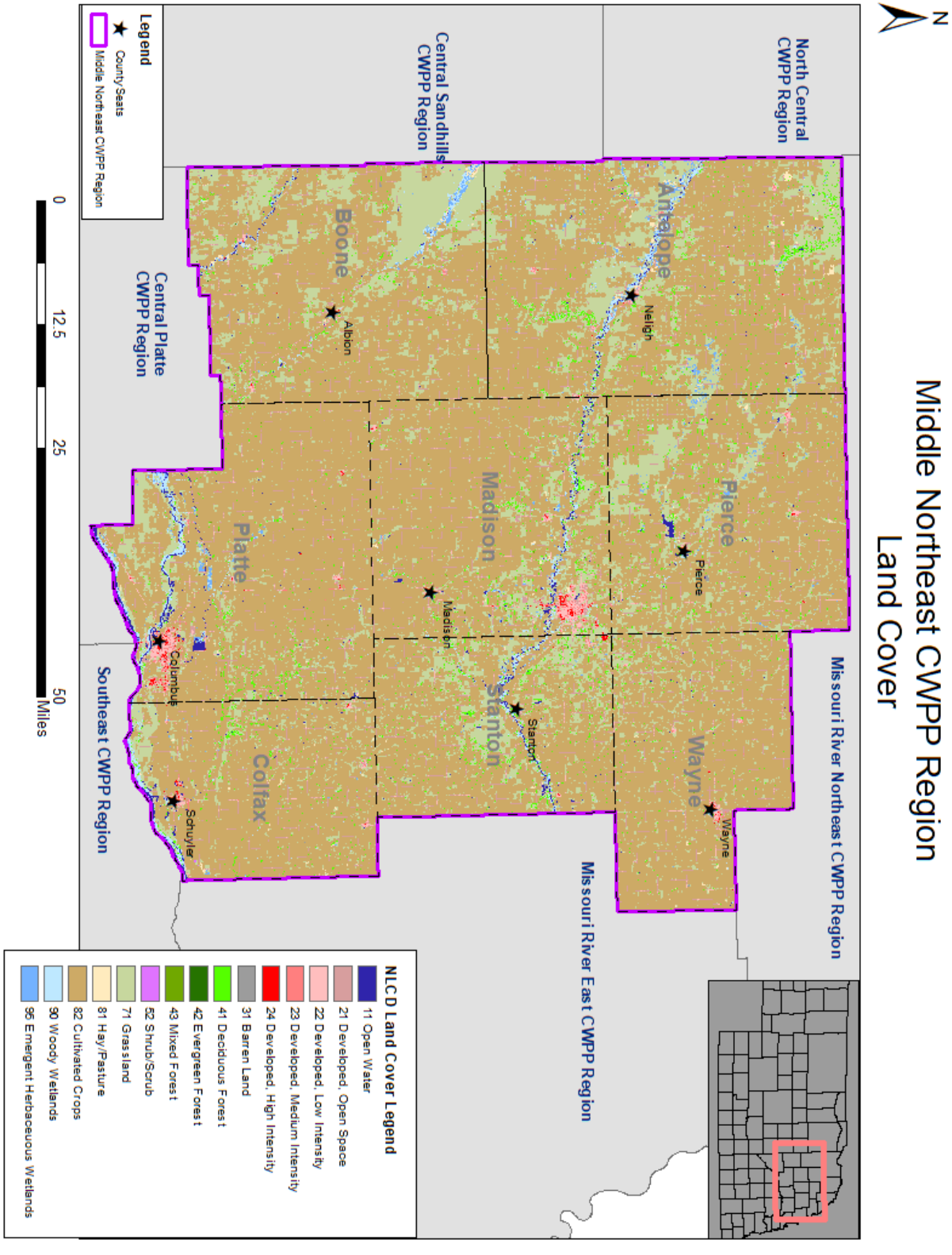
Maps

1. Nebraska CWPP Regions
2. Middle Northeast CWPP Region Land Cover
3. Biologically Unique Landscapes
4. Nebraska Local Mitigation Planning Areas
5. Middle Northeast CWPP Region Areas of Concern

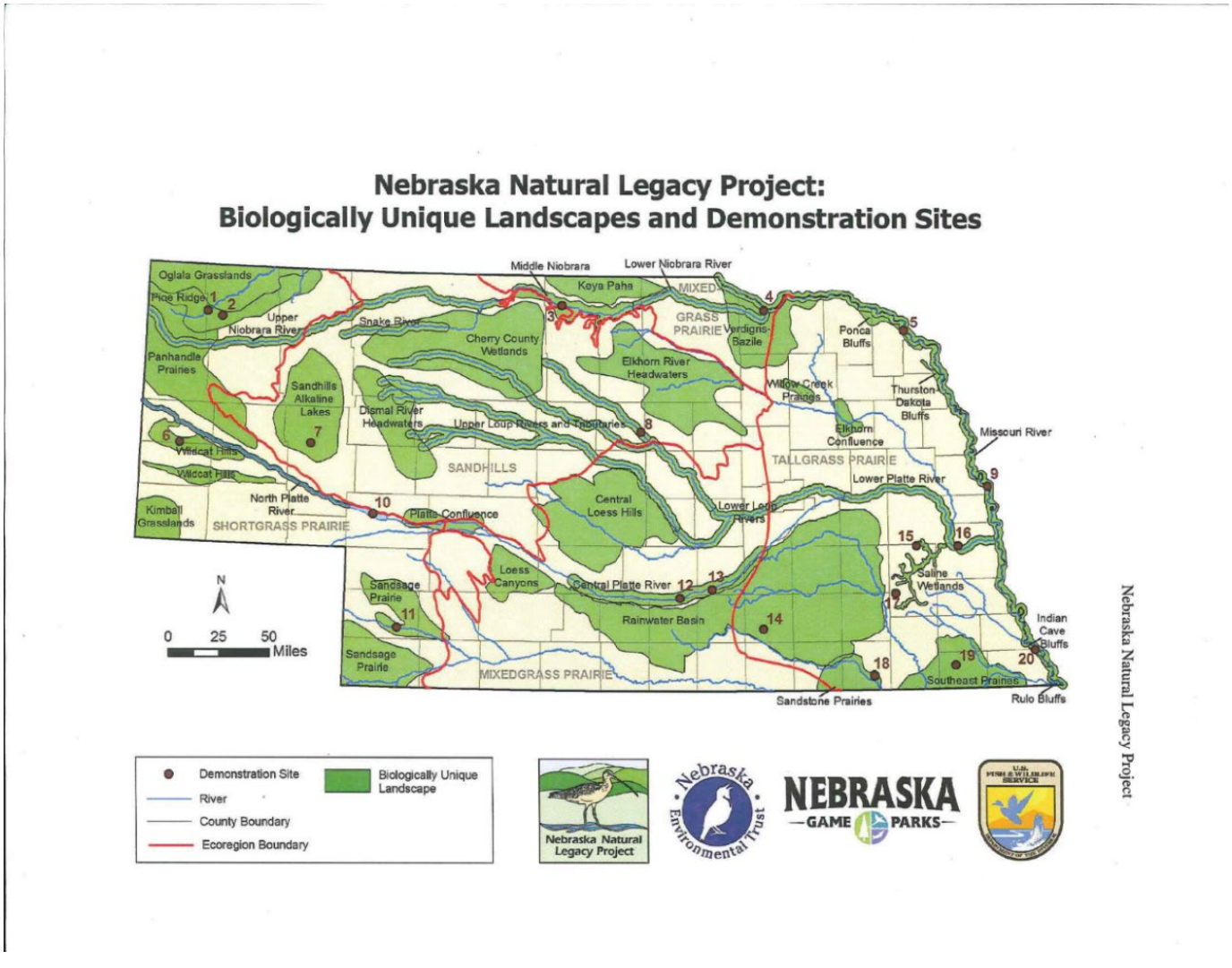
Map 1: Nebraska Community Wildfire Protection Plan Regions



Map 2: Middle Northeast CWPP Region Land Cover



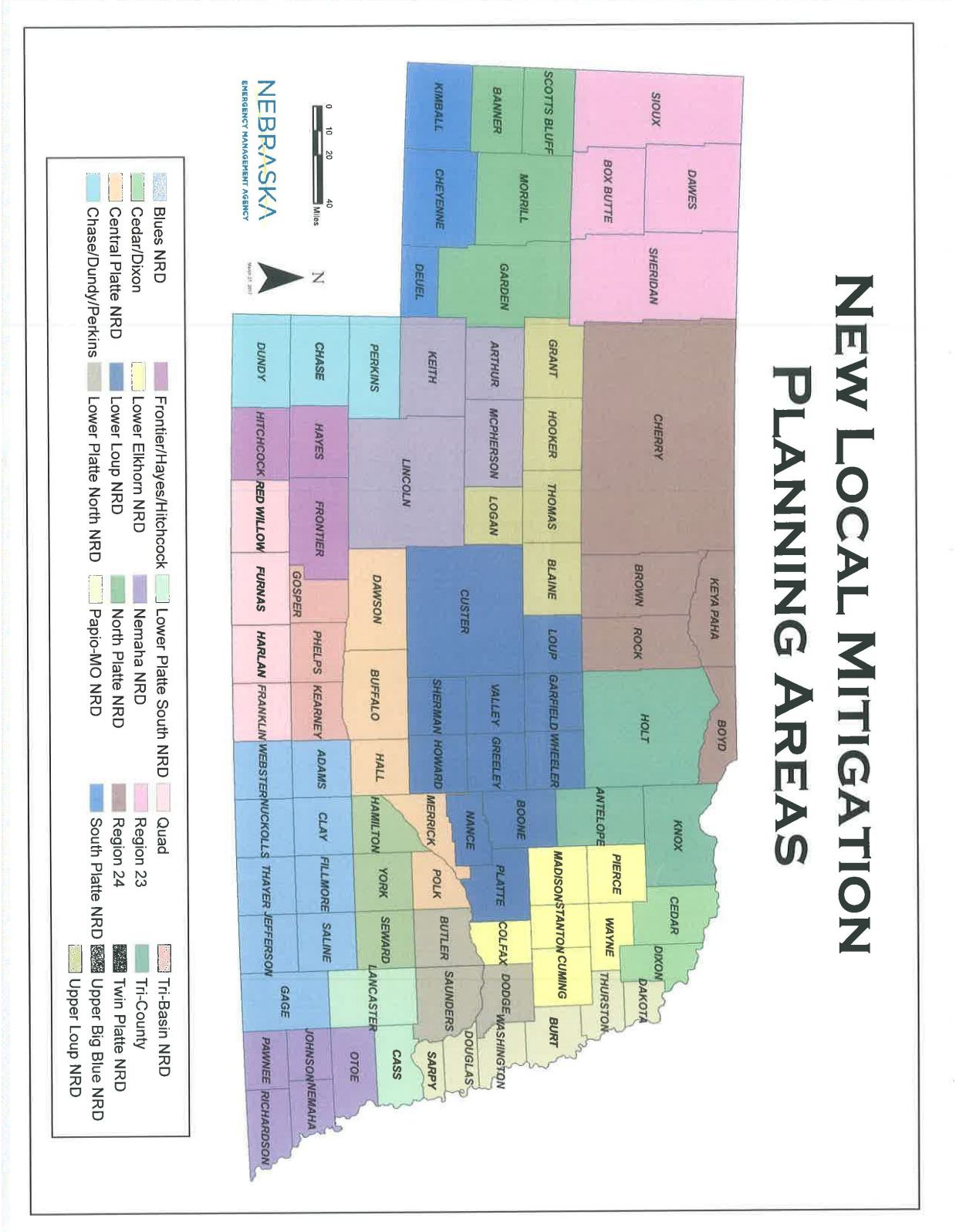
Map 3: Nebraska Natural Legacy Project: Biologically Unique Landscapes



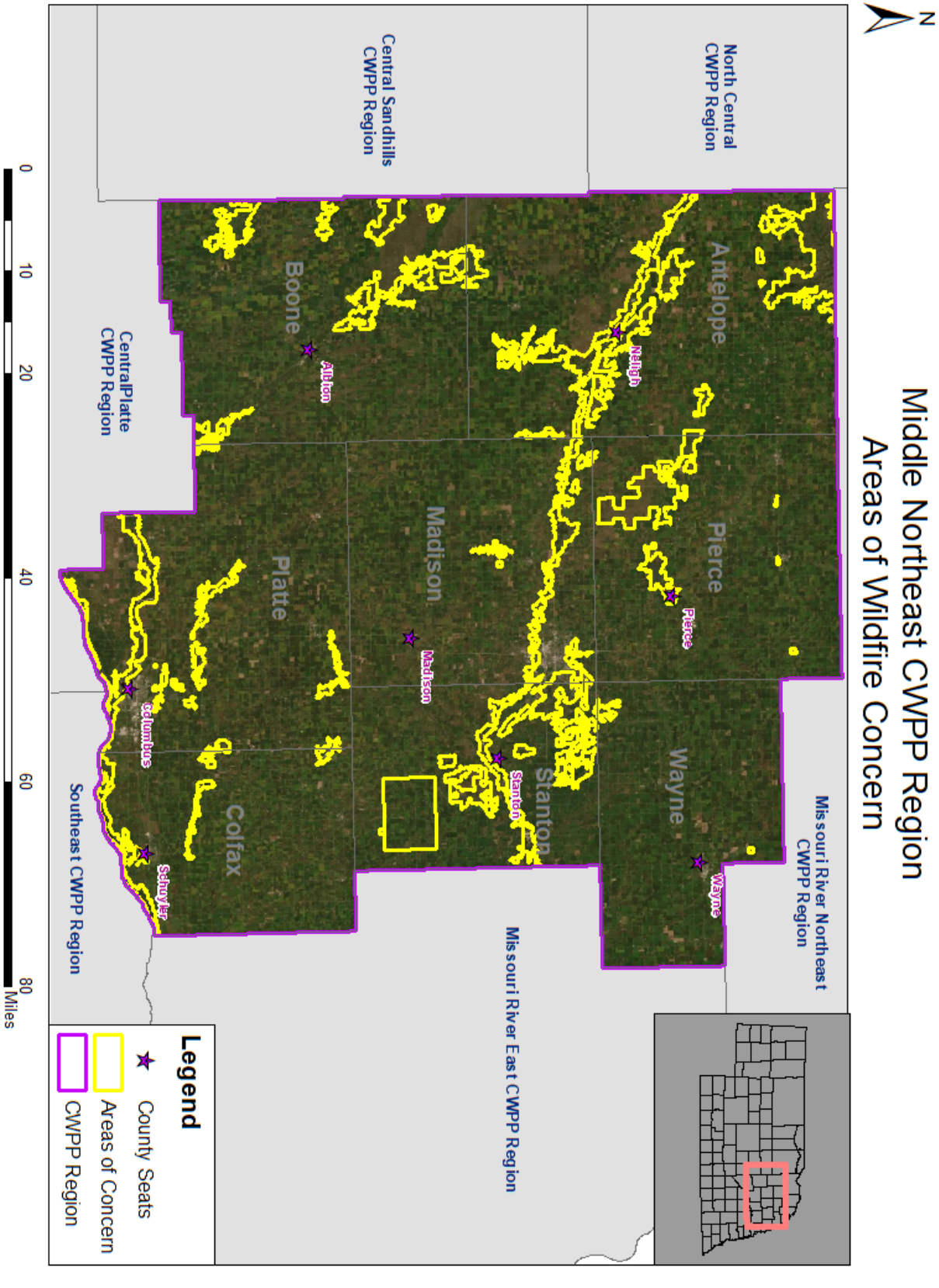
The full document is available at:

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

Map 4: Nebraska Local Mitigation Planning Areas



Map 5: Middle Northeast CWPP Region 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 to 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, and 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 prescribed 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
  - 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, # of acres treated). *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, # of acres treated). *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
    - 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 only online

1. Lower Elkhorn NRD HMP (Pierce, Stanton, Wayne, and parts of Colfax, Madison, Platte)
   https://jeo.com/lenrd-hmp

2. Lower Loup NRD HMP (Includes most of Boone and part of Platte)
   https://jeo.com/lower-loup-hmp

3. Lower Platte North NRD HMP (Parts of Boone, Colfax, Madison, and Platte)
   https://jeo.com/lpnnrd-hmp

4. Tri-County HMP (Antelope, with Holt and Knox Counties)
   https://nfs.unl.edu/documents/CWPP/tricounty-HMP_Holt_Knox_Antelope.pdf

5. Nebraska Forest Action Plan
   https://nfs.unl.edu/statewide-forest-action-plan

6. Nebraska Natural Legacy Project
   http://outdoornebraska.gov/http://outdoornebraska.gov/wp-content/uploads/2015/09/NebraskaNaturalLegacyProject2ndEdition.pdf

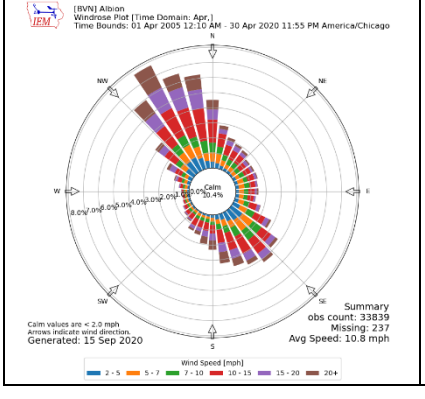
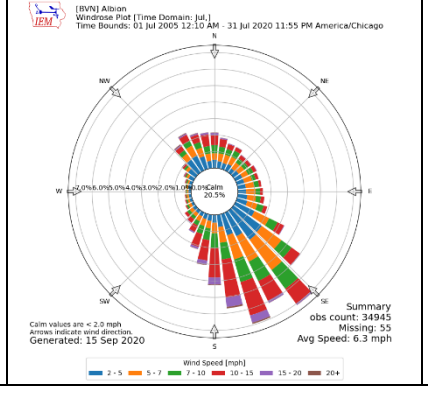
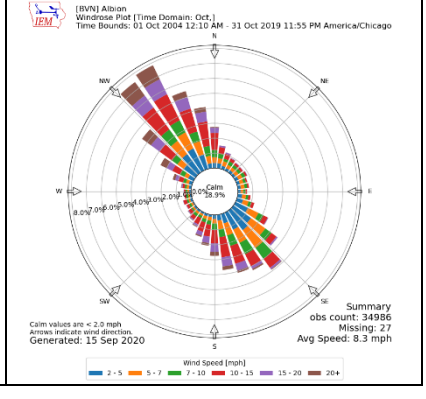
Appendix D

Wind Roses
For Selected Cities
in or near the Middle Northeast CWPP Region

a. Albion
b. Columbus
c. Norfolk
d. O'Neill
e. Wayne

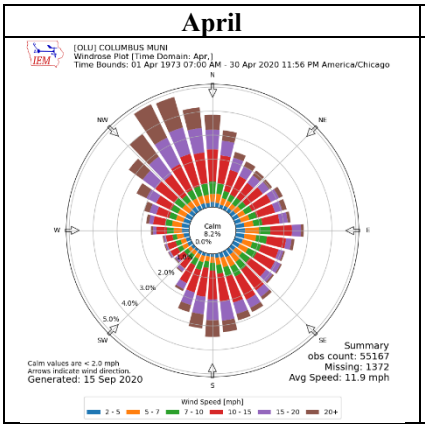
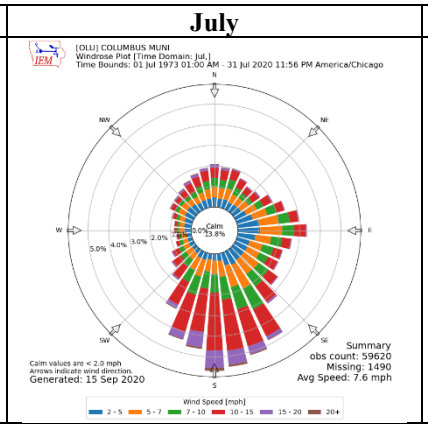
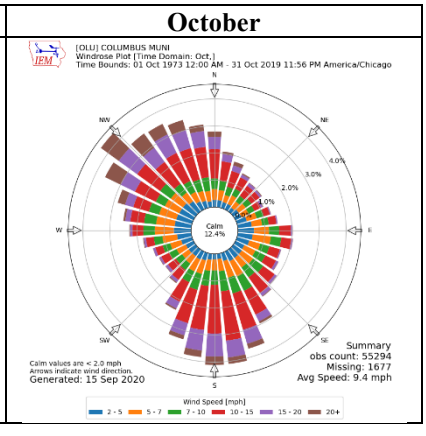
Albion, Nebraska

Wind Direction and Speed 2004-2020

April	July	October
		

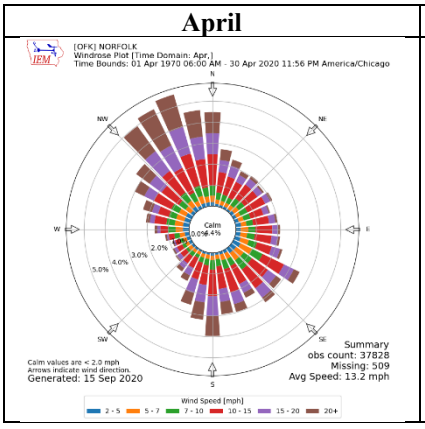
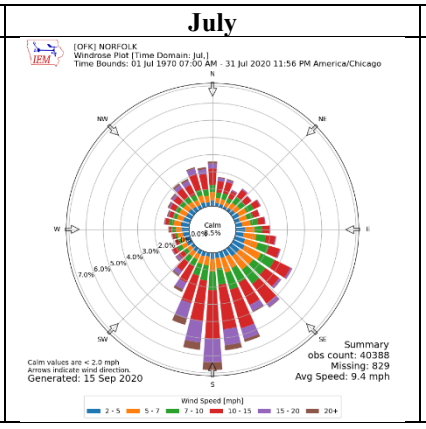
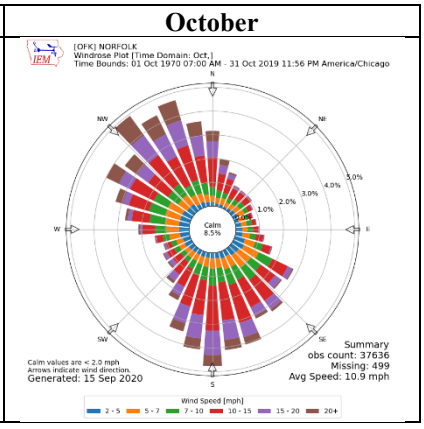
Columbus, Nebraska

Wind Direction and Speed 1973-2020

April	July	October
		

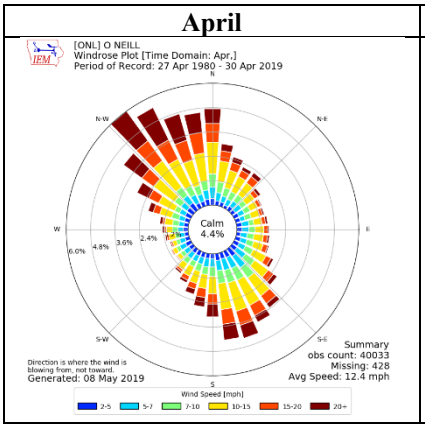
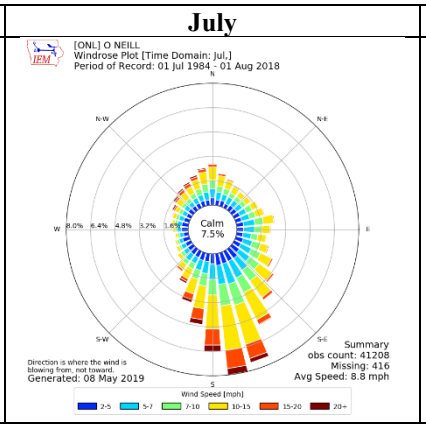
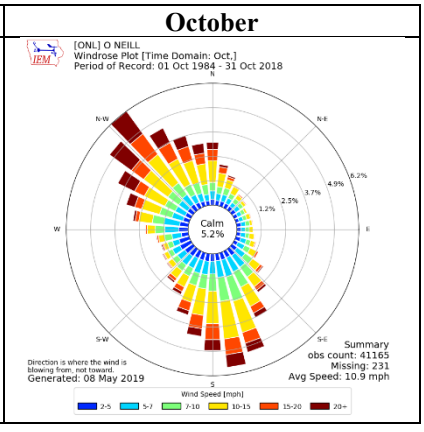
Norfolk, Nebraska

Wind Direction and Speed 1970-2020

April	July	October
		

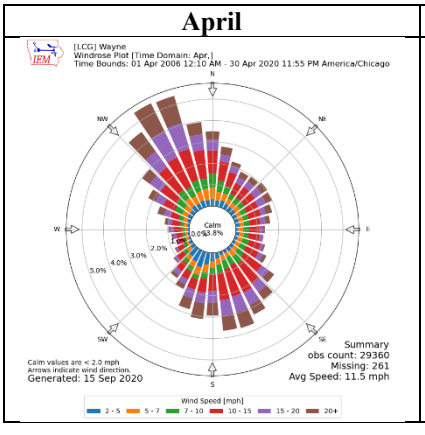
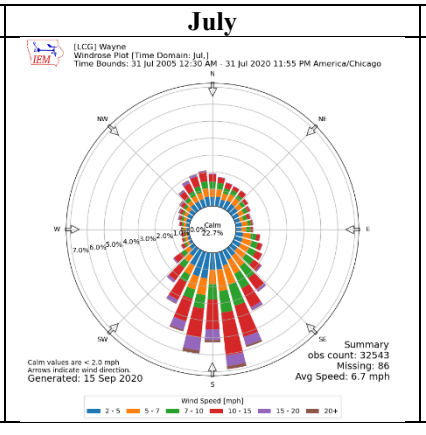
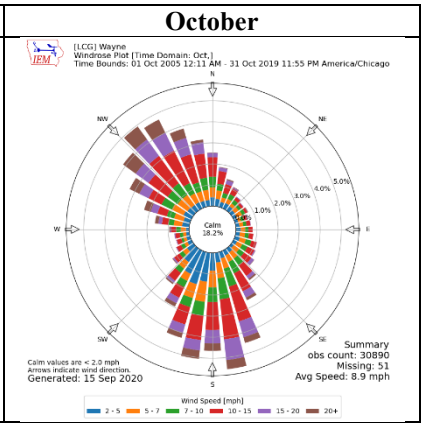
O'Neill, Nebraska

Wind Direction and Speed 1980-2019

April	July	October
		

Wayne, Nebraska

Wind Direction and Speed 2005-2020

April	July	October
		

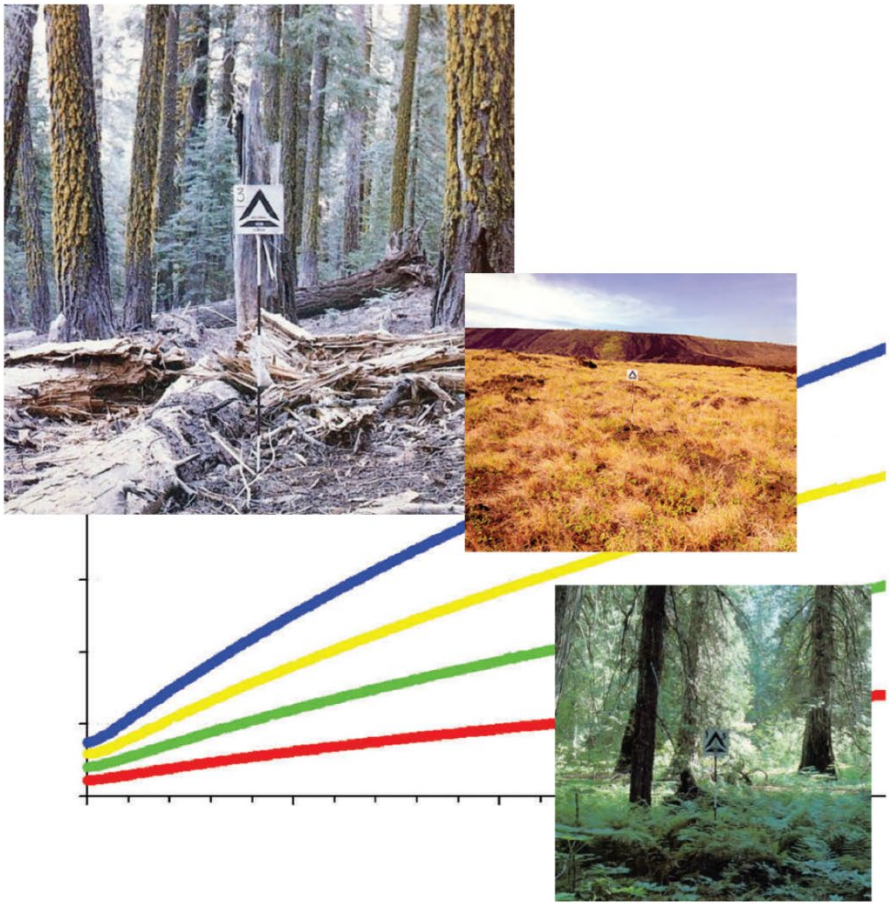
Appendix E

Fuel Models for the Middle Northeast CWPP Region

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

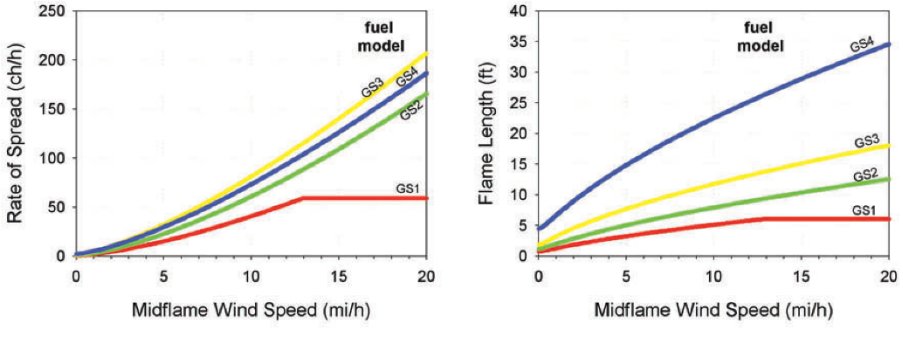
Joe H. Scott
Robert E. Burgan



Grass-Shrub Fuel Type Models (GS)

The primary carrier of fire in the GS fuel models is grass and shrubs combined; both components are important in determining fire behavior.

All GS 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 and depends on the relative amount of grass and shrub load in the fuel model.



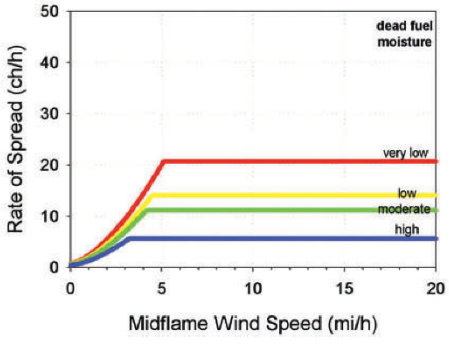
USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005 35

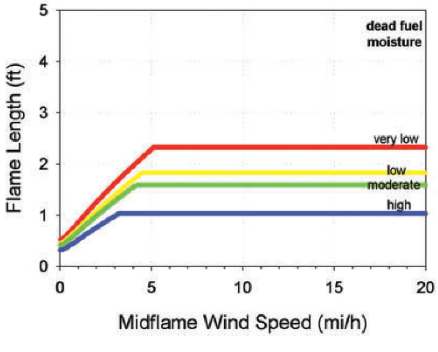
GR1 (101)

Short, Sparse Dry Climate Grass (Dynamic)

Description: The primary carrier of fire in GR1 is sparse grass, though small amounts of fine dead fuel may be present. The grass in GR1 is generally short, either naturally or by grazing, and may be sparse or discontinuous. The moisture of extinction of GR1 is indicative of a dry climate fuelbed, but GR1 may also be applied in high-extinction moisture fuelbeds because in both cases predicted spread rate and flame length are low compared to other GR models.

Fine fuel load (t/ac)	0.40
Characteristic SAV (ft-1)	2054
Packing ratio (dimensionless)	0.00143
Extinction moisture content (percent)	15





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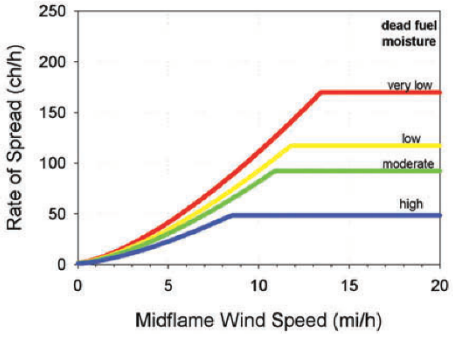
USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005

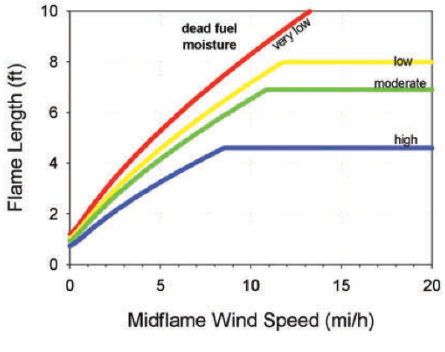
GR2 (102)

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





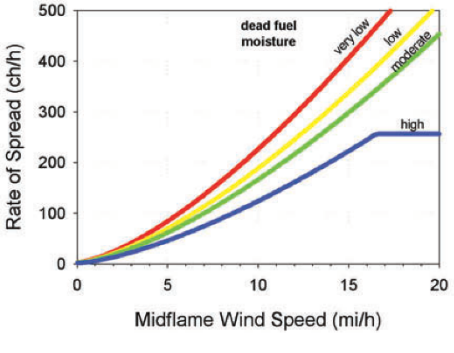
USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005 27

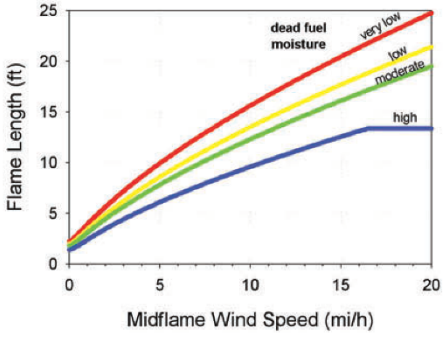
GR4 (104)

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





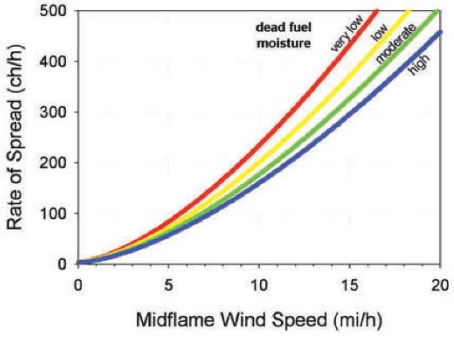
USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005 29

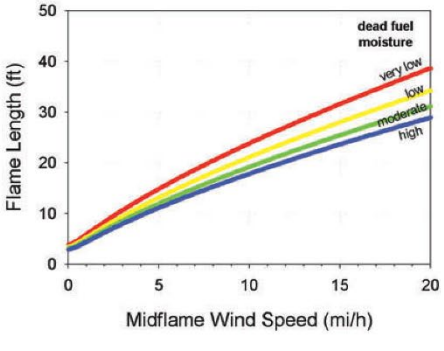
GR6 (106)

Moderate Load, Humid Climate Grass (Dynamic)

Description: The primary carrier of fire in GR6 is continuous humid-climate grass. Load is greater than GR5 but depth is about the same. Grass is less coarse than GR5.

Fine fuel load (t/ac)	3.5
Characteristic SAV (ft-1)	2006
Packing ratio (dimensionless)	0.00335
Extinction moisture content (percent)	40





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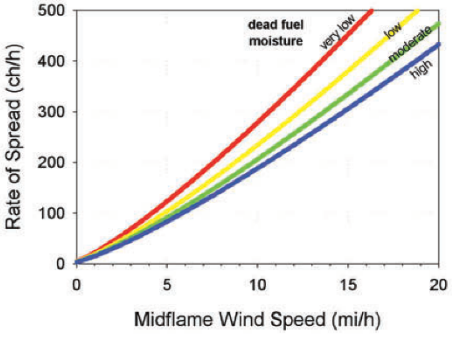
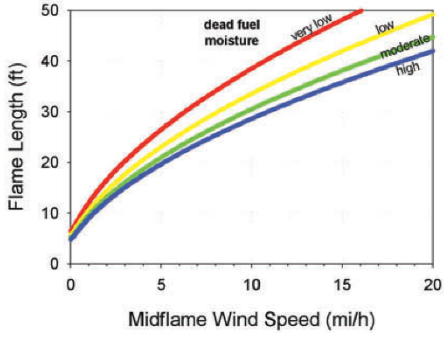
GR8 (108)

High Load, Very Coarse, Humid Climate Grass (Dynamic)

Description: The primary carrier of fire in GR8 is continuous, very coarse, humid-climate grass. Load and depth are greater than GR6. Spread rate and flame length can be extreme if grass is fully cured.

Fine fuel load (t/ac)	7.8
Characteristic SAV (ft-1)	1302
Packing ratio (dimensionless)	0.00316
Extinction moisture content (percent)	30

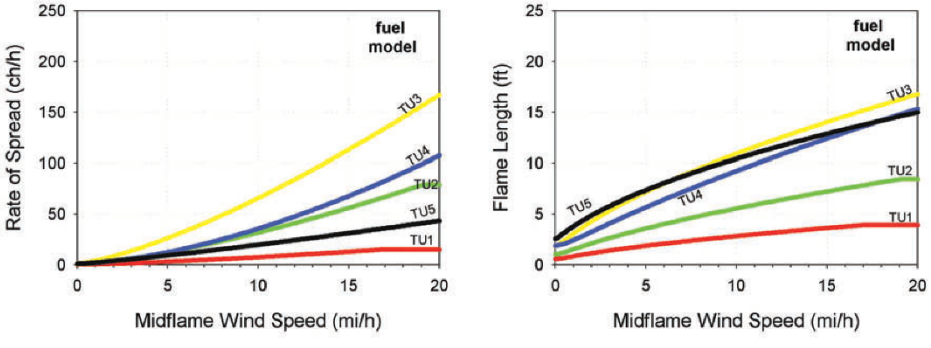




USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005 33

Timber-Understory Fuel Type Models (TU)

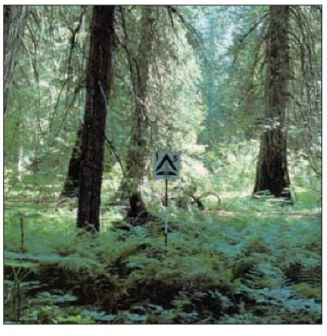
The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels. TU1 and TU3 contain live herbaceous load and are dynamic, meaning that their live herbaceous fuel load is allocated between live and dead as a function of live herbaceous moisture content. 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.



50 USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005

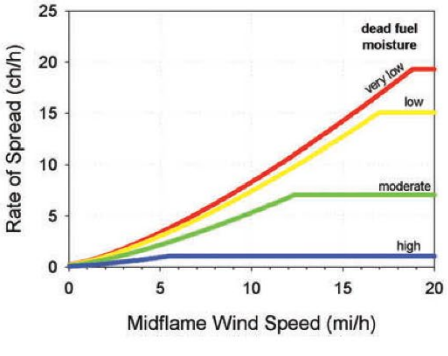
TU1 (161)

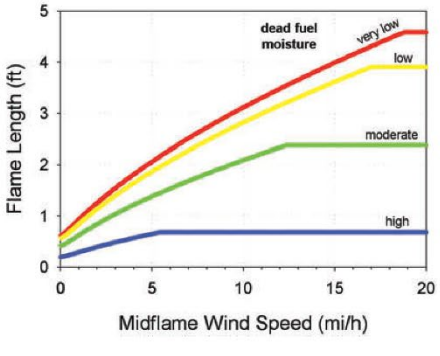
Low Load Dry Climate Timber-Grass-Shrub (Dynamic)



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

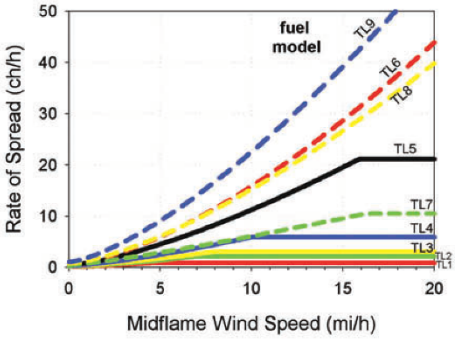


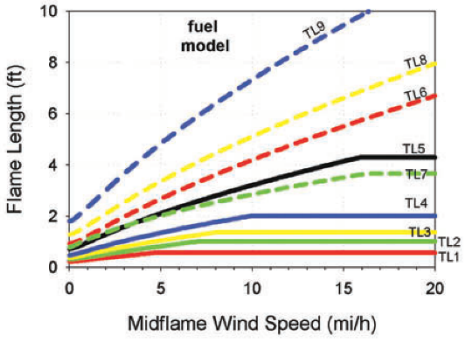


USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005 51

Timber Litter Fuel Type Models (TL)

The primary carrier of fire in the TL fuel models is dead and down woody fuel. Live fuel, if present, has little effect on fire behavior.





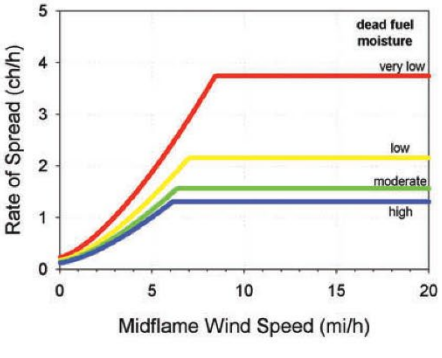
56 USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005

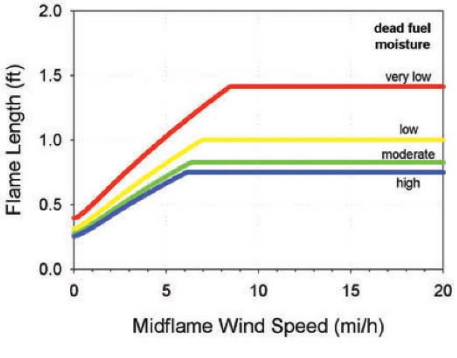
TL2 (182)

Low Load Broadleaf Litter

Description: The primary carrier of fire in TL2 is broadleaf (hardwood) litter. Low load, compact broadleaf litter. Spread rate is very low; flame length very low.

Fine fuel load (t/ac)	1.4
Characteristic SAV (ft-1)	1806
Packing ratio (dimensionless)	0.04232
Extinction moisture content (percent)	25





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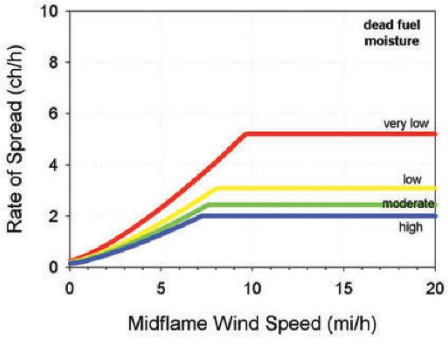
USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005

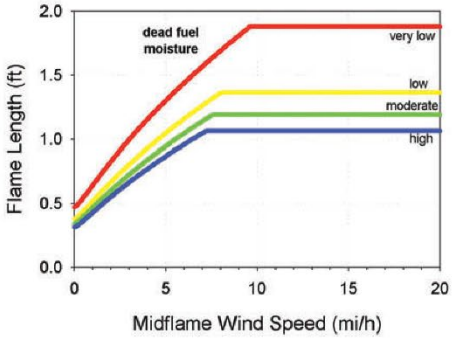
TL3 (183)

Moderate Load Conifer Litter

Description: The primary carrier of fire in TL3 is moderate load conifer litter, light load of coarse fuels. Spread rate is very low; flame length low.

Fine fuel load (t/ac)	0.50
Characteristic SAV (ft-1)	1532
Packing ratio (dimensionless)	0.02630
Extinction moisture content (percent)	20



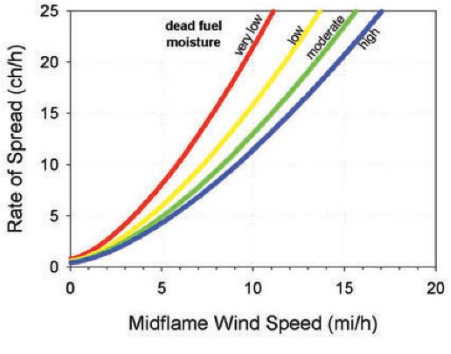


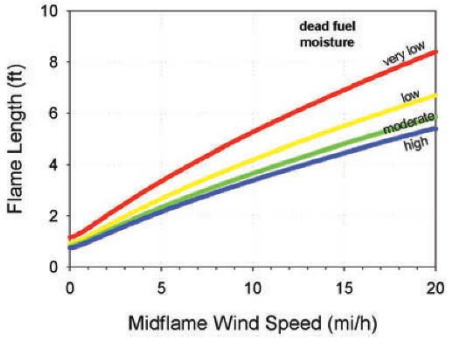
TL6 (186)

Moderate Load Broadleaf Litter

Description: The primary carrier of fire in TL6 is moderate load broadleaf litter, less compact than TL2. Spread rate is moderate; flame length low.

Fine fuel load (t/ac)	2.4
Characteristic SAV (ft-1)	1936
Packing ratio (dimensionless)	0.02296
Extinction moisture content (percent)	25





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USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005

Appendix F

Nebraska Mutual Aid Associations

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

Fillmore County MA
Bruning, Exeter, Fairmont, Geneva, Grafton, McCool Junction, Milligan, Ohiowa, 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

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 Middle Northeast 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

Antelope County

Information from Antelope Co. LEOP, Annex F:

FIRE SERVICES

NELIGH FIRE DEPARTMENT

ORCHARD FIRE DEPARTMENT

ELGIN FIRE DEPARTMENT

CLEARWATER FIRE DEPARTMENT

OAKDALE FIRE DEPARTMENT

TILDEN FIRE DEPARTMENT

BRUNSWICK FIRE DEPARTMENT

ROYAL FIRE DEPARTMENT

40-12 MUTUAL AID ASSOCIATION

ANTELOPE COUNTY MUTUAL AID ASSOCIATION

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

Lead Agencies:
State Fire Marshal

Nebraska Emergency Management Agency,

ANTELOPE 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
Brunswick	911 842-2543		1	2		2	1				No
Clearwater	911 485-2451		1	3		2	1	2		UTV	No
Elgin	911 843-2170		3	3		3	1	2			Yes
Neligh	911 887-4181		2	1	1	3	3	2	Rope, HM Ops	UTV, AARF	Yes
Oakdale	911 776-2111		1	1		2					No
Orchard	911 893-2345		1	1		1	1	2			No
Royal	911		1	1		1					No
Tilden	911 368-5858		2	2	1	2		1			No
Norfolk Fire Division Hazmat Team	911 844-2050						2		HM Techs	Hazmat, Monitoring	Yes

Survey Responses from Antelope County Fire Departments:

Department Name: Brunswick VFD
Counties: Antelope
Street Address: 203 Franklin St. **Mailing Address**: PO Box 132, Brunswick, NE 68720; **Dept. Phone**: 402-929-0525
Chief: Craig Forbes; 402-929-0525, 402-929-0526; cforbes0525@gmail.com
Ass't. Chief: Todd Buck; 402-929-0852, 402-929-0568; BuckEldon@yahoo.com
Secretary: Zack Masat; 402-358-0667, 402-358-0664
Treasurer: John Meuret; 402-750-6543

Personnel
25 **Vol.**:
MAD(s): 40-12

Equipment
Engines
1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
2 Type 5: Wildland: 50 GPM, 400 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
2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
Other
1 Equipment trucks
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: T28N R7W Sections 11, 14, 23, 35 – Nebraska Game & Parks
Issues:
x Difficult access
x Rough terrain
x 1 way in/out
x Heavy fuels
x Lack of water within effective distance
x Other: Canyons, trees, brush, rough country; hard to get to

Location2: T26N R5W Sections 5, 4, 9
Issues:
x Difficult access
x Rough terrain
x 1 way in/out
x Lack of water within effective distance
x Other: Low land, grass, swampy area; no roads to get there

Bridges that won't support equipment weight: Yes. There are 6 bridges that won't support the weight of the tanker, but will support the grass rigs.

GIS layer & contact info: No

Greatest concerns: Being able to get in there with fire trucks

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

Department Name: Clearwater Volunteer Fire Department
Counties: Antelope, Holt
Mailing Address: PO Box N, Clearwater, NE 68726
Chief: Steve Hankla; 402-750-4602, 402-485-2582; hanksl1@hotmail.com
Ass't. Chief: Mark Allemang; 402-340-5042
Secretary: Aaron Kruger; 402-750-1691
Treasurer: Dee Ann Sanne; 402-485-2216

Personnel
15 **Vol.**:

MAD(s): 'ABW'

Other MA agreements: Ewing

Equipment
Engines
1 Type 1 Structural: ~~1,000~~ 1,250 GPM, ~~300~~ 1,000 gal. capacity, four crew members
2 Type 6: Wildland: 50 GPM, ~~150~~ 300 gal. capacity, two crew members
1 Type 7: Wildland: 10 GPM, 50 gal. capacity, two crew members
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
1 T-1 (tactical): 6x6, 250 GPM pump, ~~2,000~~ 1,250-gallon capacity, 2 crew members
1 S-3 (support): 200 GPM pump, ~~1,000~~ 1,625-gallon capacity, ~~1~~ 2 crew members
Other
1 Equipment trucks

Sent this equipment list:

C-41		1,625 gal.	3x1½	18hp
C-40	6x6	1,250 gal.		
C-42		1,800 gal.		
C-21		300 gal.	11 hp	3x2 pump
C-20		300 gal.		
C-30		1,250 gal. pump		
Side x side		50 gal.	high pressure pump	

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: (Location not specified)
Issues:
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: (none listed)

Rank:
x **Other water sources**

Department Name: Creighton Fire Dept.
Counties: Knox, Antelope
Street Address: 603 Redick Ave. **Mailing Address**: PO Box 42, Creighton, NE 68729
Chief: Kevin Sonnichsen; 402-360-3795; sonnichk@hotmail.com
Ass't. Chief: Corey Horstmann; 402-841-2035
Secretary: Tyler Fuchtman; 402-419-3166; tylerfuchtman@hotmail.com

Personnel
34 **Vol.**:
MAD(s): 40-12

Equipment
Engines
2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four 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
1 Type 7: Wildland: 10 GPM, 50 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
2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
Other
1 Equipment trucks
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, both in Knox County
Location: North of 872 Rd. (old State Hwy. 108) and north of Hwy. 59
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, low weight limits for larger trucks

GIS layer & contact info: No

Greatest concerns: Water sources, terrain

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

Department Name: Elgin VFD: (*Survey not returned*)

Department Name: Neligh Fire Department
Counties: Antelope
Street/Mailing Address: 511 W. 11th St., Neligh, NE 68756
Dept. Phone: 402-887-4181
Chief: Michael Mortensen; 402-929-0308; 402-887-4158; mmortensen@akrs.com
Ass't. Chief: Dave Jacobsen; 402-640-0853, 402-887-4161; dave@blackburnflag.com
Secretary: Colten Marsh; 402-709-7253, 402-887-4106
Treasurer: Steve Arehart; 402-841-6306

Personnel
45 **Vol.**:

MAD(s): Antelope, Madison, Holt, Pierce County; 40-12 MA Assoc.

Other MA agreements: We need to update agreements in and out of the county.

Equipment

	Location/Type	Department Truck Number	Truck Type	GPM of Pump	Storage Capacity	CREW	Attack lines	Truck tonage/ Year
Example	NELIGH FIRE/GRASS	N 20 4X4 WILDLAND	ATTACK	50	250	2	yes/ 2	8800 # 1976
	NELIGH FIRE/GRASS	N21 4X4 WILDLAND	QUICK ATTACK	250	300	2	YES/4	16000# 1996
	NELIGH FIRE/GRASS	N23 4X4 WILDLAND	QUICK ATTACK	250	400	2	YES/2	18500 # 2016
	NELIGH FIRE/GRASS	N22 4X4 WILDLAND	OSHGOSH FORESTRY	750	1000	4	TURET UP FRONT	40000 # 1989
	NELIGH FIRE/1	N30 ENGINE	PUMPER	1000	1000	3	6	35000 # 1993
	NELIGH FIRE/1	N33 ENGINE	PUMPER	1250	1000	5	6	43000 # 2009
	NELIGH FIRE/S-4	N40 TENDER	PUMPER	750	3100	2	2	48000 # 2016
	NELIGH FIRE/S-1	N41 TENDER	SUPPORT	250	3200	2	0	48000 # 2005

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, but the following issues were checked:
Location:
Issues:
x Rough terrain
x Heavy fuels
x Lack of water within effective distance
x Other: Manpower during daytime events. Would like to establish a rural water supply.

Bridges that won't support equipment weight: Yes, too many to name.

GIS layer & contact info: No

Greatest concerns: Access to rural areas in rough terrain with wooded areas; ton ratings of county bridges.

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

Department Name: Oakdale Volunteer Fire Department
Counties: Antelope
Street Address: 507 5th St.
Mailing Address: PO Box 2, Oakdale, NE 68761-0002
Dept. Phone: 402-776-2505
Chief: Matt Wilkinson; 402-843-8801, 402-776-2555; twindiamond2002@yahoo.com
Ass't. Chief: Aaron Kinnon; 402-843-8297, 402-776-2400; ajak46@hotmail.com
Secretary: Jesse Mitchell; 402-929-0303
Treasurer: Sheryle Griffith; 402-843-6928

Personnel
25 **Vol.**:

MAD(s): Neligh, Tilden, Meadow Grove, Battle Creek, Elkhorn Valley Mutual Aid

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
1 Type 2 Structural: ~~500~~ 750 GPM, 300 gal. capacity, three crew members
2 Type 5: Wildland: 50 GPM, ~~400~~ 300 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

Other

1 Equipment trucks: 1995 Chevy

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: Cedar Creek, runs through all of our district until it dumps into the Elkhorn River. It is a hard area to get to with ground equipment.

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, according to the Village of Oakdale

GIS layer & contact info: No

Greatest concerns: Lack of personnel and resources

Rank:

x **Bridge limits**
x **Hydrants**

Department Name: Orchard Fire & Rescue
Counties: Holt, Antelope, Knox
Street Address: 240 Windom
Mailing Address: PO Box 141, Orchard, NE 68764
Chief: Duane Risinger; 402-893-4355, 402-893-2085
Ass't. Chief: Kyle Maxwell
Secretary: Irene Risinger; 402-893-4355, 402-750-0023
Treasurer: Kathy Belik; 402-929-0707

Personnel

32 **Vol.**: Firefighters/EMTs

MAD(s): 40-12

Other MA agreements: Bloomfield, Brunswick, Creighton, Crofton, Hartington, Magnet, Neligh, Niobrara, Orchard, Osmond, Plainview, Pierce, Randolph, Royal, Santee, Verdigre, Wausa, Page

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

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 Equipment trucks: Jaws equipment

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: Grove Lake Wildlife area. 1-2 miles north of Royal, east side of road.
Issues:
Multiple structures
Difficult access
Rough terrain
1 way in/out
Heavy fuels
Lack of water within effective distance
Location2: Royal Hub CVA. 3 miles east of Orchard.
Issues:
Multiple structures
1 way in/out
Heavy fuels
Lack of water within effective distance

Greatest concerns: Towns of Orchard and Royal

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

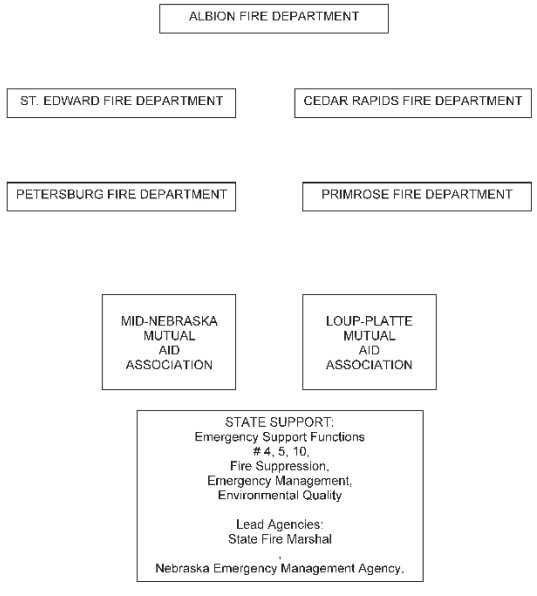
Department Name: Plainview VFD: (*See listing under Pierce County*)

Department Name: Tilden VFD: (*See listing under Madison County*)

Boone County

Information from Boone Co. LEOP, Annex F:

FIRE SERVICES



BOONE 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
Albion	911		2	2		2	1	2		Foam Truck Rescue Truck	YES
Petersburg	402-447-4181		1	1	1	1	1	2			NO
St Edward	911		2	2		1	1	1		Irrigation traveling gun	NO
Cedar Rapids	911		1	4		2	1	1		Grain bin rescue tube	NO
Primrose	911		1	2		1	1				NO
Nearest HAZMAT Response Team											
Columbus	402-564-8127										
Norfolk	402-844-2050										

Survey Responses from Boone County Fire Departments:

Department Name: Albion VFD: (*Survey not returned*)

Department Name: Cedar Rapids VFD: (*Survey not returned*)

Department Name: Newman Grove: (*See listing under Madison County*)

Department Name: Petersburg VFD: (*Survey not returned*)

Department Name: Primrose Rural Fire District
Counties: Boone, Greeley
Street/Mailing Address: 353 Commercial St., Primrose, NE 68655 **Dept. Email**: FirePrimrose@gmail.com
Chief: Tom Naughtin; 308-750-7534
Ass't. Chief: Curtis Pribnow; 402-741-1111
Sec/Treas.: Morgan Morgenson; 308-750-2603

Personnel
21 **Vol.**:

MAD(s): Loup Valley MA

Equipment
Engines
3 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
Other
3 Other: 1 Mack 2,500 gal. tanker; 1 [illegible] 4 crew pumper; 1 Ford 1,000 gal. 2-person truck

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, but the following issues were checked:
Issues:
x Difficult access
x Rough terrain
x Lack of water within effective distance

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: There are a few areas that access could possibly be a problem.

Rank:
5 **Housing**
5 **Infrastructure**
4 **Bridge limits**
3 **Hydrants**
2 **Other water sources**

Department Name: Spalding VFD: (*Survey not returned*)

Department Name: St. Edward: (*Survey not returned*)

Colfax County

Information from Colfax Co. LEOP, Annex F:

FIRE SERVICES

SCHUYLER FIRE DEPARTMENT

CLARKSON FIRE DEPARTMENT

HOWELLS FIRE DEPARTMENT

LEIGH FIRE DEPARTMENT

COLFAX COUNTY MUTUAL AID ASSOCIATION

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

COLFAX 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
Schuyler Fire Dept.	402-352-5407	1	2	2	0	2	1	2	Rescue Task Force-6 person	Rope Rescue & Grain Bin Rescue	YES
Clarkson Fire Dept.	402-892-3216	0	2	3	0	1	0	2	0	Rope Rescue & Grain Bin Rescue	YES
Howells Fire Dept.	402-986-1300	0	1	1	1	1	0	2	0	Rope Rescue & Grain Bin Rescue	YES
Leigh Fire Dept.	402-487-2506	0	2	2	0	1	1	2	1	Ice Rescue	YES
Nearest HAZMAT Response Team											
Columbus Fire											

Survey Responses from Colfax County Fire Departments:

Department Name: Clarkson Fire
Counties: Colfax, Stanton
Street Address: 220 Bryan St. **Mailing Address**: PO Box 312, Clarkson, NE 68629
Dept. Phone: 402-860-2286 **Dept. Email**: CVFD.S.Baumert@gmail.com
Chief: Steve Baumert; 402-860-2286; CVFD.S.Baumert@gmail.com
Ass't. Chief: Darren Gall; 402-920-0104; DGall@pvequip.com
Secretary: Gage Bond; 402-276-0594; Gage.Bond23@gmail.com

Personnel
38 **Vol.**:

MAD(s): Colfax County

Equipment
Engines
2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
1 Type 5: Wildland: 50 GPM, 400 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
2 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

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: The northern ¼ of our fire district becomes very rough and sandy ground making it difficult to get around in the fields. It also becomes a lot of pasture ground which limits access into the area.
Issues:
x Difficult access
x Rough terrain
x 1 way in/out
x Lack of water within effective distance

Location2: 57220 825th Rd. We have a solid waste facility (landfill) in our district. The facility is well run but we have had a few fires at their location over the years. The fires don't seem to spread very far, but they have the potential to.

Bridges that won't support equipment weight: Yes. There have been improvements made in the last several years to the bridges in our district by replacement with new and/or replacement with box culverts. However, some very low ton bridges still exist which we have to work around.

GIS layer & contact info: No

Greatest concerns: Lack of manpower and water supply when we get to the edges of our fire district

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

Comments: not that I can think of at this time

Department Name: Dodge: (*Survey not returned*)

Department Name: Howells: (*Survey not returned*)

Department Name: Leigh Volunteer Fire Dept.
Counties: Colfax, Platte, Stanton
Street Address: 129 E Short St. **Mailing Address**: PO Box 57, Leigh, NE 68643
Dept. Phone: 402-487-2242 **Dept. Email**: drewmachmueller@gmail.com
Chief: Drew Machmuller; 402-276-3410, 402-487-2242; drewmachmueller@gmail.com
Ass't. Chief: Matt Wiese; 402-270-9319
Secretary: Ryan Hoffman; 402-920-3070
Treasurer: Josh Urban; 402-649-4703

Personnel
37 **Vol.**:

MAD(s): Colfax Co. MA, Mid-Nebraska MA

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, 6x6
2 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): Tender – 2,000 gal., 50 GPM pump
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, locations not specified

Greatest concerns: Water supply/shuttling

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

Department Name: Schuyler Fire & Rescue
Counties: Colfax
Street/Mailing Address: 302 E 16th St, Schuyler, NE 68661
Dept. Phone: 402-352-5407 **Dept. Email**: schuylerfiredept@yahoo.com
Chief: Brad Sock; 402-615-0851; schuylerfiredept@yahoo.com
Ass't. Chief: Matt Prochaska; 402-615-2029; schuylerfiredept@yahoo.com
Secretary: Diane Gall; 402-615-0730; schuylerfiredept@yahoo.com
Treasurer: Paul Krupka; 402-615-0981; schuylerfiredept@yahoo.com
Personnel
Vol.: (This was circled; no number provided)

MAD(s): Northeast Nebraska MA; Colfax Co. MA
Other MA agreements: David City Fire, Columbus Fire, North Bend Fire, Howells Fire, Clarkson Fire, Leigh Fire.

Equipment

Engines

2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
1 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members

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

2 S-3 (support): 200 GPM pump, 1,000-gallon capacity, 1 crew member
1 Other: 85' Aerial, 1,000 GPM pump, 300-gallon capacity

Other

1 Equipment trucks
1 Other (Describe): UTV

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: (not specified, but the following issues were checked)

Issues:

x Multiple structures
x Lack of water within effective distance

Location2: (not specified, but the following issues were checked)

Issues:

x Difficult access
x Rough terrain

Bridges that won't support equipment weight: Yes, weight limits

GIS layer & contact info: No

Greatest concerns: Water, access

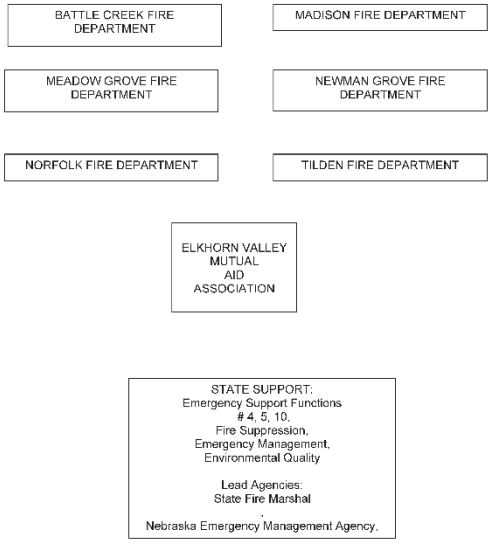
Rank:

x **Bridge limits**
x **Hydrants**

Madison County

Information from Madison Co. LEOP, Annex F:

FIRE SERVICES



MADISON 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
BATTLE CREEK	675-2100		2	2		1	2	2			
MADISON	454-2100		2	3		1	2	2			
MEADOW GROVE	634-2222		1	1		1	2	1			
NEWMAN GROVE	447-2345		2	1		1	2	1			
NORFOLK	844-2050	2	5	2		1	3	4	Equip. Trk Foam Trlr	Light Tower	Yes
TILDEN	368-2200		2	1		1	3	1			
Nearest HAZMAT Response Team	Norfolk										

Survey Responses from Madison County Fire Departments:

Department Name: Battle Creek Vol. Fire & Rescue
Counties: Madison & Pierce
Street Address: 101 E. Main **Mailing Address**: PO Box 396, Battle Creek, NE 68715
Dept. Phone: 402-675-8010 **Dept. Email**: cjschwede@yahoo.com
Chief: Cleon Schwede; 402-649-8715; cjschwede@yahoo.com
Ass't. Chief: Scott Kudera; 402-841-8760; skudera@telebeep.com
Secretary: Mike Fleer; 402-750-7634; bccity@cableone.net
Treasurer: Josh Schnitzler; 308-940-0980; jsnitzler@lenrd.org

Personnel
35 **Vol.**:

MAD(s): Elkhorn Valley 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
2 Type 5: Wildland: 50 GPM, 400 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
1 Equipment trucks
1 Other (Describe): Ranger 6x6 UTV IC Pickup
1 Road Dept. Equip. (describe): Loader

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: Oak Valley, 3 mi. south, 1 mi. west on 121
Issues:
x Difficult access
x Rough terrain
x Heavy fuels
x Lack of water within effective distance
x Other: Hills & woodland difficult to get to

Location2: Yellow Banks, north of 275 & 121, 1 mi. north, 3.5 mi. west
Issues:
x Difficult access
x Rough terrain
x 1 way in/out
x Heavy fuels
x Lack of water within effective distance
x Other: Hills & woodland impossible to have access

Location3: Golf course, north side
Issues:
Other: One-lane road

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Safety of people and property

Rank:

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

Department Name: Creston VFD: (*Survey not returned*)

Department Name: Lindsay VFD: (*Survey not returned*)

Department Name: Madison Vol. Fire & Rescue
Counties: Madison, Stanton
Street Address: 201 W. 1st **Mailing Address**: PO Box 327, Madison, NE 68748
Dept. Phone: 402-454-2135 **Dept. Email**: madisonfireems@gmail.com
Chief: Tim Reeves; 402-992-2508; fbref85@yahoo.com
Ass't. Chief: Paul Kellen; 402-992-1789; kap5860@yahoo.com
Sec/Treas.: Greig Gronenthal; 402-640-1268; starmail@telebeep.com

Personnel

35 **Vol.**:

MAD(s):
Other MA agreements: Elkhorn Valley; Mid-Nebraska

Equipment

Engines

2	Type 2	Structural: 500 GPM, 300 gal. capacity, three 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
2	T-2 (tactical):	250 GPM pump, 1,000 gallon capacity, 2 crew members

Other

1	Equipment trucks
5	Other (Describe): 1 4x4 UTV; 1 pickup; 1 Expedition (person carrier); 2 ambulances

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, location not specified

GIS layer & contact info: No

Greatest concerns: (left blank)

Rank:

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

Department Name: Meadow Grove Volunteer Fire & Rescue
Counties: Madison, Pierce
Street Address: 309 Main St.
Mailing Address: PO Box 6, Meadow Grove, NE 68752
Chief: Garland Goracke; 402-634-2948; garland@abbnebraska.com
Ass't. Chief: Adam Wright; 402-841-0485
Secretary: Zach Humphrey; 402-649-3579
Treasurer: Regina Goracke; 402-634-2948

Personnel
25 **Vol.**:

MAD(s): Elkhorn Valley Mutual Aid

Equipment
Engines
Pumper: 1,000 GPM, 1,000 gal. capacity, two crew members
First Responder 4x4: 150 GPM, 300 gal. capacity, two crew members
Grass Rig 4x4: 50 GPM, 300 gal. capacity, two crew members
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
Tender #1: 250 GPM pump, 1,500 gallon capacity, 2 crew members, 4x4
Tender #2: 150 GPM pump, 1,000 gallon capacity, 2 crew members, 4x4
Other
1 Other (Describe): Yamaha side-by-side, 75 gal., 50 GPM, 2 crew members, Stokes basket
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, but provided the following info:
Location: Eight to twelve miles north of Meadow Grove, sand trails for roads.
Issues:
x Difficult access
x Rough terrain

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Lack of manpower

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

Comments:
Lack of manpower during daytime hours. Members leave town for work.

Department Name: Newman Grove Fire
Counties: Madison, Platte, Boone
Street Address: 200 S. 8th St. **Mailing Address**: PO Box 446, Newman Grove, NE 68758
Chief: Ryan Chilson; 402-741-0558; chilsonry@gmail.com
Ass't. Chief: Kevin Patzel; 402-741-1711
Secretary: Jason Anderson; 402-992-4349
Treasurer: Adam Witchell; 402-320-9829

Personnel
31 **Vol.**:
MAD(s): Mid Nebraska

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-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
2 Other (Describe): Rescue units
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, but checked the following issue
Issues:
x Difficult access

Bridges that won't support equipment weight: Yes, older bridges on minimum maintenance roads.

GIS layer & contact info: Unknown

Greatest concerns: Near a creek bottom with limited access

Rank:
x **Other water sources**

Department Name: Norfolk Fire Division
Counties: Madison
Street/Mailing Address: 701 Koenigstein Ave., Norfolk, NE 68701
Dept. Phone: 402-844-2050 **Dept. Email**: twragge@norfolkne.gov
Chief: Scott Cordes; 402-844-2050; scordes@norfolkne.gov
Ass't. Chief: Tim Wragge; 402-844-2050; twragge@norfolkne.gov
Secretary: Faythe Petersen; 402-844-2050; fpeterse@norfolkne.gov

Personnel (Combination Department)
32 **Vol.**:
36 **FT**:

MAD(s): Elkhorn Valley MA
Other MA agreements: Automatic Aid agreement with Norfolk Ambulance for EMS

Equipment
Engines
3 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
3 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
Other
1 Equipment trucks
3 Other (Describe): We have two aerial apparatus: a 75 ft. stick and 100 ft. Midmount. We have a 2-person structural pumper in addition to the above listed.

Equipment housed away from main barn? Yes. One wildland grass rig is located in a Public Safety Stall within one mile of the main station. 24-hour access.

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, one bridge northeast of town that we try to avoid. Others appear to meet our needs.

GIS layer & contact info: Yes; Jeremy Bohn, jbohn@norfolkne.gov

Greatest concerns: As with any other call, our concerns are staffing availability of on duty staff due to other calls going on. In addition, mutual aid availability.

Department Name: Tilden Volunteer Fire Department
Counties: Antelope, Madison, Pierce
Street Address: 101 N Center **Mailing Address**: 500 S Antelope St, Tilden, NE 68781-4759
Chief: Temp: Kyle Schumacher; 402-841-8798; kyle.schumacher@nebraska.gov
Ass't. Chief: Mike Krick
Secretary: Kyle Schumacher; 402-841-8798; kyle.w.schumacher@ gmail.com
Treasurer: Steve Remmeried

Personnel
30 **Vol.**:
MAD(s): AB&W

Equipment
Engines
1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four 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-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
1 Other: 1,250 GPM pump, 3,000 gallon capacity, 2 crew members
1 Other: 500 GPM pump, 2,000 gallon capacity, 2 crew members

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes
Location1: Elkhorn River corridor
Issues:
x Difficult access
x Rough terrain
x 1 way in/out
x Heavy fuels
x Other: No fuel breaks

Location2: SW of Tilden along Giles Creek
Issues:
x Difficult access
x Rough terrain
x 1 way in/out

Location3: Tilden tree dump
Issues:
x Multiple structures
x Heavy fuels
x Other: Wooded areas surround the facility

Bridges that won't support equipment weight: Yes; truck weight and poor bridges management

GIS layer & contact info: No

Greatest concerns: Ability to utilize any form of current firebreaks along the Elkhorn River. Drought years could also increase chances that fire could jump the river and present multiple active fires on opposite sides of the river. Access for TFD & mutual aid would be challenging.

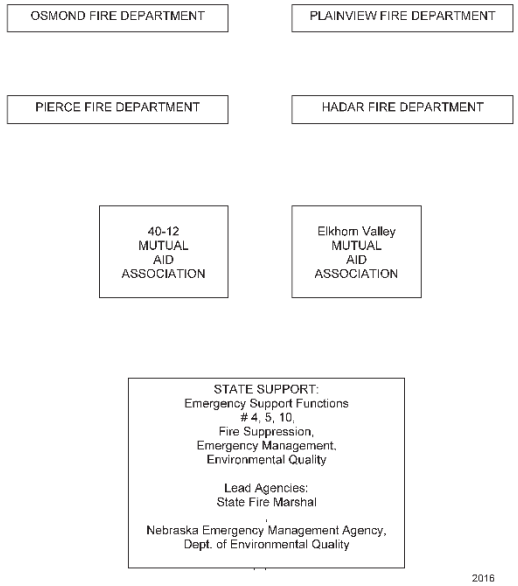
Rank:

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

Pierce County

Information from Pierce Co. LEOP, Annex F:

FIRE SERVICES



2016

PIERCE 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
Osmond	Emg. 402 748-3333 Sta. 402 748-3614		2	3	3	2	1	2			
Pierce	Emg. 402 329-4444 Sta. 402 329-8346		2	2	2	2	1	2	Water rescue		
Plainview	Emg. 911 Sta. 402 582-4219		2	3		2	1	2	Rope rescue		
Hadar	Emg. 911 Sta. 402 371-0134		1	3	3			1	Rope rescue		
Nearest HAZMAT Response Team	Norfolk Fire 402 844-2050										

Survey Responses from Pierce County Fire Departments:

Department Name: Battle Creek VFD: (*See listing under Madison County*)

Department Name: Hadar VFD: (*Survey not returned*)

Department Name: Meadow Grove VFD: (*See listing under Madison County*)

Department Name: Osmond Fire
Counties: Pierce
Mailing Address: PO Box 29, Osmond, NE 68765-0029
Chief: Marty Kruse; 402-649-3998; kruse.marty@yahoo.com
Ass't. Chief: Calvin Gardner; 402-870-2640
Secretary: Nolan Ashoff; 402-360-0962
Treasurer: Joe Hoffman; 402-360-3774

Personnel
31 **Vol.**:

MAD(s): 40-12
Other MA agreements: Randolph

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
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
1 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members
Other
1 Equipment trucks

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, but the following issue was checked:
Issues:
Multiple structures

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: It would be just shelter belts

Rank:
x **Housing**

Department Name: Pierce Vol. Fire Dept.
Counties: Pierce (+ small area in Wayne Co. adjacent to Randolph & Hoskins fire districts)
Street/Mailing Address: 106 S 1st St., Pierce, NE 68767
Dept. Phone: 402-329-4040 **Dept. Email**: pvfd@ptcnet.net
Chief: Steve Dolesh; 402-649-7472; steve.dolesh@midwestbank.com
Ass't. Chief: Rod Schwartz; 402-640-5249; rod.schwartz@nucor.com
Secretary: Arnold Venteicher; 402-750-0652; napa@ptcnet.net
Treasurer: Paula Bretschneider; 402-649-0113; paulajbret@ptcnet.net

Personnel
43 **Vol.**:

MAD(s): 40-12 MA and Elkhorn Valley MA
Other MA agreements: Yutan Fire Department

Equipment
Engines
1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
2 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members
2 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members
1 Type 7: Wildland: 10 GPM, 50 gal. capacity, two crew members
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
1 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member
Other
2 Equipment trucks
3 Other (Describe): airboat, rescue boat, UTV side-by-side

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: Willow Creek State Recreation Area
Issues:
x Heavy fuels

Location2: Western Pierce County
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

Greatest concerns: The western part of the district has limited access & roadways

Rank:
2 **Housing**
2 **Infrastructure**
2 **Bridge limits**
1 **Hydrants**
3 **Other water sources**

Department Name: Plainview Volunteer Fire & Rescue
Counties: Pierce/Antelope
Street Address: 716 W. Park Ave.
Mailing Address: PO Box 447, Plainview, NE 68769
Dept. Phone: 402-582-4219 **Dept. Email**: firegmnt@plvwtelco.net
Chief: Mike McManaman; 402-640-8686
Ass't. Chief: Josh Komovsky; 402-640-9360
Secretary: Charlie Doerr; 402-841-1001
Treasurer: Courtney Retzlaff; 402-640-4013

Personnel
40 **Vol.**:

MAD(s): 40-12 MA

Equipment
Engines
2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four 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-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member
Other
1 Equipment trucks
1 Other (Describe): Rope 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? Yes
Location1: T26N R4W. Willow Creek bottom has most of our 'grass' acres; limited road access and wet ground.
Issues:
x Difficult access
x Rough terrain
x Other: Swamp ground

Location2: T27N R3W Sec. 6. Hooker Ag. Ethanol plant with railroad tracks next to it
Issues:
x Multiple structures
x Other: Ethanol production facility

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Crop loss, structure loss, help during certain times of the day.

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

Comments: Most of our district is relatively flat crop ground with shelterbelts and other woody lots.

Department Name: Randolph VFD
Counties: Cedar, Wayne, Pierce
Street Address: 202 S. Main St. **Mailing Address**: PO Box 715, Randolph, NE 68771
Dept. Phone: 402-337-1312 **Dept. Email**: randolphfire@cableone.net
Chief: Jim Scott; 402-360-4849, 402-337-0555; james.scott@cvacoop.com
Ass't. Chief: Brent Billerbeck; 402-360-3150; brent_billerbeck@yahoo.com
Sec/Treas.: Denton Kuhl; 402-360-3915; dentonkuhl@hotmail.com

Personnel
25 **Vol.**:
MAD(s): Big 9 and 40/12

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, ~~300~~ 1,000 gal. capacity, ~~four~~ five crew members
1 Type 2 Structural: ~~500~~ 1,250 GPM, ~~300~~ 3,000 gal. capacity, ~~3~~ 2 crew members, 'Pumper/Tanker'

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

1 T-1 (tactical): 250 GPM pump, ~~2,000~~ 2,100 gallon capacity, 2 crew members
1 T-2 (tactical): 250 GPM pump, ~~1,000~~ 2,000 gallon capacity, 2 crew members

Other

1 Equipment truck: '97 Chevy 2500 Utility, no water
2 Other: '09 Ford F550 Rescue Truck, no water; '08 Ford F550 Grass Rig, 250 gpm, 600 gal. tank

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: T28N R1W, west part of Sec. 27. The CVA Coop is a large coop with fertilizer, chemical, and grain storage; just north of the junction of US Highways 20 and 81.
Issues:

x Multiple structures
x Heavy fuels

Bridges that won't support equipment weight: Yes, 558 Rd. just west of Randolph will be replaced with the current floodplain project.

GIS layer & contact info: No

Greatest concerns: Water supply

Rank:

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

Department Name: Tilden VFD: (*See listing under Madison County*)

Department Name: Wausa Volunteer Fire Department
Counties: Knox, Cedar, Pierce
Street Address: 405 E Broadway
Mailing Address: PO Box 167, Wausa, NE 68786
Dept. Phone: 402-586-2722 **Dept. Email**: wausafiredepartment@gmail.com
Chief: Brian Wakeley; 402-841-6205, 402-586-2282; brianwakeley@icloud.com
Battalion Chief: Rich Hoppe; 402-841-9218, 402-586-2282
Sec/Treas.: Amy Johnson; 402-860-5342

Personnel

31 **Vol.**:
MAD(s): 40-12 and Big 9

Equipment

Engines

1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four 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-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

Other

1 Equipment trucks

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: Possibility of bridges on certain gravel or minimum maintenance roads

GIS layer & contact info: No

Greatest concerns: Having enough manpower and equipment

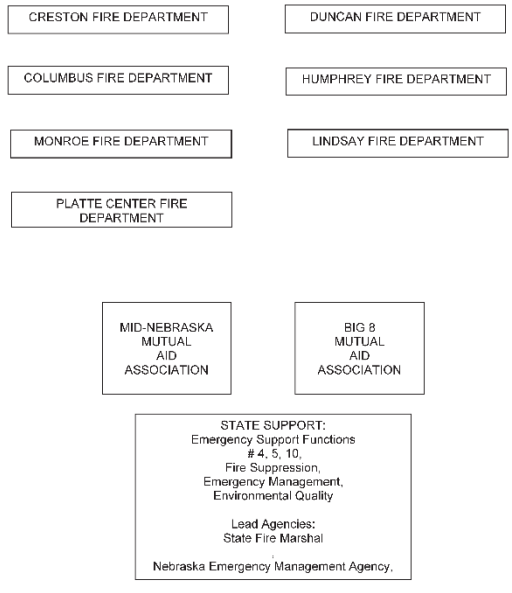
Rank:

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

Platte County

Information from Platte Co. LEOP, Annex F:

FIRE SERVICES



PLATTE 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
Columbus	402-564-8127	2	5	2		2	1	4	Dive Team, Platte Co.	1 Suburban	Yes
Humphrey	402-923-1701		2		2	1	1	2		1 Chiefs Car	Yes
Creston	402-285-9303		1	2		1	1	1			Yes
Lindsay	402-428-2345		1		2	1	1	2			Yes
Monroe	402-4952345		2	2		1	1	1			Yes
Duncan	402-897-3975		2	2		3	1				Yes
Platte Center	402-246-2345		1	2		2	1	1			Yes
Columbus HAZMAT Response Team	402-564-8127									Response trailer, Decon/Rehab Trailer	

Middle Northeast Community Wildfire Protection Plan

Survey Responses from Platte County Fire Departments:

Department Name: Columbus Fire Department
Counties: Platte
Street/Mailing Address: 4630 Howard Blvd., Columbus, NE 68601 **Dept. Phone**: 402-564-8127
Chief: Dan Miller; 402-564-8127; 402-910-0282; dan.miller@columbusne.us
Ass't. Chief: Pat Miller; 402-564-8127; 402-910-0407;

Personnel
40 **Vol.**:
16 **FT**:

MAD(s): Mid Nebraska, Big 8, Northeast Nebraska

Equipment
Engines
5 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
3 Type 6: Wildland: 50 GPM, 150 gal. capacity, two crew members
Other
1 Equipment trucks
2 Other (Describe): Water tenders-2 wheel drive

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: River areas along the Loup River southeast of the City of Columbus; no-till areas in entire district. Also many rural subdivisions with immediate exposure to wildland and no-till fields & CRP.
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

Bridges that won't support equipment weight: Yes, wood deck bridges

GIS layer & contact info: No

Greatest concerns: Exposure to fast-moving fires; personnel safety. No-till interface areas are our greatest concern.

Rank:
x **Housing**
x **Hydrants**

Department Name: Creston VFD: (*Survey not returned*)

Department Name: Duncan Volunteer Fire
Counties: Platte, Polk
Street Address: 921 8th St. **Mailing Address**: PO Box 249, Duncan, NE 68634
Dept. Fax: 402-897-2111 **Dept. Email**: dncnvfd@gmail.com
Chief: Josh Dahlberg, 402-270-1648, dahlbergj13@gmail.com
Ass't. Chief: Brandon Pinney; 402-276-3457; zuespup1@gmail.com
Secretary: Patrick Siemek, 402-270-4448; p_siemek@yahoo.com
Treasurer: Mark Schacher, 402-942-3450

Personnel
27 **Vol.**
MAD(s): Big 8, Mid-Nebraska

Equipment
Engines
2 Type 2 Structural: 500 GPM, 300 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)*
2 T-1 (tactical): 250 GPM pump, 2,000 gallon capacity, 2 crew members
Other
1 Other – 7 passenger suburban

Equipment housed away from main barn? Yes, 1947 International pumper in museum

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

Other areas with high home density, infrastructure or other resources at high risk, or populated areas with one way in/out? Yes
Location: Duncan Lakes; one way in/out, small clearances for apparatus

Bridges that won't support equipment weight: Yes
Prairie Creek bridge (115th ST near 355 AVE) Structure C007105405P -- 8, 15, 19 Ton Limits
Clear Creek Bridge (142 Rd east of V Rd) Structure C007210605 -- 18, 27, 39 Ton Limits
South Channel Bridge (V Rd just South of Island Road and North of 142 Rd) - Structure C007204525 -- 24 Ton Limit

Greatest concerns: Initial response times to edges of district are 20+ minutes

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

Department Name: Genoa Volunteer Fire Department
Counties: Nance, Platte
Street Address: 514 ½ Willard
Mailing Address: PO Box 279, Genoa 68640
Dept. Phone: 402-993-2330 **Dept. Email**: cgenoa@eaglecom.net
Chief: Shawn Strain, 402-276-2517, srs94@hotmail.com
Ass't. Chief: Robert Green, 402-750-6573, robgreen3@hotmail.com
Sec/Treas.: Jolene M. Andreasen, 402-948-0213, 402-993-2330

Personnel
30 **Vol.**:
MAD(s): Mid-Nebraska Mutual Aid

Equipment
Engines
2 Type 1 Structural: 1,000 GPM, ~~300~~ 1200 gal. capacity, four crew members
1 Type 5: Wildland: 50 GPM, 400 gal. capacity, ~~two~~ 4 crew members
1 Type 6: Wildland: 50 GPM, ~~150~~ 250 gal. capacity, ~~two~~ 4 crew members
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
1 6x6 tanker, 1200 gal., fits grass rig
1 3,000 gal. tanker, 250 gpm

Other
1 Equipment trucks
1 Other (Describe): Tanker truck, 3,500 gallon capacity, 6x6

Equipment housed away from main barn? Yes, location not specified.

Have you identified any areas in your district that you are more concerned about than others if a wildfire starts nearby? Yes
Location: River bottoms
Issues:
Rough terrain
1 way in/out
Heavy fuels

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Rank:
4 **Housing**
4 **Infrastructure**
4 **Bridge limits**
5 **Hydrants**
4 **Other water sources**

Department Name: Humphrey VFD: (*Survey not returned*)

Department Name: Leigh VFD: (*See listing under Colfax County*)

Department Name: Lindsay VFD: (*Survey not returned*)

Department Name: Monroe Fire & Rescue
Counties: Platte
Street Address: 428 Gerrard Ave. **Mailing Address**: PO Box 135, Monroe, NE 68647
Dept. Phone: 402-495-4010 **Dept. Email**: MonroeRescue@gmail.com
Chief: Lance Ferris; 402-910-5058
Ass't. Chief: Billy Zouha; 402-270-0413
Secretary: Christy Dietrich; 402-276-4898
Treasurer: Derek Fergison; 402-710-1077

Personnel
34 **Vol.**:
MAD(s): Mid Nebraska

Equipment
Engines
2 Type 2 Structural: 500 GPM, 300 gal. capacity, three crew members
2 Type 5: Wildland: 50 GPM, 400 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
2 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member
Other
1 Equipment trucks

Equipment housed away from main barn? (not answered)

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

Greatest concerns: Housing areas

Rank:

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

Department Name: Newman Grove VFD: (*See listing under Madison County*)

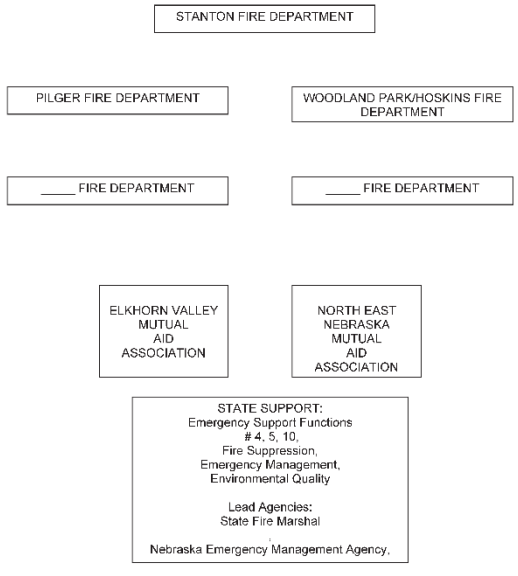
Department Name: Platte Center VFD: (*Survey not returned*)

Department Name: St. Edward VFD: (*Survey not returned*)

Stanton County

Information from Stanton Co. LEOP, Annex F:

FIRE SERVICES



STANTON 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
Stanton	911	0	2	3	1	3	0	2	0	0	YES
Pilger	911	0	1	1	1	3	0	2	0	0	YES
Hoskins/Woodland Park	911	0	1	2	1	3	1	2	0	0	YES
Nearest HAZMAT Response Team											
Norfolk Fire	911	1	3	3	1	3	2	3	1	1	YES

Survey Responses from Stanton County Fire Departments:

Department Name: Clarkson VFD: (*See listing under Colfax County*)

Department Name: Creston VFD: (*Survey not returned*)

Department Name: Hoskins VFD: (*Survey not returned*)

Department Name: Howells VFD: (*Survey not returned*)

Department Name: Leigh VFD: (*See listing under Colfax County*)

Department Name: Madison VFD: (*See listing under Madison County*)

Department Name: Norfolk VFD: (*See listing under Madison County*)

Department Name: Pilger VFD
Counties: Stanton
Street Address: 150 W. 1st St. **Mailing Address**: 220 N Main St., Pilger, NE 68768
Dept. Phone: 402-396-3563 **Dept. Email**: pilgerfire@yahoo.com
Chief: Kory Koehlmoos; 402-750-6555; korykoehlmoos@hotmail.com
Secretary: Chad Frerichs; 402-841-4499; candc@conpoint.com
Treasurer: Kory Koehlmoos; 402-750-6555; korykoehlmoos@hotmail.com

Personnel
17 **Vol.**:

MAD(s): Cuming Co.

Other MA agreements: Stanton Fire

Equipment
Engines
1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members (#32)
2 Type 5: Wildland: 50 GPM, 400 gal. capacity, two crew members (#s 31 & 30)
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 (#40)

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
Location: No location identified, but the following issues were checked:
Issues:
x Difficult access
x Rough terrain
x Other: They listed the Lakeside residential area as having high home density, infrastructure or other resources at high risk, or populated area with one way in/out.

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: Personnel responding

Rank:

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

Department Name: Stanton Fire and Rescue
Counties: Stanton, Wayne
Mailing Address: PO Box 20, Stanton, NE 68779
Chief: Kory Krutz; 402-841-0897; kory.krutzconstruction@gmail.com
Ass't. Chief: Tim Stamm; 402-640-8736; stammelectric@yahoo.com
Secretary: Bryce Leuthold; 402-250-1242

Personnel

31 **Vol.**:

MAD(s): Elkhorn Valley MA

Equipment

Engines

3 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 5: Wildland: 50 GPM, 400 gal. capacity, two crew members
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? No

Bridges that won't support equipment weight: Yes

GIS layer & contact info: No

Greatest concerns: (this section left blank)

Rank:

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

Wayne County

Information from Wayne Co. LEOP, Annex F:

FIRE SERVICES

CARROLL FIRE DEPARTMENT WAYNE COUNTY Big 9 Mutual Aid Association Lower Elkhorn Mutual Aid Association	HOSKINS FIRE DEPARTMENT WAYNE COUNTY Lower Elkhorn Mutual Aid Association
WAYNE FIRE DEPARTMENT WAYNE COUNTY Lower Elkhorn Mutual Aid Association Greater Northeast Mutual Aid Association	WINSIDE FIRE DEPARTMENT WAYNE COUNTY Lower Elkhorn Mutual Aid Association
WAKEFIELD FIRE DEPARTMENT WAYNE & DIXON COUNTIES Greater Northeast Mutual Aid Association	PENDER FIRE DEPARTMENT THURSTON COUNTY Fire District in Wayne County Greater Northeast Mutual Aid Association
RANDOLPH FIRE DEPARTMENT CEDAR COUNTY Fire District in Wayne County Big 9 Mutual Aid Association	PIERCE FIRE DEPARTMENT PIERCE COUNTY Fire District in Wayne County 40-12 Mutual Aid Association Lower Elkhorn Mutual Aid Association
STANTON FIRE DEPARTMENT STANTON COUNTY Fire District in Wayne County Lower Elkhorn Mutual Aid Association	WISNER FIRE DEPARTMENT CUMING COUNTY Fire District in Wayne County Cuming County Mutual Aid Association

FIRE MUTUAL AID ASSOCIATIONS IN WAYNE COUNTY	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	FIRE DISTRICTS IN WAYNE COUNTY
Greater Northeast, Lower Elkhorn, Cuming Co, 40-12, Big 9		FIRE DISTRICT / DISPATCH Carroll / Wayne PD Hoskins / Norfolk PD Pender / Thurston Co Pierce / Pierce Co Randolph / Cedar Co Stanton / Norfolk PD Wakefield / Dixon Co Wayne / Wayne PD Winside / Wayne PD Wisner / Cuming Co

WAYNE 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
Carroll Fire Department	402-585-4456	0	2	2	0	2	1	0		Rope Rescue	No
Hoskins Fire & Rescue	402-565-4400	0	1	2	1	3	1	2			Yes
Winside Fire & Rescue	402-286-4815	0	0	2	1	2	1	2		Rope Rescue	Yes
Wayne Fire Department	402-375-1122	1	2	0	3	2	1	2	HAZMAT Ops, Heavy Rescue, Rope Rescue	Rope Rescue, HAZMAT, Confined Space, Cascade Trailer	Yes
Wakefield Fire & Rescue	402-287-2574	0	2	2	0	0	1	2		Cascade	No
Randolph Fire & Rescue	402-337-1312	0	2	2	0	1	2	2		Rope Rescue	No
Pender Fire & Rescue	402-385-3232	0	1	1	1	1	1	2		Utility Trailer w/Air Cascade	No
Stanton Fire & Rescue	402-439-2212	0	2	3	1	3	0	2			Yes
Wisner Fire & Rescue	402-529-6494	0	2	2	0	0	1	2			Yes
Pierce Fire & Rescue	402-329-4400	0	2	2	2	2	1	2	Water Rescue		No
Norfolk HAZMAT Response Team	402-844-2050										Yes

Survey Responses from Wayne County Fire Departments:

Department Name: Carroll Fire Dept.
Counties: Wayne
Street Address: 401 Manning St., Carroll, NE 68723
Dept. Phone: 402-585-4456 **Dept. Email**: carrollfire@abbnebraska.com
Chief: Rick Davis; 402-369-2465; rickdavis@abbnebraska.com
Ass't. Chief: Mark Tietz; 402-750-4921; tietzfolks@hotmail.com
Secretary: Heather Claussen; 402-250-0442; hemmy65@yahoo.com
Treasurer: Jeff Davis; 402-369-1668

Personnel
18 **Vol.**:
MAD(s): Elkhorn Valley & Big Nine

Equipment
Engines (none listed)
Tenders *(Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive)*
2 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
Other
1 Equipment trucks

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, but listed the following issue
Issues:
Other: Row crops

Bridges that won't support equipment weight: No

GIS layer & contact info: No

Greatest concerns: (none listed)

Rank:
1 **Hydrants**

Department Name: Hoskins VFD: (*Survey not returned*)

Department Name: Pender VFD: (*Survey not returned*)

Department Name: Randolph VFD: (*See listing under Pierce County*)

Department Name: Stanton VFD: (*See listing under Stanton County*)

Department Name: Wakefield VFD: (*Survey not returned*)

Department Name: Wayne Fire Dept.
Counties: Wayne, Dixon
Street/Mailing Address: 510 Tomar Dr., Wayne, NE 68787
Dept. Phone: 402-375-3443 **Dept. Email**: firechief@cityofwayne.org
Chief: Phillip Monahan; 402-369-1712; firechief@cityofwayne.org
Ass't. Chief: Tim Reinke; 402-375-1733
Secretary: Tom Schmitz; 402-375-1733
Treasurer: Shawn Pearcy; 402-375-1733

Personnel
32 **Vol.**:

MAD(s): Little Northeast, Big Northeast
Other MA agreements: Yes (not specified)

Equipment
Engines
3 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
3 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
1 T-2 (tactical): 250 GPM pump, 1,000 gallon capacity, 2 crew members
Other
1 Equipment trucks
2 Other (Describe): 1 Rescue Truck; 1 Command Car

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
Location: Not specified, but the following issue was checked
Issues:
Lack of water within effective distance

Bridges that won't support equipment weight: Yes, location not specified

GIS layer & contact info: Yes, Joel Hanson, 402-375-1733

Greatest concerns: (none indicated)

Rank:
1 **Bridge limits**
1 **Hydrants**
2 **Other water sources**

Department Name: Winside VFD: (*Survey not returned*)

Department Name: Wisner Volunteer Fire & EMS
Counties: Cuming and Wayne
Street Address: 1055 Ave. D **Mailing Address**: PO Box 144, Wisner, NE 68791
Dept. Phone: 402-529-6494 **Dept. Email**: wvfd@gpcom.net
Chief: Wade Eisenhauer; 402-380-4093 (cell); tater@ gpcom.net
Ass't. Chief: Don Biggerstaff; 402-521-0203 (cell)
Secretary: Rachel Eichelberger
Treasurer: Stephanie James; 402-529-6616 (work)

Personnel
21 **Vol.**: fire; 17 EMS

MAD(s): Cuming County

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

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

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

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, both in the Cuming Co. part of the district.

Location1: T23N R4E Sec. 4, Cander's Lake, west of Wisner

Issues:

x Difficult access
x Rough terrain
x 1 way in/out
x Heavy fuels

Location2: T23N R4E Sec. 24, Pelican Landing, south of Wisner

Issues:

x Difficult access
x Rough terrain
x 1 way in/out
x Heavy fuels

Other areas with resources at high risk: We have a few lake developments with one good access road, along with river land used for hunting.

Bridges that won't support equipment weight: Yes, a few worn out wooden bridges

GIS layer & contact info: No

Greatest concerns: Getting truck to locations—very sandy and wet lands along the lake developments and the rivers.

Rank:

2 **Housing**
3 **Infrastructure**
2 **Bridge limits**
1 **Hydrants** – in rural areas; we have none south of town
1 **Other water sources**

Comments: We have two farmers that let us overhead fill from irrigation wells. One is located 8 south and 2 west of fire station, 1053 4th Rd.; the other one is ¼ mile south of 1572 3rd Rd.

Appendix H

Fire Department Distribution List and Survey

Fire Department Survey Distribution List

Abion	Howells	Pilger
Battle Creek	Humphrey	Plainview
Brunswick	Leigh	Platte Center
Carroll	Lindsay	Primrose
Cedar Rapids	Madison	Randolph
Clarkson	Meadow Grove	Schuyler
Clearwater	Monroe	Spalding
Columbus	Neligh	St. Edward
Creighton	Newman Grove	Stanton
Creston	Norfolk	Tilden
Dodge	Oakdale	Wakefield
Duncan	Orchard	Wausa
Elgin	Osmond	Wayne
Genoa	Pender	Winside
Hadar	Petersburg	Wisner
Hoskins/Woodland Park	Pierce	

Fire Department Survey

Distributed to all departments in the CWPP Region 3/23/2021

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:

_____

_____

_____

1

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:

2

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): _____

_____

_____

3

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 sbenson4@unl.edu or mail a hard copy to:

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

4

Appendix I

Public Engagement

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

Steering Committee

Name	Title/Affiliation
Arps, Mark	Colfax Co. Emergency Manager
Becker, Curt	LENRD Projects Manager
Bergstrom, Pam	NFS Forester
Frohberg, Mike	Stanton Co. Emergency Manager
Hofbauer, Tim	Platte Co. Emergency Manager
Kemnitz, Nic	Wayne Co. Emergency Manager
Lewis, Aron	UENRD Conservationist
Lutz, Rich	Pierce Co. Deputy Emergency Manager
Moore, Bob	Antelope Co. Sheriff/ Deputy Emergency Manager
Negus, Lucas	NGPC NE Dist. Mgr., Mgmt. Sec.
Negus, Sabrina	NRCS Soil Conservationist
Reisen, Dave	State Training/Exercise Officer/NEMA
Risor, Bobbi	Region 11 Emergency Manager
Smith, Jorden	NFS Forester
Sock, Brad	Schuyler Fire Chief
Ziemba, Denise	Region 44 Emergency Manager
Benson, Sandy	CWPP Coordinator/NFS

Outreach Documents

County Boards and Emergency Managers
(sent via e-mail 2/5/2021 and 2/8/2021)

To: County Boards
cc: Emergency Managers
From: Sandy Benson, Nebraska Forest Service
Subject line: Community Wildfire Protection Plan Steering Committee Designation - Please respond!
Attachments (2): Background info sheet; Statewide CWPP Map

County Boards:
My name is Sandy Benson, and I am a fuels management specialist with the Nebraska Forest Service (NFS). I work with communities and landowners in wildfire preparation efforts throughout the state. The NFS is developing Community Wildfire Protection Plans (CWPPs) statewide to help obtain funding for wildfire mitigation, maximize safety, bolster communications between local and state resources, and help communities understand the evolving role fire plays in Nebraska's landscape. Landowners in counties that have a CWPP in place are eligible to apply for a fuels reduction cost-share program that helps defray the costs of protecting structures and emergency access routes from wildfire.

Your county is in Nebraska's Middle Northeast regional planning area, and **we invite you to designate an individual to participate on the steering committee to help identify local issues important to your citizens**. Some counties have designated emergency management staff. Others have selected fire department personnel or other individuals with expertise in wildfire response. Due to the large size of the planning area and everyone's busy schedules, no travel will be required, and we estimate a maximum of four hours of committee members' time will be needed over the course of the entire planning process, which should take less than a year. Committee work is designed to occur via email and teleconference.

The attached document* explains the details of this process. County boards will be invited to review and provide feedback on the draft plan. When it is finalized, county boards will have an opportunity to adopt it.

It is important that local officials are aware of the planning process and we welcome your county's participation. Most county boards are pleased to learn that there is no cost associated with CWPP preparation. The primary reasons for having a CWPP are:

- A CWPP is a wildfire-specific resource that coordinates with local emergency and hazard mitigation plans
- Lands within CWPP regions are eligible for cost-share funding

If you have questions, please contact me at 402-684-2290 or sbenson4@unl.edu. If you would like to speak to me by phone during your board meeting, please let me know the date and time so I can be available.

*Background Information:
The Nebraska Forest Service (NFS) is in the early stages of preparing a **Community Wildfire Protection Plan (CWPP)** for the Middle Northeast region of Nebraska, which includes Antelope, Boone, Colfax, Madison, Pierce, Platte, Stanton, and Wayne Counties. This wildfire-specific resource coordinates with local emergency plans and allows local landowners and others to apply for federal and state cost-share funds for vegetative fuels treatment (such as eastern redcedar reduction) and other hazard mitigation efforts within the CWPP region. There is no cost to counties.

What is a CWPP?
A CWPP is one of the most successful tools for addressing the challenges and responsibilities that arise from living in a wildfire-prone environment. CWPPs specifically define wildfire risk areas within and adjacent to communities, the measures necessary to mitigate those risks, and a plan of action to implement these measures.

The collaborative CWPP process is effective in maximizing coordination and communication between emergency response agencies and the community. Developing a CWPP helps clarify priorities to protect life, property, infrastructure, and valued resources. Protecting communities and resources from wildfire is a team effort that cannot be accomplished by any one person or entity.

The CWPP complements local emergency operations plans. It addresses wildfire concerns including risk assessment, critical infrastructure, and preparedness. It recommends an action plan to increase the overall safety and effectiveness of wildfire protection planning within your communities. Local officials collaborate with planners to guide the process.

Some background
After the large wildfires in 2012, the state legislature passed the Wildfire Control Act of 2013, which provided funding for single-engine air tanker bases, cost share for hazardous fuels reduction, and expansion of programs to provide volunteer fire districts with more fire suppression equipment. As these programs were implemented, Nebraska Forest Service staff realized there were very few Community

Wildfire Protection Plans in place across the state. CWPPs are needed for an area to qualify for many wildfire-related grants and cost-share programs.

The Middle Northeast CWPP is one of 14 new plans that the NFS is preparing in Nebraska to create a statewide CWPP network. NFS is also updating the five CWPPs that were completed in 2014 and 2015 and are now due for their periodic review.

Why should we have a CWPP?

- Past wildfires throughout Nebraska have presented many challenges and issues
- A CWPP is a mitigation and preparedness plan to reduce wildfire risk
- It establishes a collaborative relationship among entities BEFORE a fire occurs
- It develops a pre-attack plan to maximize firefighter readiness and safety
- It increases grant application success by documenting wildfire planning and projects
- Fuels reduction grant funds are only available for areas that have a CWPP

Community benefits

- Define planning boundaries that address local concerns
- Identify and prioritize areas for hazardous fuel reduction treatments
- Recommend treatment methods
- Strengthen local efforts to reduce structural ignitability
- Enhance emergency management and communication
- Foster public education/action to reduce wildfire risk

How much does it cost?
The Nebraska Forest Service is covering the costs associated with the CWPP. Counties and fire departments will not be asked for monetary contributions.

How does it work?
The first step is to put together a steering committee to guide the process and ensure that local issues are front and center in developing the plan. Steering committees may include county board representatives, emergency managers, fire department personnel, natural resources professionals, and other interested individuals. The committee defines priority areas, identifies topics and issues important to local emergency responders, and provides general guidance as the plan is prepared.

Once we have gathered the information, we will prepare a draft plan for review, incorporate edits and changes, then finalize the plan and make it available to all. This process usually takes less than a year. Counties are invited to sign the finalized plans.

Further information is available by emailing sbenson4@unl.edu or call Sandy Benson at 402-684-2290.

Fire Departments
(This was sent via e-mail 3/23/2021 along with the survey in Appendix H)
To: Fire Departments
cc: Emergency Managers
From: Sandy Benson, Nebraska Forest Service
Subject line: Fire Dept. Info - Community Wildfire Protection Plan - Please respond!
Attachments: VFD Survey, Background Info for VFDs, Map of NFS CWPP areas

Fire Departments: Please use the attached form to update your fire department info as we prepare the regional Community Wildfire Protection Plan for your area. Please return as soon as possible via scan/email reply to this message (preferred) or snail mail to the address on the last page of the form. Thank you!

The background info shown above was attached to the VFD outreach email, with the following paragraph added:
Including up-to-date information from local fire departments is important. Please complete and return the attached questionnaire. It helps identify your department's needs and concerns and provides a current listing of your capacity.

Cities and Villages
Villages and cities were emailed outreach flyers on 3/29/2021.

Other Stakeholders
Outreach flyers were emailed to NRDs, state and federal natural resources agencies, NGOs, and state and federal legislators in February 2021 during the steering committee outreach process. In addition, general news releases provided public input outreach and notification of the draft public review and comment period.

Media Releases

Print Media and Radio

An invitation to participate was published in local newspapers and sent to local radio stations on March 29, 2021:

Local input needed for community wildfire protection plan

Local counties are working with the Nebraska Forest Service to create a Community Wildfire Protection Plan (CWPP) to enhance collaboration and communication among the various agencies and organizations that manage fire in the middle northeast part of Nebraska, and to help them effectively prepare for and respond to wildfire. People who work with land management, fire, or community preparedness, and other interested individuals are invited to provide input.

The CWPP area includes Antelope, Boone, Colfax, Madison, Pierce, Platte, Stanton, and Wayne Counties. Landowners in counties that adopt the plan will be eligible to apply for federal and state cost-share funds for vegetative fuels reduction and other hazard mitigation efforts in at-risk areas within the CWPP boundary. The plan may also provide increased opportunities for counties, municipalities, and rural fire districts to seek grant funding for other activities related to fire protection.

The plan, part of a statewide network of Community Wildfire Protection Plans, provides information useful to local emergency responders and those from outside the area who provide mutual aid. The CWPP consolidates and relays critical information needed for responders in unfamiliar terrain. Each county can include details vital to protecting its first responders, residents, and property.

A CWPP is a tool for fire departments, agencies, emergency managers, public officials, and land managers to use when addressing wildfire concerns. It contains a fire mitigation plan for each county that includes:

- Community profile (area description, roads, land use, location of at-risk areas)
- Wildfire risk assessment (fire history, fire hazard, protection capabilities, infrastructure)
- Structure analysis (fire risk rating and ignitability)
- Hazardous fuels reduction recommendations
- Emergency operations (responsibilities, capabilities, partners, mutual aid agreements)
- Recommendations for improving community preparedness
- Contact information and equipment lists for rural fire departments

Feedback from local residents may include topics such as identification of ingress/egress routes and safe zones for citizens, structures and critical infrastructure (highways, cell towers, bridges, schools, etc.), areas with homes or developments in high-risk areas, and high-risk ignition sources.

People may have additional concerns or suggestions. All ideas are welcome. For further information or to provide comments, call 402-684-2290 or email sbenson4@unl.edu

* * *

Follow-up News Releases

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

Online Outreach

On March 16, 2021, NFS staff added information about the Middle Northeast CWPP to the Nebraska Forest Service website: https://nfs.unl.edu/community-wildfire-protection-plan. During the planning process, staff posted periodic updates on the page, including links to the draft and final documents.

On May 5, 2021, NFS staff posted the public outreach news release for the Middle Northeast CWPP on the Nebraska CWPP Facebook page: https://www.facebook.com/groups/451134565293952/. During the planning process, staff posted periodic updates to this page, including milestones reached and links to the draft and final documents.

Stakeholders List

County Boards and Emergency Management

Antelope, Boone, Colfax, Madison, Pierce, Platte, Stanton, and Wayne

Fire Departments

See Appendix H

Natural Resources Districts

Upper Elkhorn, Lower Elkhorn, Lower Loup, Lower Platte, Central 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
Natural Resources Conservation Service

Non-Government Conservation Organizations
Pheasants Forever

Municipalities
In the counties of Antelope, Boone, Colfax, Madison, Pierce, Platte, Stanton, and Wayne

Prescribed Fire Associations
Northeast Nebraska and Elkhorn Valley PBAs

State Legislators
Districts 17, 19, 22, 23, 41

Federal Legislators
Senators Deb Fischer and Ben Sasse; Rep. Adrian Smith

Interested Individuals

Appendix J

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

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/

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

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.

Although native prairie grasses and forbs make a lot of sense in a "water-wise" 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, lambs 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
Lambs 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, *Fragraria*
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 the suppression of wildfires
- 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