

# Missouri River East Region, Nebraska Community Wildfire Protection Plan

FOR THE COUNTIES OF BURT, CUMING, DODGE,  
DOUGLAS, THURSTON, AND WASHINGTON

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*Photo courtesy of Chris Wood*

## August 2022

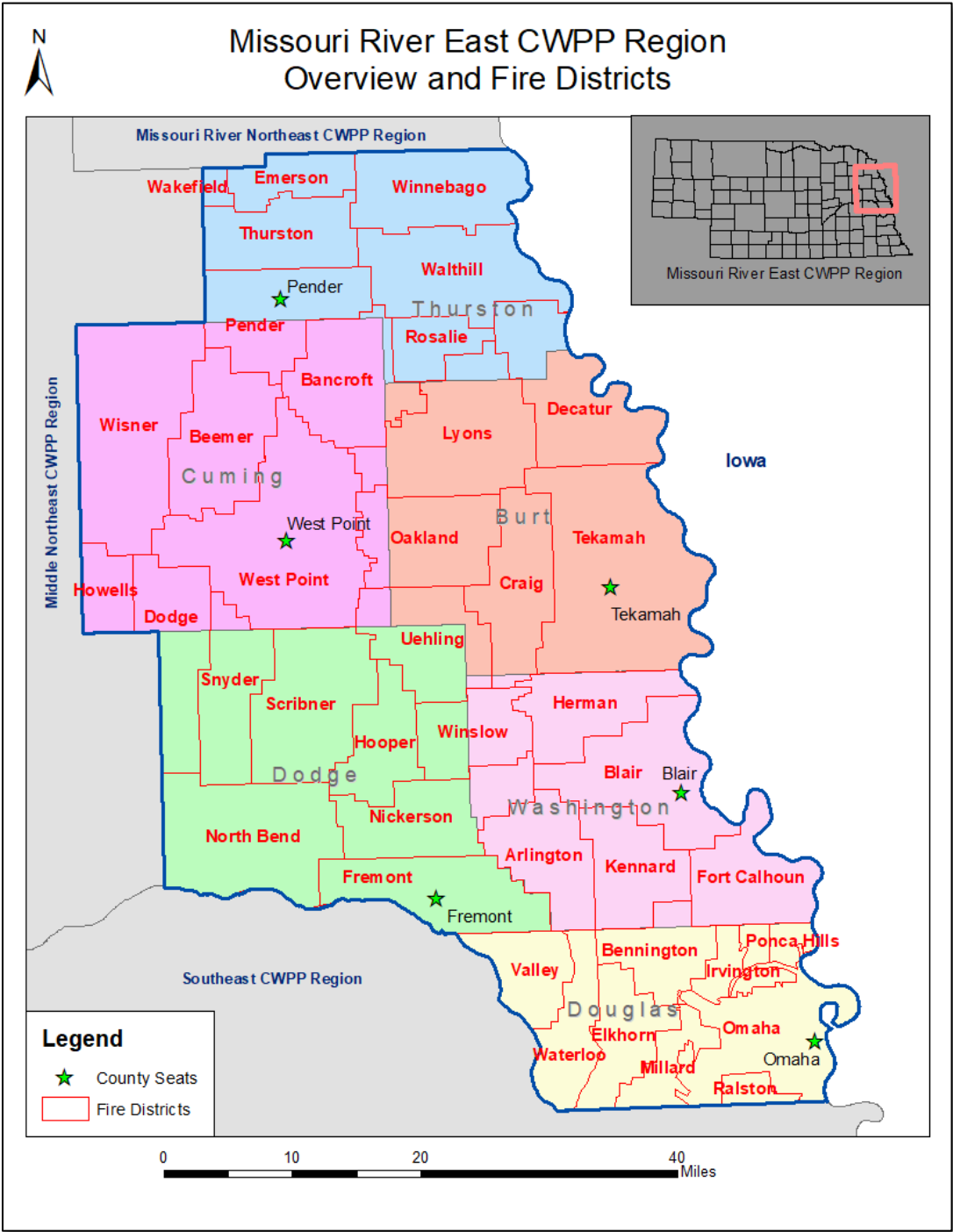
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UNIVERSITY OF  
**Nebraska**  
Lincoln



Missouri River East Community Wildfire Protection Plan



Map 1: Overview of the Missouri River East CWPP Region and Fire Districts.

# Missouri River East Community Wildfire Protection Plan

FACILITATED BY THE

## Nebraska Forest Service

IN COLLABORATION AND COOPERATION WITH

BURT, CUMING, DODGE, DOUGLAS, THURSTON, AND WASHINGTON COUNTIES

LOCAL VOLUNTEER FIRE DISTRICTS

LOCAL AND REGIONAL EMERGENCY MANAGEMENT DIRECTORS

MISSOURI RIVER EAST CWPP STEERING COMMITTEE

LOCAL MUNICIPAL OFFICIALS

LOCAL, STATE, AND FEDERAL NATURAL RESOURCES AGENCIES

AREA LANDOWNERS



*Photo courtesy of Chris Wood*

Prepared by Sandy Benson, Forest Fuels Management Specialist  
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<http://nfs.unl.edu>

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# Missouri River East Community Wildfire Protection Plan

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# Missouri River East Community Wildfire Protection Plan

## Community Wildfire Protection Plan Acronyms

Acronym	Meaning
ATV	All-Terrain Vehicle
BIA	Bureau of Indian Affairs (federal)
BUL	Biologically Unique Landscape
CWPP	Community Wildfire Protection Plan
ERC	Eastern redcedar
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, GS	Grass and Grass/Shrub fuel models
HMP	Hazard Mitigation Plan
IC	Incident Commander
LEOP	Local Emergency Operations Plan
MA, MAA	Mutual Aid, Mutual Aid Agreement
MOU	Memorandum of Understanding
NEMA	Nebraska Emergency Management Agency
NFIRS	National Fire Incident Reporting System
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	Natural Resources District
PBA	Prescribed Burn Association
PF	Pheasants Forever
PL	Priority Landscape
POA	Property Owners Association
PPD	Public Power District
RH	Relative Humidity
RxB	Prescribed Fire
SEAT	Single Engine Air Tanker
SHP, SRA	State Historical Park, State Recreation Area
TL, TU	Timber-Litter and Timber Understory fuel models
UNL	University of Nebraska-Lincoln
USACE	US Army Corps of Engineers
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
VFD	Volunteer Fire Department
VHF, VTAC, A/G	Radio frequencies
WCA	Water Compromised Area
WIRAT	Wildfire Incident Response Assistance Team
WMA	Wildlife Management Area
WSTF	Water Supply Task Force
WUI	Wildland Urban Interface

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# Missouri River East Community Wildfire Protection Plan

## 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 Missouri River East region of Nebraska, which includes Burt, Cuming, Dodge, Douglas, Thurston, and Washington Counties. 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 larger than 100 acres, some much larger. 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 region reported 35 fires greater than 99 acres in size that burned more than 11,550 acres. Two of those fires exceeded 2,500 acres. Because not all fire departments report every year, the actual numbers are likely much higher.\*

Extreme wildfires in Nebraska have demonstrated that intense fire behavior can start in rural areas, move aggressively over large expanses, and threaten population centers. For this reason, the CWPP planning team has designated the entire CWPP region outside of the metropolitan Omaha area (but including its edges) 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 WUI areas.

## 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 Missouri River East CWPP region lies within the Tallgrass Prairie Ecoregion identified in the NNLP. The Thurston-Dakota Bluffs, and parts of the Missouri River and Lower Platte River BULs are found within this CWPP boundary (see map in 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 Missouri River, Elkhorn River, and Lower Platte 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

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\* Paid fire departments do not report their responses to NFS, but some of these departments do respond to wildfires and provide mutual aid. They report their statistics to the National Fire Incident Reporting System (NFIRS), a voluntary reporting standard that fire departments use to uniformly report on the full range of their activities, from fire to emergency medical services to severe weather and natural disasters.<sup>1</sup>

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. To help accomplish such coordination, this document includes an action plan addressing wildfire-specific issues including a risk assessment procedure, risk reduction measures, preparedness recommendations, training and education, fuels mitigation strategies, and a monitoring and evaluation plan.

The components of the State Emergency Operations Plan are patterned after the National Response Plan. The Nebraska Emergency Management Agency (NEMA) prepared a basic plan that details Nebraska's operational functions approach to the response and recovery phase of emergency management. It defines the roles and responsibilities of the responding and supporting agencies and organizations and defines broad policies, plans, and procedures.<sup>2</sup>

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.<sup>2</sup>

Each LEOP contains an 'Annex F' that covers fire services and resources. It 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 (MAAs) 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.<sup>3</sup> Burt, Douglas, Thurston, and Washington Counties are included in the Papio-Missouri River NRD HMP. Cuming County is part of the Lower Elkhorn NRD HMP. Dodge County is in the Lower Platte North NRD HMP; however, some municipalities in Dodge County are part of the Lower Elkhorn NRD HMP. Appendix C contains links to these plans.

## 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



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

#### **Goal 1:** Reduce wildfire risk

##### *Objectives*

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

#### **Goal 2:** Support emergency response

##### *Objectives*

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

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

##### *Objectives*

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

#### **Goal 4:** Restore fire-adapted ecosystems

##### *Objectives*

- Encourage land managers to reduce heavy understory fuels in woodlands
- Encourage land managers to control non-native invasive plant species and to actively manage prolific and aggressive native species

- Encourage land managers to use native plant species when restoring ecosystems
- Safely incorporate prescribed fire, using trained personnel and standard operating procedures

**Goal 5:** Enhance post-fire recovery

*Objective*

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

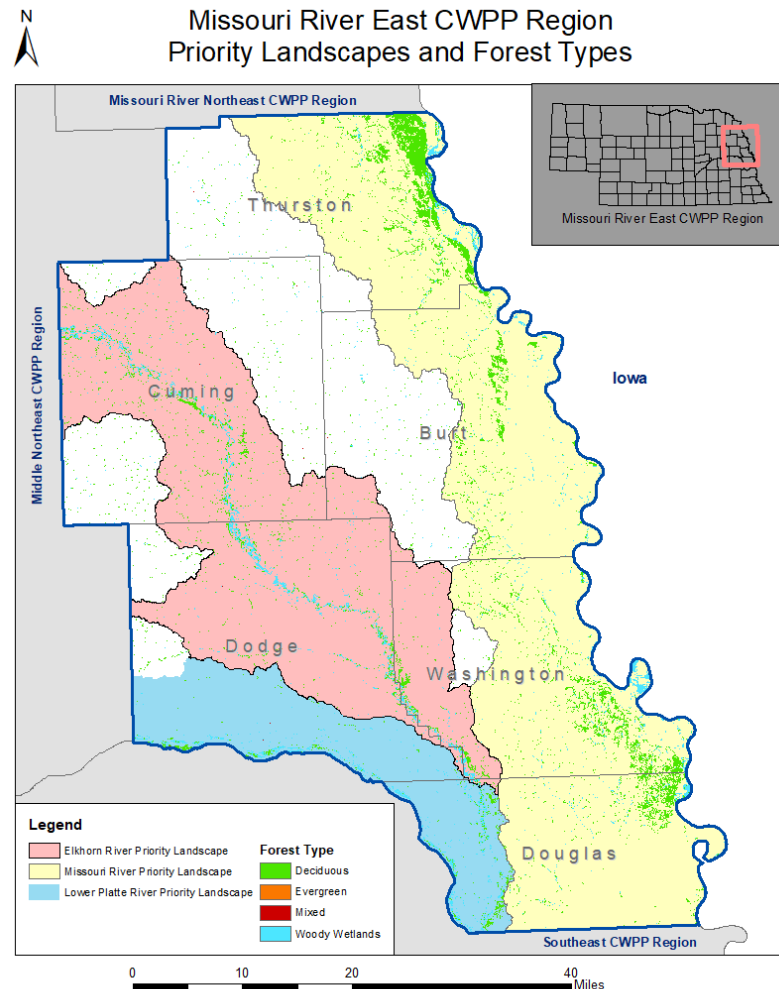
**Goal 6:** Establish/implement a CWPP monitoring and evaluation process

*Objectives*

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

## Priority Landscapes

At the state level, the FAP identified PLs to help focus effort and funding on landscape-scale approaches. This CWPP region includes portions of the Missouri River, Elkhorn River, and Lower Platte River PLs (Map 2). In addition, it includes the Nebraska portion of the Omaha-Council Bluffs Multi-State PL, encompassing a 25-mile radius around the metro area.



*Map 2: The Priority Landscapes in this CWPP region are located along the Missouri, Elkhorn, and Lower Platte Rivers. These landscapes include many locally identified Areas of Concern (See map in Appendix A). Forest types include riparian deciduous along the rivers, upland deciduous on the river bluffs and scattered throughout the region, and scattered pockets of evergreen (eastern redcedar) and mixed and deciduous forest.*

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Map 2 also displays forests in the region. Unnaturally dense and unhealthy woodlands and encroachment of eastern redcedar (ERC) into grasslands create extreme wildfire risk. Drought cycles are predicted to occur with increasing frequency. Communities can protect structures by reducing their ignitability, reducing the surrounding woody fuels, and improving access for emergency equipment. Priority Landscapes help focus management activities on areas most at-risk.

### Vegetation Types and Areas of Concern within Priority Landscapes

The PLs contain a range of topography and vegetation types including deciduous forest (upland and riparian), patches of evergreen (ERC) and mixed forest, upland and lowland tallgrass prairie, and a few areas of mixed-grass prairie (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 ‘Areas of Concern’ 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 hazardous 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.

### 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 region’s six county boards and their emergency managers. 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, map areas of concern, assess risks, and recommend an action plan.

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. 14 of the 41 fire departments and the US Army Corps of Engineers (USACE) 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.

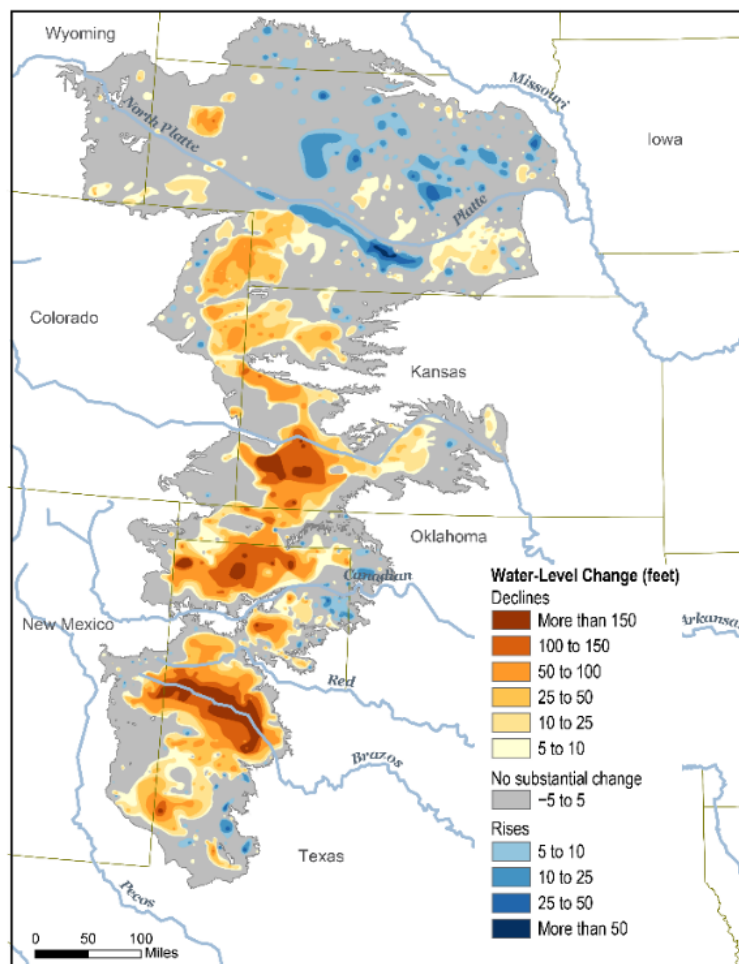
The team prepared a draft document that was released for a 30-day public review period. Comments were reviewed and incorporated into the final document. It was then sent to the county boards for signature. Final copies were provided to county boards and emergency managers. The plan is also available online at <https://nfs.unl.edu/documents/CWPP/MRECWPP.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 Missouri River East counties of eastern Nebraska are located in the Dissected Till Plains of the Central Lowlands area of the continent's Interior Plains. This area contains gently rolling hills and deep, glacially-deposited soils prized by farmers. Some of the western part of the CWPP region sits atop the Ogallala Aquifer, which underlies about 175,000 square miles in eight states from Texas to South Dakota (Map 3).



*Map 3: The Ogallala Aquifer underlies much of the Great Plains. This graphic<sup>4</sup> 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.



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Weather data was obtained from the University of Nebraska High Plains Regional Climate Center<sup>5</sup> and Iowa State University.<sup>6</sup> Weather factors, including temperature, precipitation, relative humidity (RH), 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.

County	April			July			October		
	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH	Max. Temp.	Precip.	Min. RH
Burt	61.91	3.37	36	86.16	3.58	63.5	63.87	2.22	46
Cuming	61.00	3.15	37	85.58	3.57	59	63.13	2.21	45.5
Dodge	61.83	3.06	40.5	86.16	3.54	65.5	63.98	2.14	48.5
Douglas	62.97	3.11	39	85.96	3.90	62.5	64.56	2.30	47
Thurston	61.17	3.32	37	85.86	3.60	63.5	63.20	2.24	46.5
Washington	62.50	3.18	40.5	85.86	3.80	65.5	64.25	2.23	48.5

*Table 1: Average maximum temperatures (degrees F), precipitation (inches) and median minimum relative humidity (percent) 1982-2020 for April, July, and October for the Missouri River East CWPP counties. Relative humidity (RH) data interpolated from selected weather stations.<sup>5</sup>*

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 seven stations in or near the plan area—Blair, Fremont, Millard, Omaha, Tekamah, Wayne, and West Point—are in Appendix D.

### Vegetation and Natural Communities

Native vegetation in the CWPP Region is dominated by upland tallgrass prairie, with lowland tallgrass prairie along the rivers and patches of mixed-grass prairie in Cuming and Dodge Counties. Riparian deciduous forests occur along the rivers. Patches of upland deciduous forest are scattered across the region (see Map 4). Eastern redcedar occurs within some of the deciduous woodlands along the rivers and their tributaries, and in some areas has encroached into the prairies. Agricultural fields occupy most of the region. A land cover map<sup>7</sup> appears in Appendix A.

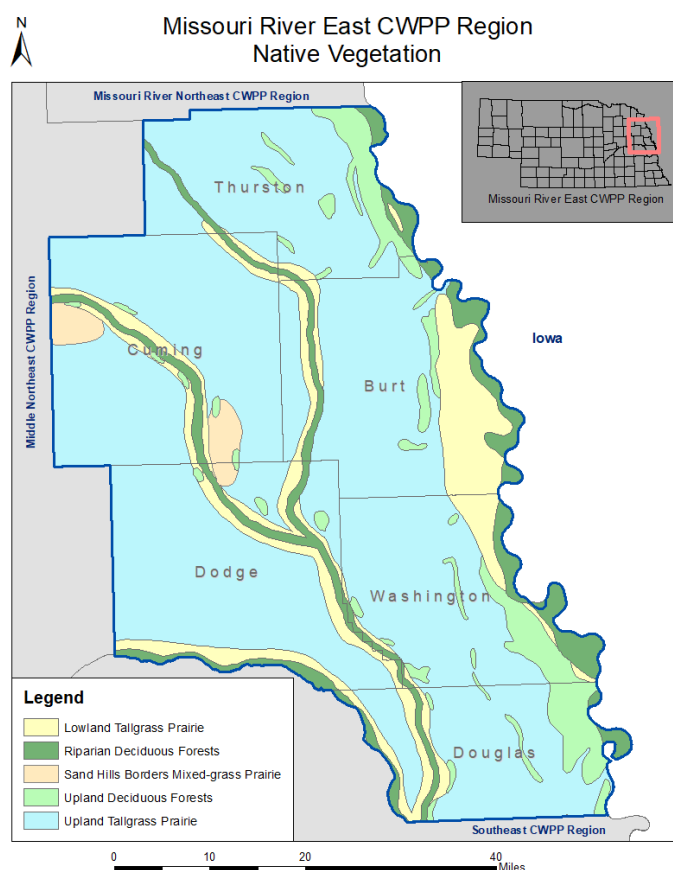
The principal deciduous tree species are eastern cottonwood, hackberry, bur oak, black walnut, silver maple, green ash, wild plum, gray dogwood, elderberry, mulberry, elm spp., and honeylocust. Most of the green ash is expected to die as the emerald ash borer, an invasive pest, moves into the region. Other woody species that are locally abundant include eastern red cedar, sand cherry, smooth sumac, and chokecherry. 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 general, fuel continuity in the forested areas is high. Other forested areas are primarily hardwoods that are scattered throughout the area, usually in areas of non-tillable land. Table 2 shows the estimated forested acres in each county in the CWPP region.

Within this CWPP region, the Missouri River BUL identified within the NNLP is found along the eastern boundary of Burt, Douglas, Thurston, and Washington Counties. The Thurston-Dakota Bluffs BUL is located in northeast Thurston County and extends out of the CWPP region into Dakota County.

*Table 2: The NFS's Forest Inventory and Analysis breakdown by county for forestland acres. Please note that this information is an estimate derived from survey data and does not represent a complete tree inventory.*

County	2006	2012	2018
Burt	16,825	22,092	16,256
Cuming	5,889	7,679	10,727
Dodge	7,852	18,916	10,595
Douglas	18,303	14,008	6,643
Thurston	27,196	29,919	29,228
Washington	30,089	23,564	27,846
<b>Subtotals</b>	<b>106,154</b>	<b>116,178</b>	<b>101,295</b>

*Map 4: The CWPP region's counties are dominated by upland tallgrass prairie, with lowland tallgrass prairie along the rivers and patches of mixed-grass prairie in Cuming and Dodge Counties. Riparian deciduous forests occur along the rivers. Patches of upland deciduous forest are scattered across the region.<sup>8</sup>*



## Land Use

There are about 1,755,520 acres (2,743 sq. mi.) in the Missouri River East CWPP region, which includes Burt, Cuming, Dodge, Douglas, Thurston, and Washington Counties. In addition to county and municipal properties,

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public lands include 8,411 acres in US Fish and Wildlife Service (USFWS) wildlife refuges and tracts; 3,092 acres in three USACE flood management and recreation sites managed by the City of Omaha; a 363-acre communications annex managed by the US Department of Defense; 3,218 acres in five NGPC Wildlife Management Areas (WMAs), five State Recreation Areas (SRAs), and a State Historical Park (SHP); and 352 acres in six NRD-managed sites. Nebraska School Lands constitute approximately 2,466 acres in the region.<sup>9</sup> Tribal lands include 269,628 acres on the Winnebago and Omaha reservations. (According to the Lower Elkhorn NRD's Special Districts Appendix, the Ponca Tribe of Nebraska, although it has no geographic reservation, has a service area for tribal members that includes Burt and Douglas Counties.) The remainder of the land in these counties is privately owned. Non-government conservation organizations manage 478 acres in five tracts.

This CWPP region includes Douglas County, home to Omaha, Nebraska's largest city, and its suburbs—all part of the Omaha-Council Bluffs metropolitan area that encompasses over 4,400 square miles in Nebraska and Iowa. Urban and suburban development covers almost 108,000 acres (over 77 square miles) in the south and east parts of Douglas County. In the rest of the county and the CWPP region, 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 37 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, in 2020 there were 665,066 permanent residents in the six counties within the CWPP region. Douglas County is home to 584,526 of those people, with the other 80,540 residents scattered across the remaining five counties.

All counties in the CWPP region except for Thurston have county zoning plans in place. There are currently no restrictions in any of the counties for new building construction in fire-prone areas. Some municipalities require or recommend the use of fire-resistant building materials.

Popular outdoor recreational activities include hunting, fishing, hiking, biking, and camping at public recreation areas in the region. The USACE reported 454,668 visitors to their three recreation areas in Douglas and Washington Counties during 2018, the most recent year for which figures are available. In Washington County during fiscal year 2021, the USFWS reported 189,801 visitors at DeSoto NWR. Flood-damaged roads restricted access to Boyer Chute NWR, but normally that refuge sees 40,000-50,000 visitors annually. The Papio Missouri NRD reported annual visitation of about 10,000 at its five recreation sites in Douglas County.<sup>10</sup> The Lower Elkhorn NRD and the Lower Platte North NRDs do not track visitation. The NGPC reported 38,750 annual visitors at Fort Atkinson SHP. No numbers were reported for the SRAs in the region. Although no visitor numbers are available for state WMAs, NGPC staff in other regions report 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.

Homeowners and Property Owners Associations exist in some suburban and rural residential developments in WUI areas within the CWPP boundary. Where these associations are present, there is an opportunity to reach their membership with wildfire protection information, including fire weather warnings, mitigation activities property owners can conduct either independently or as a group, communications information, and evacuation

routes. More information about these organizations and activities appears in the Action Plan section of this document.

## 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 HMP 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 Burt Co. Public Power District (PPD), Cuming Co. PPD, Emerson Elec. Utility, Fremont Utilities, Lyons Electric Utility, Northeast PPD, OPPD, NPPD, Pender Elec. Utility, Scribner Elec. Utility, Snyder Elec. Utility, Walthill Electric Utility, and Wisner Electric. Both cellular and landline telephone services are available regionwide.

## 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 decreased 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 3 shows acres of vegetation treatments implemented over the past five years in the CWPP region.

### *Mechanical Treatment*

Mechanically removing 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. Landowners in counties that adopt this CWPP are eligible to participate in the NFS cost share program for mechanical fuels reduction.



## Missouri River East Community Wildfire Protection Plan

In addition to offering cost share assistance to private landowners, natural resources agencies also use mechanical treatments on the public properties they manage. The USACE reported that they are mechanically creating firebreaks at their three recreation lakes in Douglas County. They have addressed about half of the 30-foot wide boundary firebreak and access corridor at Zorinsky Lake and will move on to Standing Bear Recreation Area next. Staff noted that, as landowners, USACE tries to promote fire protection but the fire response and much of the actual on-the-ground labor is the responsibility of their partners who manage the land. Omaha Parks mows about 285 acres at the three sites, and uses forest mulching and individual tree removals to protect access, structures, and neighboring properties. Crews also mow an additional 9,370 acres and conduct mechanical fuels treatment in Omaha's non-USACE parks and vacant city-owned property.

The Lower Elkhorn NRD, which includes Burt County, reported mechanically treating 488 acres in their NRD during the past five years, most of the work was shredding, grinding, haying, and chainsaw work and was conducted in areas that are part of the neighboring CWPP region.

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 Lower Elkhorn NRD reported using prescribed fire (RxB) to treat 172 acres west of the CWPP region during the past five years.

The Pheasants Forever (PF) statewide Prescribed Fire Association map shows the Elkhorn Valley PBA includes Cuming and Dodge Counties along with neighboring counties outside the CWPP region. It is unknown whether this PBA is currently active. PF did not respond to a request for information.

Estimated Acres of Vegetation Treated During the Last Five Years in the Missouri River East CWPP Region												
Agency	NFS	NRDs	NGPC-Parks Division			BIA and USFWS*			USACE & Omaha Parks			Total Acres
County	Mech.	Mowing/Pruning	RxB	Mech.	Chem.	RxB	Mech.	Chem.	RxB	Mech.	Mowing	
Burt		1	75	130	30	3,943						4,179
Cuming												0
Dodge	60		35	7	20							122
Douglas		134							50	18	9,655	9,857
Thurston	60					6,940						7,000
Washington					20	2,900	500	200				3,620
<b>Total Acres</b>	<b>120</b>	<b>135</b>	<b>110</b>	<b>137</b>	<b>70</b>	<b>13,783</b>	<b>500</b>	<b>200</b>	<b>50</b>	<b>18</b>	<b>9,655</b>	<b>24,778</b>

\* BIA (Bureau of Indian Affairs): Burt and Thurston Counties. USFWS: Washington County

*Table 3: Estimated acres of vegetation treatment (prescribed fire, mechanical, chemical) in the Missouri River East 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.*

### *Prescribed Grazing, Haying, and Mowing*

Grazing can have a positive impact on fuels reduction on both private and public lands. Many landowners who use RxB also use planned grazing to reduce the potential for fire escape and spotting on lands adjacent to the burn units.

Targeted haying and mowing practices can also impact fuels reduction. Some prescribed fire practitioners mow firebreaks and hay areas adjacent to prescribed burn units to minimize the potential for spot fires. The Papio-Missouri River NRD uses weekly mowing and tree pruning in the five recreation areas they manage in Douglas County. Omaha Parks and the USACE use haying and mowing in their recreation areas.

### *Chemical Treatment*

Some entities use chemical treatments to manage vegetation for habitat improvement, noxious weed control, agricultural production, or other purposes. These activities can potentially reduce vegetative fuels as well. The Lower Elkhorn NRD treated 100 acres in their district over the past five years, primarily in the adjacent CWPP region.

## **Emergency Management and Fire Districts**

Each of the counties in the CWPP region has their own full time emergency manager. A map of statewide Local Emergency Management Areas appears in Appendix A.

There are 41 fire districts all or partially within the CWPP boundary (see Map 1). Some VFDs voluntarily report their fire responses to the NFS statewide wildfire tracking database. Reported fires by district are summarized in Table 5. Paid fire departments do not report their responses to NFS, but these departments do respond to wildfires and provide mutual aid to other fire departments. Paid departments in the CWPP region, along with over 24,000 other fire departments nationwide, report their statistics to the National Fire Incident Reporting System (NFIRS), a voluntary reporting system used to uniformly report on the full range of their activities, from fire to emergency medical services to severe weather and natural disasters.<sup>1</sup>

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.

## **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

Vegetation Community	Fire Severity	Fire Regime Characteristics			
		% 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	10	
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 4: Fire intervals for the Missouri River East CWPP vegetation communities.<sup>11</sup>

# Missouri River East Community Wildfire Protection Plan

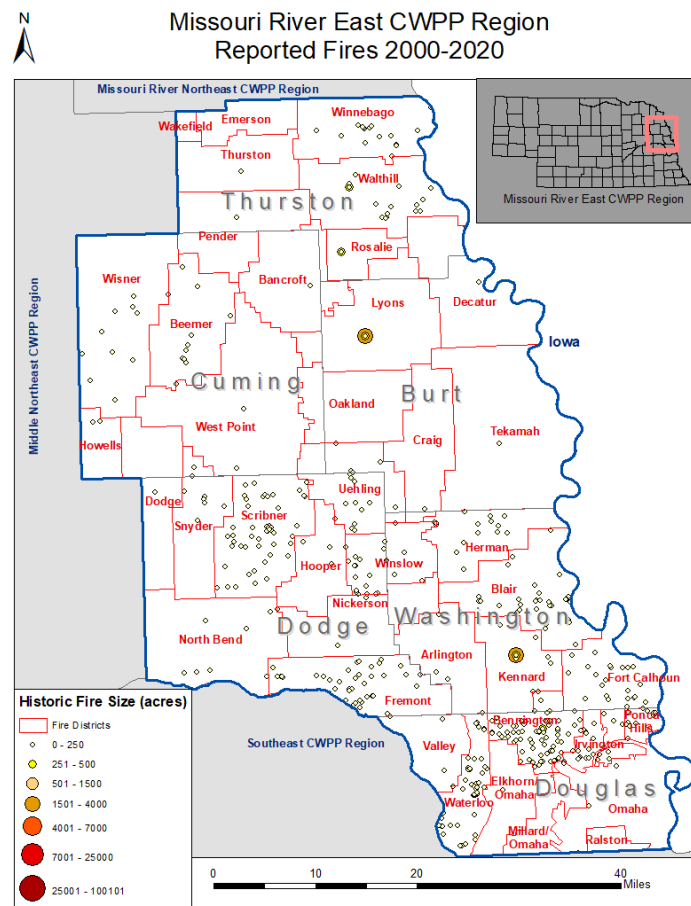
the rivers and streams. Table 4 shows the wooded draws and ravines experience a mean replacement fire interval of 45 years, while the mean replacement fire interval for floodplain forests was 500 years (*note: the flooding-caused replacement interval for these forests may be more frequent*). The prairies 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.

## 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 120 acres in size have occurred in all of the counties, and fires larger than 300 acres have been reported in all but Cuming and Dodge Counties. The largest fire reported to the NFS was a 2,560-acre railroad fire in the Kennard Fire District in March 2000. Map 5 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.<sup>12</sup>



Map 5: Some of the larger fires reported in the CWPP area since 2000 are shown in the map above. Departments reported 35 fires greater than 100 acres that burned over 11,500 acres.

Some fire districts voluntarily report their annual fire response data to the NFS. Table 5 shows the fire data reported by fire departments from 2000 through 2020.<sup>13</sup> 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 by VFDs in the Missouri River East CWPP Region							
Department	# Fires Human	# Acres Human	# Fires Lightning	# Acres Lightning	Total # Fires	Total # Acres	Mutual Aid Responses
Arlington	32	136	1	1	33	137	3
Bancroft	2	2	0	0	2	2	0
Beemer	26	60	1	1	27	61	11
Bennington	131	1,264	0	0	131	1,264	12
Blair	83	520	0	0	83	520	27
Craig	2	53	0	0	2	53	0
Decatur	57	456	0	0	57	456	0
Dodge	1	1	0	0	1	1	0
Elkhorn	74	142	0	0	74	142	0
Emerson	12	365	0	0	12	365	1
Fort Calhoun	42	103	3	1	45	104	15
Fremont	184	83	1	1	185	84	16
Herman	32	858	0	0	32	858	10
Hooper	16	116	0	0	16	116	0
Howells	26	156	1	1	27	157	4
Irrington	76	314	0	0	76	314	9
Kennard	65	3,639	11	327	76	3,966	2
Lyons	17	472	0	0	17	472	0
North Bend	38	332	2	2	40	334	2
Pender	3	1	0	0	3	1	0
Ponca Hills	12	16	0	0	12	16	7
Rosalie	40	1,747	0	0	40	1,747	9
Scribner	70	294	0	0	70	294	13
Snyder	24	76	0	0	24	76	9
Tekamah	29	392	0	0	29	392	0
Thurston	5	156	0	0	5	156	0
Uehling	38	225	0	0	38	225	5
Valley	6	19	0	0	6	19	5
Wakefield	3	92	0	0	3	92	1
Waterloo	58	60	6	1	64	81	15
West Point	16	235	0	0	16	235	0
Winnebago	44	312	1	1	45	313	15
Winslow	44	127	0	0	44	127	23
Wisner	29	314	1	1	30	315	4
<b>Total</b>	<b>1,337</b>	<b>17,428</b>	<b>28</b>	<b>337</b>	<b>1,365</b>	<b>17,765</b>	<b>218</b>

Table 5: Fires reported by Missouri River East CWPP VFDs from 2000 through 2020. Departments reported a total of 22,960 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.



# Missouri River East Community Wildfire Protection Plan

## 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. 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 stressed the importance of addressing fuel load reduction in mitigation plans. Areas of Concern are described in each community-specific section of the CWPP and shown on a map in Appendix A.

Cuming County is included in the Lower Elkhorn NRD local mitigation planning area, which also includes the Burt and Douglas County service areas for the Ponca Tribe of Nebraska. The tribe has identified Grass/Wildfires as a priority hazard. Dodge County is part of the Lower Platte North NRD local mitigation planning area, and the other four counties are in the Papio Missouri River NRD local mitigation planning area (see map in Appendix A). Each of these planning areas has its own Multi-Jurisdictional HMP that includes a discussion of wildfire hazard (see link in Appendix C). This CWPP builds on the HMPs to address specific wildfire concerns.

Two factors that heavily influence fire hazard are fuel moisture and the vegetation fuel models present.

### *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.<sup>14</sup> 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 moisture.

### *Fuel Models*

According to the Nebraska Wildfire Risk Assessment Portal,<sup>15</sup> the following fuel models<sup>16</sup> are the most prevalent within the CWPP region:

#### Grass Models

- GR1 (small areas regionwide) Grass is short, patchy, and possibly heavily grazed. Spread rate moderate, flame length low.
- GR2 (regionwide) Moderately coarse continuous grass, average depth about 1 foot. Spread rate high, flame length moderate.
- GR4 (small areas in Dodge and Washington Counties) Moderately coarse continuous grass, average depth about 2 feet. Spread rate very high, flame length high.
- GR6 (regionwide) Continuous, humid-climate grass about 1 to 2 feet tall. Spread rate very high, flame length very high.
- GR8 (small areas in Burt, Douglas, Thurston Counties) Heavy, coarse, continuous grass 3 to 5 feet tall. Spread rate very high, flame length very high. Can be extreme if grass is fully cured.

### Grass-Shrub Models

- GS1 (Small areas in Burt County) Shrubs are about 1 ft. high, grass load is low. Spread rate moderate, flame length low.

### Timber-Understory 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.

### Timber-Litter Models

- TL2 (regionwide) Low load, compact. Spread rate very low, flame length very low.
- TL6 (regionwide) 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**

Local 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 41 fire departments in the CWPP area belong to one or more of the six MA districts in the region: Burt County, Cuming County, Dodge County, Northeast, Tri-County, and Washington County. See Appendix F for a complete list of MA associations and member fire departments.

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 jurisdictions have notification from 'Code Red' that allows them to develop groups that can be called in an emergency situation for notification of evacuations, hazardous material incidents, and any other emergency, including wildfire. This allows notification of a large geographical area or a group of people. This and similar applications are 'opt-in' programs which can be used to notify residents in the area of wildfire events but would likely not reach everyone.

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. The Salamander Command program and the Salamander Track App are used to track incidents.

# Missouri River East Community Wildfire Protection Plan

## 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 region's counties. Developing such a map has been identified as a need that should be addressed (see *Action Plan* section of this document). Road and bridge information reported for each county appears in the county detail pages.

## Communications

VHF radio is required to communicate with the Single Engine Air Tanker (SEAT), which is described in the *Aerial Resources* section. Air-to-Ground frequencies, specifically A/G 25, is the assigned and preferred method of communication with the SEAT; however, if the capability doesn't exist for a certain department, any of the Mutual Aid frequencies such as VTAC 11 OR VTAC 14 can be substituted.

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

## Capabilities and Capacity

Resources to support emergency responder safety and help fire departments prepare for and respond to fire, natural disasters and non-fire emergencies can include vehicles, equipment, air support, and personnel. This section describes resources maintained by or available to VFDs in the CWPP region, as well as resources maintained by other organizations.

### *Vehicles and Equipment*

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

Through the Federal Excess Property Program (FEPP) and Fire Fighter Property (FFP) program, a cooperative effort with the USFS, 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 2021 there were 984 pieces of FEPP equipment in use by 306 rural fire districts and other emergency response jurisdictions across Nebraska, valued at \$105,018,000. In the Missouri River East CWPP Region, there are 66 pieces of FEPP equipment, valued at \$5,718,700 and housed in 22 jurisdictions.

These programs allow fire districts to obtain essential fire-fighting equipment at an affordable price. The NFS Fire Shop also offers 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 and 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 (Type 1) SEAT bases in Nebraska, Valentine is the primary one that serves 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 'carded' to fly missions on federal land, so they cannot be utilized on USFWS fires.

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.

# Missouri River East Community Wildfire Protection Plan

## 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. In 2018, NFS expanded this effort and created the Eastern Nebraska Wildland Fire Academy. This weekend event is hosted at Ponca State Park and provides valuable wildland fire classes each November.

Classes cover a variety of topics ranging from beginning to advanced firefighting techniques, Firewise® landscaping and construction, leadership, and fire prevention education. The classes offer flexibility and can be fine-tuned to meet the needs of local fire departments. NFS delivered and sponsored 11,072 course hours in 2021, and 4,039 hours during the first quarter of 2022. 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.

### BURT COUNTY

497 sq. miles

2020 population: 6,722



### Community Profile

Burt County lies on the eastern end of the CWPP region. It is bounded on the south by Washington and Dodge Counties, on the west by Cuming County, on the north by Thurston County, and on the east by Iowa. US Highways 75 and 77 provide north-south access and State Highways 31 and 32 run east-west.



## Missouri River East Community Wildfire Protection Plan

Incorporated municipalities include the county seat of Tekamah (pop. 1,714), Craig (pop. 185), Decatur (pop. 459), Lyons (pop. 789), and Oakland (pop. 1,369). There are no unincorporated communities in the county.

Public lands within Burt County include 688 acres managed by the NGPC in one WMA and two SRAs, and approximately 1,138 acres in school lands. There is a 120-acre Winnebago Tribal Trust tract in the county. Other than municipal properties, the balance of the land in the county is privately owned.

The Missouri River forms the east county boundary. Major creeks include Bell, Carr, Crannell, Davis, Elm, Logan, Lone Tree, Mud, Silver, South Blackbird, and Tekamah. There are several irrigation ditches on the east side of the county, and Logan Creek Dredge runs the length of the county's west side. Most of the woodlands are located along the waterways.

Most of Burt County lies within the upland tallgrass prairie vegetation zone. Riparian deciduous forests and strips of lowland tallgrass prairie follow the Missouri River and Logan Creek Dredge. Areas of upland deciduous forest are found west of US 275. Agriculture crop fields cover most of the county. Grazing lands occupy much of the rougher terrain in a swath west of US Highway 75.

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 Ponca Tribe of Nebraska, although it has no geographic reservation, has a service area for tribal members that includes Burt County. The tribe has identified Grass/Wildfires as a priority hazard. Due to high percentages of young and elderly people, they stated that fires could impact the public health of the Tribe by causing respiration issues in these vulnerable populations.

The planning team identified the area along and west of US Highway 75, including the regions west and north of Decatur, as a potential concern due to pockets of heavy vegetation, rough terrain, and potential access issues. Similar terrain that shares these issues lies south of State Highway 32 between Craig and Tekamah. Areas of concern were identified by steering committee members or in the statewide Priority Lands analysis; a map is included in Appendix A. All of Burt County lies within the boundaries of the WUI as defined in the introduction to this CWPP.

The four largest fire events reported in the county were reported by the Lyons Fire Department. The fires occurred in February and March 2000 and all listed 'incendiary' as the cause. These fires burned 3,500, 400, 200, and 200 acres, respectively. In April 2004, the Decatur VFD reported a 120-acre debris-burning fire, and Craig Fire and Rescue reported a 53-acre equipment fire in October 2020.

### **Infrastructure and Protection Capabilities**

#### *Fire Districts and Emergency Management Area*

Volunteer fire districts all or partly within Burt County include Bancroft, Craig, Decatur, Lyons, Oakland, Tekamah, and Uehling. The county has a full-time emergency manager.

#### *Water Sources*

Most communities have municipal water systems. Farms and ranches are on wells. The Missouri River and the larger creeks 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.

#### *Utilities/Phone Service*

The Burt County Public Power District (PPD), Omaha PPD, Nebraska PPD, and the Lyons Electric Utility provide electric service to Burt County. Both cellular and landline telephone services are available.

### *Roads and Bridges*

None of the fire departments expressed concern about roads or bridges in Burt County. 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:

<b>Department</b>	<b>Greatest Concerns</b>
Bancroft	(Survey not returned)
Craig	(Survey not returned)
Decatur	(Survey not returned)
Lyons	(Survey not returned)
Oakland	(Survey not returned)
Tekamah	(Survey not returned)
Uehling	(Survey not returned)

# Missouri River East Community Wildfire Protection Plan

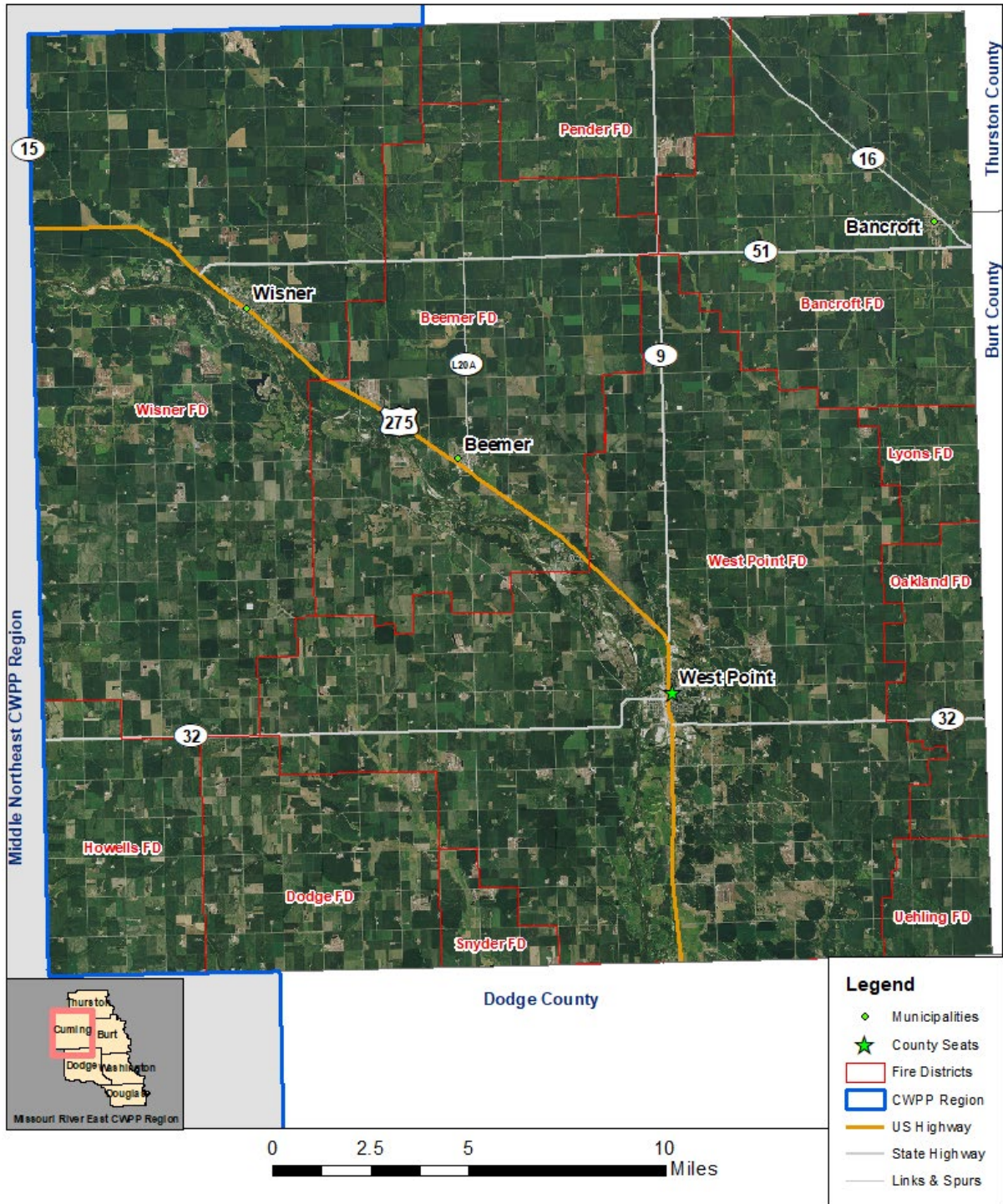
## CUMING COUNTY

575 sq. miles

2020 population: 9,013



## Missouri River East CWPP Region Cuming County Overview



### Community Profile

Cuming County is on the west edge of the CWPP region. It is bounded on the north by Thurston and Wayne Counties, on the east by Burt County, on the south by Dodge and Colfax Counties, and on the west by Stanton

County. US Highway 275 enters the southeastern part of the county from Dodge County, runs north through West Point, then northwest through Beemer and Wisner before exiting into Stanton County. State Highway 9 runs north from the junction of US 275 north of West Point and exits into Thurston County. State Highway 15 forms Cuming County's west boundary. State Highway 16 cuts across the northeast corner of the county, entering from Burt County southeast of Bancroft and exiting into Thurston County southeast of Pender. State Highways 32 and 51 provide east-west access.

Incorporated municipalities include the county seat of West Point (pop. 3,213), Bancroft (pop. 496), Beemer (pop. 611), and Wisner (pop. 1,154). There are no unincorporated communities in Cuming County.

Public lands within the county include 205 acres managed by the NGPC in the Black Island WMA, and approximately 208 acres in school lands. The Omaha Reservation occupies 12,451 acres in the county. Other than municipal properties, the balance of the land in the county is privately owned.

The Elkhorn River enters Cuming County west of Wisner and runs southeast and south, exiting into Dodge County south of West Point. Major creeks include Cuming, Pebble, and Plum. The majority of the woodlands are located along the waterways. Most of the county lies within the upland tallgrass prairie vegetation zone, with smaller expanses of mixed-grass prairie in a couple of areas adjacent to the river. Strips of lowland tallgrass prairie and riparian deciduous forests follow the Elkhorn River. Patches of upland deciduous forest are scattered at higher locations above the river. Agriculture crop fields cover much of the county.

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. Many at-risk areas are located along the Elkhorn River, where topography is rough and woody fuels are dense in some places, creating high fire hazard.

The Wisner fire chief identified several locations of concern in their district. Canders Lake west of Wisner and Pelican Landing south of Wisner both have difficult access, rough terrain, a single way in/out, and heavy fuels. He said they have a few lake developments with one good access road, along with river land used for hunting. Snyder Volunteer Fire and Rescue identified Snyder Township as an area of concern due to multiple structures and lack of water within effective distance.

Areas of concern were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis and are shown on a map in Appendix A. All of Cuming County lies within the WUI boundary as defined in the introduction to this CWPP.

The largest fire events reported in the county include a 120-acre equipment fire in the Howells Fire District in 2015 and two 81-acre fires (one caused by a combine, the other by debris burning) in the Wisner Fire District in November 2007.

### **Protection Capabilities and Infrastructure**

#### *Fire Districts and Emergency Management Area*

Volunteer fire districts all or partly within Cuming County include Bancroft, Beemer, Dodge, Howells, Lyons, Pender, Oakland, Snyder, Uehling, West Point, and Wisner. The county has a full-time emergency manager.

#### *Water Sources*

Most communities have municipal water systems. Farms and ranches are on wells. 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. The Dodge, Snyder, and Wisner VFDs named water sources as a top concern. Two farmers on the west side of the Wisner VFD allow them to overhead fill from irrigation wells.

## Missouri River East Community Wildfire Protection Plan

### *Utilities/Phone Service*

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

### *Roads and Bridges*

The Wisner fire chief stated that there are a few worn out wooden bridges in their district that 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
Bancroft	(Survey not returned)
Beemer	(Survey not returned)
Dodge	Water supply
Howells	(Survey not returned)
Lyons	(Survey not returned)
Pender	(Survey not returned)
Oakland	(Survey not returned)
Snyder	To have water and truck to cover it
Uehling	(Survey not returned)
West Point	(Survey not returned)
Wisner	Getting truck to locations: very sandy & wetlands along the lake developments and the rivers.



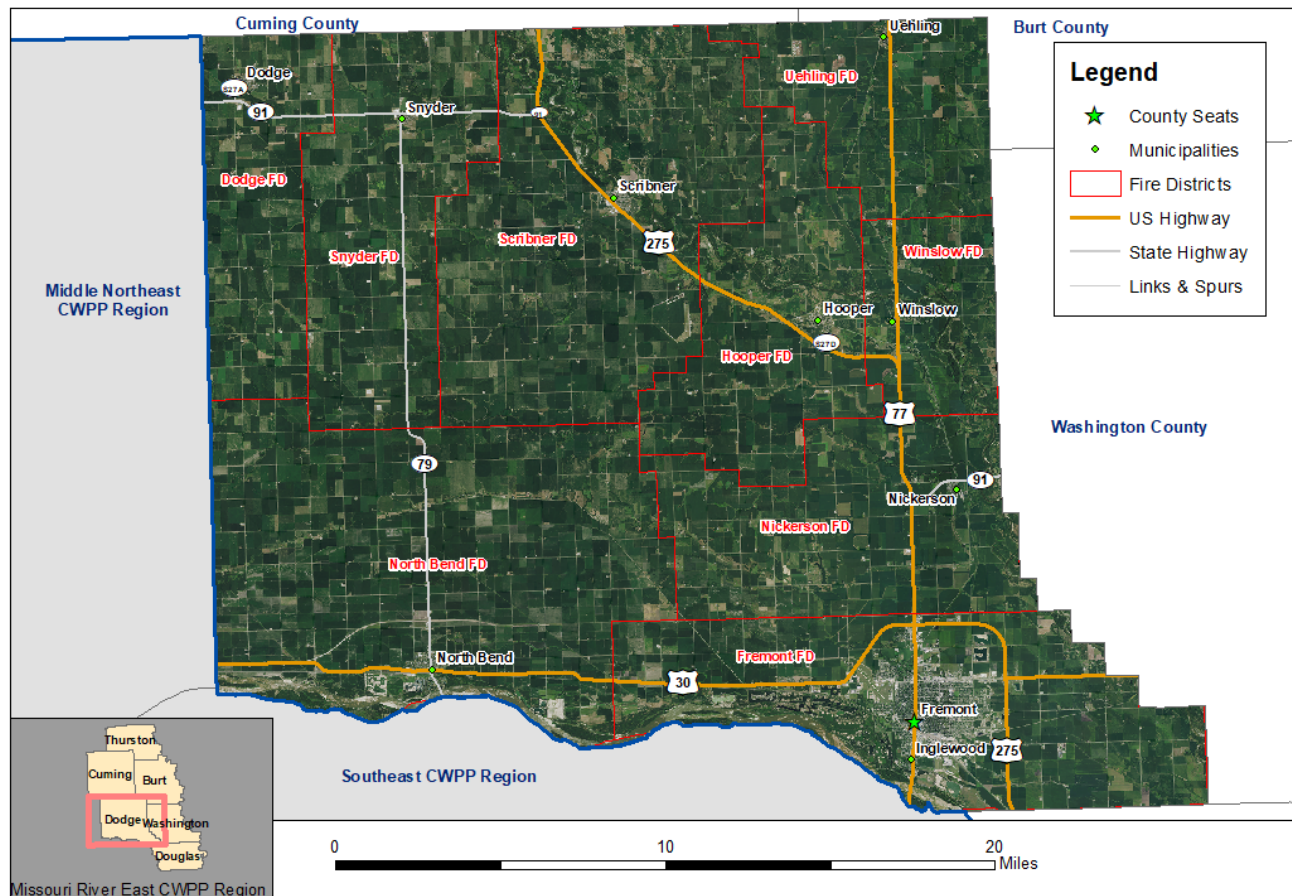
## DODGE COUNTY

543 sq. miles

2020 population: 37,167



### Missouri River East CWPP Region Dodge County Overview



#### Community Profile

Dodge County is on the west edge of the CWPP region. It is bounded on the north by Cuming and Burt Counties, on the east by Burt and Washington Counties, on the south by Douglas and Saunders Counties, and on the west by Colfax County. US Highway 30 runs west-east across the south end of the county; US 77 runs north-south the length of the east side. US 275 enters the southeast part of the county from Douglas County, follows US 77 from north of Fremont to south of Winslow, where it veers northwest past Hooper and Scribner before exiting into Cuming County. State Highway 79 enters from Saunders County south of North Bend and runs north to Snyder. State Highway 91 enters from Colfax County west of Dodge and runs east through Snyder, follows US 275 and 77 southeast and south to Nickerson, where it veers east before exiting into Washington County.

Incorporated communities include the county seat of Fremont (pop. 27,141), Dodge (pop. 591), Hooper (pop. 852), Inglewood (pop. 380), Nickerson (pop. 312), North Bend (pop. 1,279), Scribner (pop. 787), Snyder (pop. 285), Uehling (pop. 241), and Winslow (pop. 101). There are no unincorporated communities in the county.

Federal lands in Dodge County include 158 acres in two USFWS tracts. State lands include 1,240 acres in two SRAs and two WMAs managed by the NGPC. There are no school lands in the county. Other than municipal properties, the balance of the land in the county is privately owned.

The Platte River forms the county's south boundary. The Elkhorn River enters the central part of the county from Cuming County and runs southeast past Scribner, Hooper, Winslow, and Nickerson. South of Nickerson the

## Missouri River East Community Wildfire Protection Plan

Elkhorn forms the county's east boundary. Major creeks include Logan, Maple, Pebble, and Rawhide. There are several irrigation ditches along Rawhide Creek in the southern third of the county. Most of the area's woodlands are located along the waterways. Nearly all of the county lies within the upland tallgrass prairie vegetation zone, with a patch of mixed prairie along the north central county line. Ribbons of lowland tallgrass prairie and riparian deciduous forests follow the rivers. Pockets of upland deciduous forest are scattered primarily north of the Elkhorn River. Agriculture crop fields, with some grazing lands in rougher terrain, cover most 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 rivers and major creeks. The Fremont Rural Fire Department listed sites in Platte Township as of concern due to multiple structures, difficult access, rough terrain, one way in and out, heavy fuels, and lack of water within effective distance: The Meadowbrook Mobile Home Park on West Highway 30 near three railroad lines, and two chemical and fuel distribution centers. The Nickerson fire chief identified the bluffs along the Elkhorn River as a concern due to multiple structures, difficult access, rough terrain, and heavy fuels.

The North Bend fire chief said the area along the Platte River is a concern due to difficult access, rough terrain, one way in and out, heavy fuels, and lack of water within effective distance. Scribner VFD personnel noted that there is limited and difficult access along the Elkhorn River as well as rough terrain, heavy fuels, and lack of water. The Snyder fire chief identified Snyder Township as a concern due to multiple structures and lack of water within effective distance.

According to the Lower Elkhorn NRD HMP's Dodge County Appendix, the Village of Nickerson has identified Grass/Wildfires as a priority hazard because it is in a dense agricultural area that could be subject to large wildfires and relies on volunteers for initial fire suppression.

Areas of Concern were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Dodge County's smaller population centers, the WUI edges of Fremont, the dispersed farms and ranches, and the wooded areas along the rivers 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 Dodge, Fremont, Hooper, Nickerson, North Bend, Scribner, Snyder, Winslow, and Uehling Fire Districts lie all or partly within Dodge County. The county has a full-time emergency management director.

#### *Water Sources*

Incorporated communities have municipal water systems. Farms and ranches are on wells. The Platte and Elkhorn Rivers and the larger creeks 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. The Dodge, Fremont, Nickerson, North Bend, Scribner, and Snyder fire chiefs noted that lack of water is a top concern.

#### *Utilities/Phone Service*

Electric service is provided by Burt Co. PPD, Cuming Co. PPD, Fremont Utilities, Omaha PPD, Scribner Electric Utility, and Snyder Electric Utility. Both cellular and landline telephone services are available in the county.

#### *Roads and Bridges*

Local officials did not report any specific issues with roads. Within the Fremont Rural Fire Protection District the fire chief said that there are several small dirt county road bridges that are questionable as to whether they could withstand the constant weight of their rural pumpers & tankers. The North Bend VFD reported that a bridge located at County Rd. 4 and McGinns Lakes 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:

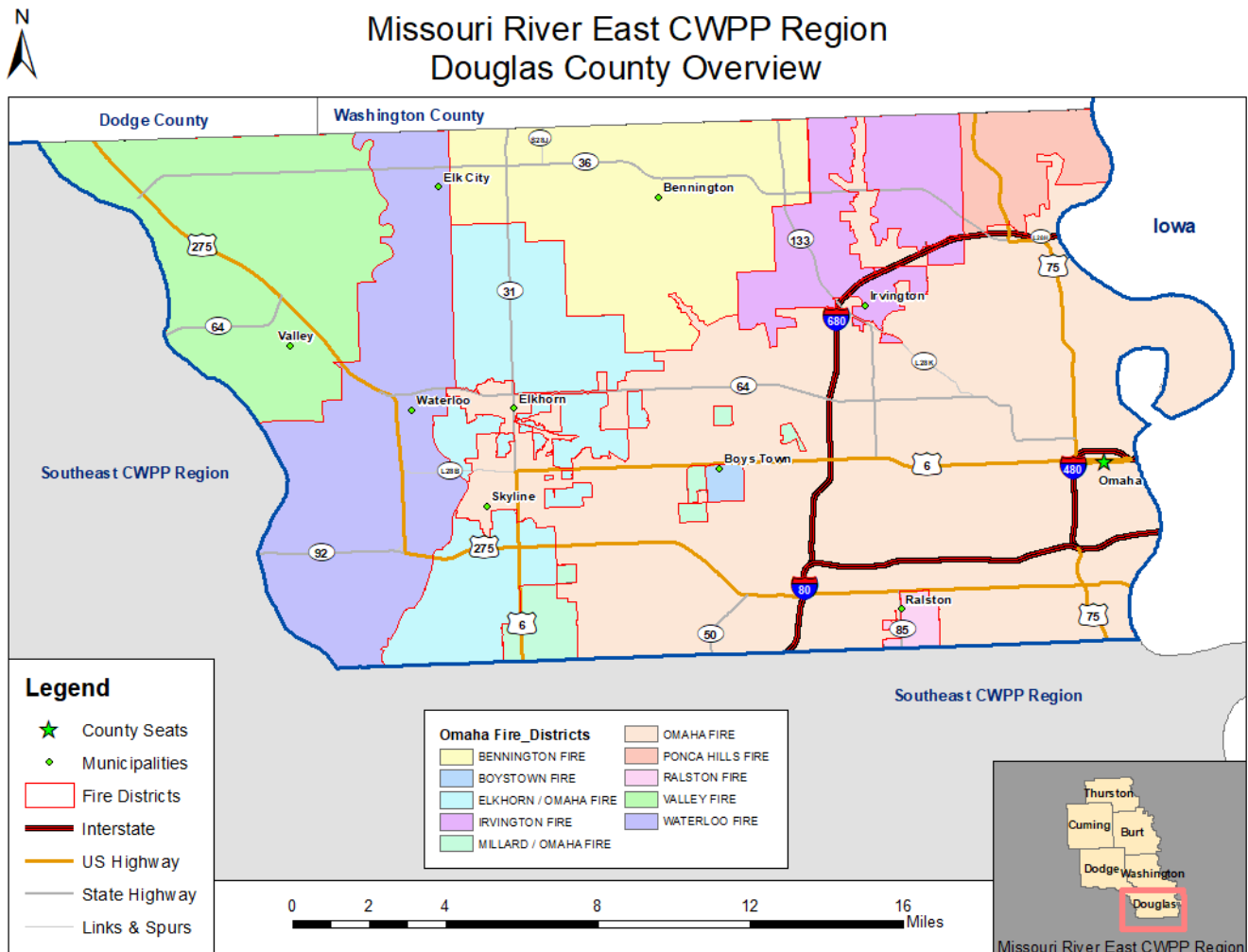
<b>Department</b>	<b>Greatest Concerns</b>
Dodge	Water supply
Fremont	Accessibility to several areas
Hooper	(Survey not returned)
Nickerson	Water sources
North Bend	Along Platte River
Scribner	Along Elkhorn River – limited access
Snyder	To have water and truck to cover it
Winslow	(Survey not returned)
Uehling	(Survey not returned)

# Missouri River East Community Wildfire Protection Plan

## DOUGLAS COUNTY

339 sq. miles

2020 population: 584,526



## Community Profile

Douglas County forms the south end of the CWPP region. It is bounded on the north by Dodge and Washington Counties, on the west by Saunders County, on the south by Sarpy County, and on the east by Iowa. Interstate 80 enters from Sarpy County and runs north and then east, paralleling the north side US 275 and exiting into Iowa. Interstate 480 runs north from I-80 at US 75, then east through Omaha, and exits into Iowa. Interstate 680 enters the northeast part of the county from Iowa, runs west and southwest to Irvington, and then south to join I-80. US Highway 6 enters from Sarpy County and runs north past Skyline, then east through Boys Town and Omaha, exiting into Iowa. US 275 enters the northwest corner from Dodge County, runs southeast to Waterloo, then south to State Highway 92, turns east and crosses the south end of the county and exits into Iowa. US 75 enters the southeast corner from Sarpy County and runs north along the east edge of the county before exiting into Washington County. State Highways 36, 64, and 92 provide additional east-west access, and State Highways 31, 50, and 85 provide additional north-south access.

Incorporated municipalities include Omaha—Nebraska’s largest city and the Douglas county seat (pop. 486,051), Bennington (pop. 2,026), Boys Town (pop. 498), Ralston (pop. 7,219), Valley (pop. 4,059), and Waterloo (pop. 915). Elk City (no pop. data), Elkhorn (no pop. data), Irvington (no pop. data), Skyline (no pop. data), and Venice

(pop. 77) are listed as unincorporated communities, neighborhoods in the Omaha area, or census-designated places.

Federal lands in Douglas County include the 363-acre Offutt Communications Annex #2, managed by the US Department of Defense, and three USACE recreation lakes—most of Glenn Cunningham Lake (1,440 acres), Zorinsky Recreation Area (1,004 acres), and Standing Bear Recreation Area (544 acres) managed by the City of Omaha. State lands include 936 acres managed by the NGPC in the Two Rivers SRA and WMA. There are approximately 103 acres of state school lands. The Papio-Missouri River NRD manages 134 acres in five recreation areas and river accesses. Besides the USACE lakes, the City Omaha manages 7,589 acres in 284 city parks. Other municipalities maintain much smaller numbers and acres in public park areas. Non-government conservation organizations manage 468 acres in five tracts. The balance of the land in the county is privately owned.

Most of Douglas County's woodlands are located along waterways. The Missouri and Platte Rivers form the county's east and west boundaries, respectively. The Elkhorn River enters the northwest part of the county from Washington County north of Elk City and exits into Sarpy County near the southwest corner. Major creeks include Boxelder, Deer, Hell, Mill, and Papillion.

The majority of the county lies within the upland tallgrass prairie vegetation zone. Strips of lowland tallgrass prairie and riparian deciduous forests follow the Platte and Elkhorn Rivers. Riparian and upland deciduous forests follow the Missouri River. A few patches of upland deciduous forest are scattered east of the Elkhorn River and in the central part of the county. Agriculture crop fields cover most of the non-urban west and north portions of the county, except in the northeast corner, where the terrain is rougher. In these areas rural residential land use is prevalent.

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 Omaha department noted that their district encompasses a small amount of Wild Urban Interface areas including the Elkhorn River Bluffs, hill areas around north and northwest Omaha, recreational areas throughout the city (Lake Cunningham, Lake Zorinsky, Flanagan Lake, Standing Bear Lake, etc.). Their district has water-compromised areas (WCAs), mostly on the west end of Omaha. They have Water Supply Task Force (WSTF) zones set up to deal with the lack of water, and they bring in water tenders on the first alarm dispatch. The Elkhorn River bluffs area is their WCA 632, which runs roughly from 240<sup>th</sup> to the Elkhorn river and from Harrison St. to Q St. This site can be difficult to access due to lack of roads and the rough terrain along the river, and it has a lot of natural grass vegetation. The other site of concern is WCA 727, which runs from 204<sup>th</sup> to around 220<sup>th</sup> from Maple to Rainwood. This site includes farm fields that can be tough to access and put out a large grass fire. The chief also has concerns about risks in the surrounding mutual aid areas. Other (non-WUI) areas with resources at risk include high home density and high rise residential structures in downtown Omaha and the row houses in South Omaha.

The USACE staff added further details and concerns about their recreational lakes in Douglas County. Zorinsky Lake is a federal flood control property that is now surrounded by housing and commercial development. Due to the intensely urban setting of Zorinsky (the property is surround by over 380 private properties), the dense and unmanaged forest, combined with high visitation rates and a large native prairie, they believe there is high fire risk at this lake. The property is densely forested on the western edge and throughout. Issues include difficult access and heavy fuels. Concentrated urban development pushes up to the property line, with heavy fuel load on the federal side. The agency has been working on firebreaks, but currently only about half of the boundary has been so addressed.

The next property on the USACE list for fire concerns is Standing Bear Lake in northwest Omaha, for reasons similar to Zorinsky. Standing Bear Lake is currently partially urbanized with more and more housing developments going up on the land surrounding the lake. It receives high usage and also has dense vegetation.

## Missouri River East Community Wildfire Protection Plan

It is experiencing increased urban development with a high fuel load present. Access to some parts of the area is difficult. Plans exist to place fuelbreaks along the property line after the Zorinsky Lake fuelbreaks are completed.

Omaha Parks maintains the three USACE recreation areas, where they mow about 285 acres and have conducted forest mulching and individual tree removals to protect access, structures, and neighboring properties. At Cunningham Lake they used a forestry mulcher to cut back the vegetation and reduce deadfall material along Lake Cunningham Rd. from 90th to 83rd St., and also mulched in other areas of the park. At Zorinsky Lake they used the forestry mulcher to widen trails, remove sumac and other woody material from grassy areas, widen firebreaks, and reduce deadfall along wooded edges. Standing Bear Lake has received similar treatments. Crews also mow an additional 9,370 acres and conduct mechanical fuels treatment in Omaha's non-USACE parks and vacant city-owned property.

The Ponca Hills fire chief noted that their district has many forested acres and is very hilly. There are few concentrated housing areas, but many of the houses have long, narrow and/or steep driveways. He identified the Neale Woods Nature Center as of particular concern due to difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance. He said the area is very hilly, open fields with natural grasses, large, wooded areas, and hiking trails throughout. There is only one point of access. Some houses are located on the edge of wooded areas. He said the nature center has their own wildland management team for their timber and grasslands. They regularly conduct prescribed burns to manage their properties. The fire chief also listed the Hummel Park and Canyon Road regions as a concern due to multiple structures, difficult access, rough terrain, and heavy fuels. He stated that Hummel Park is a hilly, heavily-timbered city park with deep ravines. The gravel-surfaced Canyon Rd. runs through a hilly, timbered area with deep ravines. Multiple upscale homes with narrow, steep driveways are located in timber off of the road. There is a city water supply along Canyon Road.

The Waterloo VFD identified King Lake as an area with high home density and only one way in/out. They also noted that Riverside Lakes at 228<sup>th</sup> and Dodge has an aged and limited-sized water supply. They said another risk near that location is the Junkstock Festival, which has a large population when occupied.

According to the Bennington Community Profile of the Papio-Missouri River NRD, the City of Bennington identified grass/wildfires as a significant threat for the city. The city removes dead and dying trees and brush around the city to reduce potential fuel loads. Responding to the VFD survey, the Bennington Fire Chief said, "Our district is rapidly expanding to a suburban/residential district with the growth coming from Omaha. We do have a few areas of slight concern with the wildland interface, but it's not a major concern for our department."

The Ponca Tribe of Nebraska, although it has no geographic reservation, has a service area for tribal members that includes Douglas County. The tribe has identified Grass/Wildfires as a priority hazard. Due to high percentages of young and elderly people, they stated that fires could impact the public health of the Tribe by causing respiration issues in these vulnerable populations.

Areas of Concern were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Douglas County's smaller population centers, the WUI edges of Omaha, 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 Douglas County include Bennington, Boys Town, Elkhorn/Omaha, Irvington, Millard/Omaha, Omaha, Ponca Hills, Ralston, Valley, and Waterloo. The county has a full-time emergency management director.

### *Water Sources*

Incorporated 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 rural parts of county. During drought conditions many ponds may not be reliable. The Ponca Hills VFD identified water sources as a primary concern.

The Omaha Fire Department has established WSTF areas within their territory that do not have Municipal Utilities District hydrants or have an insufficient private water system. The pre-identified WCAs require a WSTF response. The WCAs are further divided into the WSTF zones for water tender response. The WSTF zones and specific WCAs are described more fully under the at-risk WUI areas description on the previous page.

### *Utilities/Phone Service*

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

### *Roads and Bridges*

No local officials or fire departments reported any issues with roads or bridges. 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:

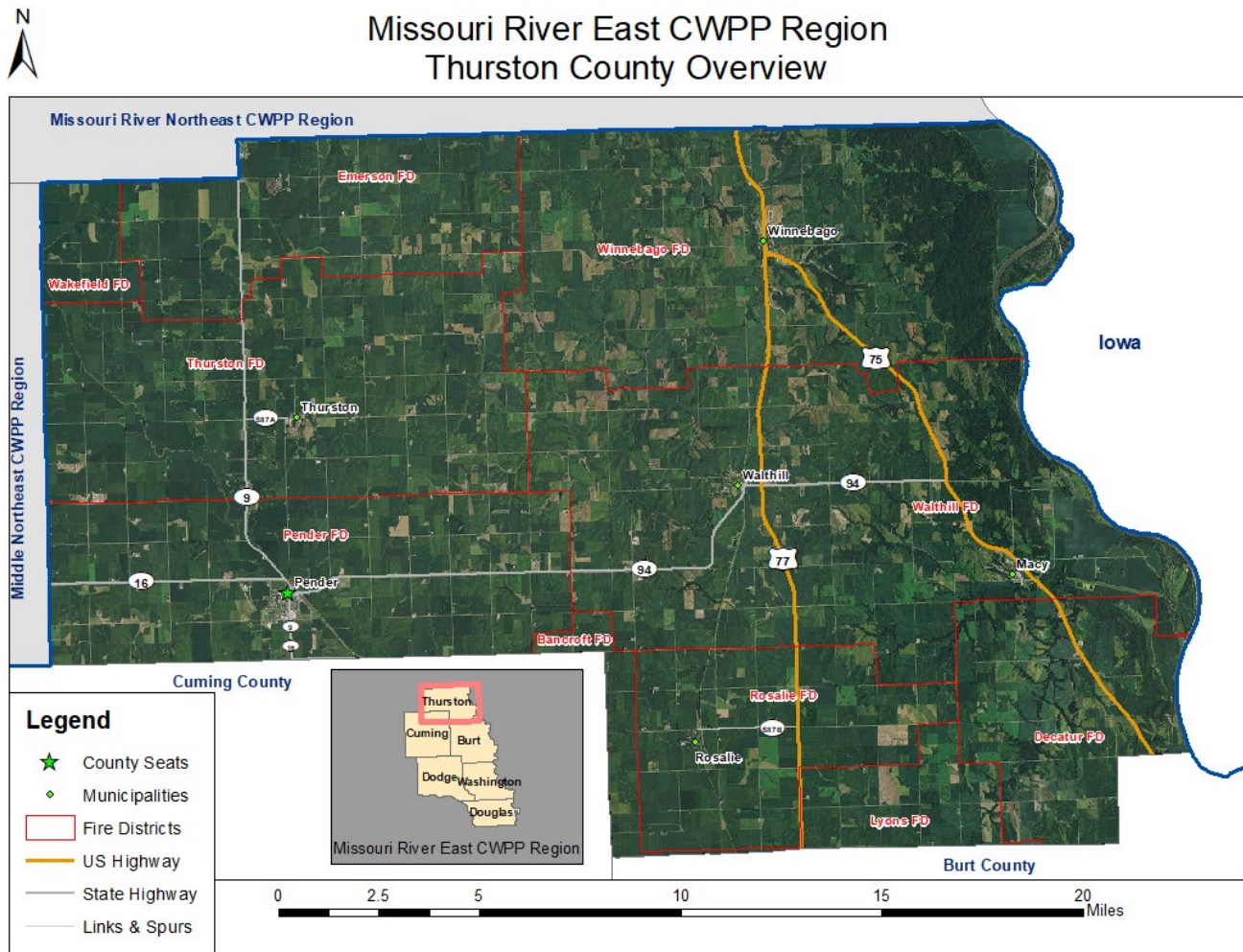
<b>Department</b>	<b>Greatest Concerns</b>
Bennington	None indicated
Boys Town	(Survey not returned)
Irvington	(Survey not returned)
Omaha	That it would spread to homes in the area
Ponca Hills	Spring and fall are the worst seasons for us. When the timber and grasses are dry. Many of the timber areas have heavy ground cover, decaying leaves, etc.
Ralston	(Survey not returned)
Valley	(Survey not returned)
Waterloo	High-traffic highways, limited supplies outside of village, spread-out lake communities.

# Missouri River East Community Wildfire Protection Plan

## THURSTON COUNTY

396 sq. miles

2020 population: 6,773



### Community Profile

Thurston County forms the north edge of the CWPP region. It is bounded on the south by Burt and Cuming Counties, on the west by Wayne County, on the north by Dakota and Dixon Counties, and on the east by Iowa. Incorporated municipalities include the county seat of Pender (pop. 915), Rosalie (pop. 159), Thurston (pop. 130), Walthill (pop. 778), and Winnebago (pop. 769). Macy (pop. 988) is listed as an unincorporated, census-designated community. The Omaha and Winnebago Tribal Reservations cover the entire county.

US Highway 77 runs north-south across the eastern part of the county, connecting Burt and Dakota Counties. US 75 enters from Burt county and runs north to join US 77 just south of Winnebago. State Highways 94 and 16 provide east-west access across the southern and central parts of the county, connecting Pender, Walthill, and US 75. State Highway 9 crosses the west side of the county, connecting Cuming County with Dixon County.

The Missouri River forms the county's eastern boundary. Major creeks include Blackbird, Cow, Logan Creek Dredge, Middle, and Omaha.

Most of Thurston County lies within the upland tallgrass prairie vegetation zone. Riparian deciduous forests and a few ribbons of lowland tallgrass prairie follow the Missouri River and Logan Creek Dredge. A wide strip of upland deciduous forest can be found above the Missouri River, with patches scattered elsewhere across the

county. Agriculture crop fields cover most of the rest of the county. Grazing lands occupy some of the rougher terrain.

The WUI areas most at-risk from wildfire are the lands surrounding municipalities and rural residential developments along drainages where there are heavy fuels and limited access. The Emerson VFD noted that areas with multiple structures, difficult access, rough terrain, one way in/out, and lack of water within effective distance are issues in their district.

According to the HMP's Winnebago Tribe Community Profile, the tribe has tribe classified Grass/Wildfires as a top concern. Wildfires within the reservation's 10,249 forested acres would threaten wildlife habitat and timber economic resources.

Specific Areas of Concern were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Thurston 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 Thurston County: Bancroft, Decatur, Emerson, Lyons, Pender, Thurston, Rosalie, Wakefield, Walthill, and Winnebago. The county has a full-time emergency management director.

#### *Water Sources*

The larger communities have municipal water systems. Farms and ranches are on wells. The Missouri River and the larger creeks 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. The Emerson fire chief named water sources as a top concern for his district.

#### *Utilities/Phone Service*

Electric service in Thurston County is provided by the Northeast PPD, Burt Co. PPD, Pender Electric Utility, Emerson Electric Utility, and the Walthill Electric Utility. Both cellular and landline telephone services are available in the county.

#### *Roads and Bridges*

The Emerson VFD reported that one bridge in their fire district has been closed for three years. No local officials or fire departments reported any issues with roads. 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:

<b>Department</b>	<b>Greatest Concerns</b>
Bancroft	(Survey not returned)
Decatur	(Survey not returned)
Emerson	What is in the path of the fire
Lyons	(Survey not returned)
Pender	(Survey not returned)
Thurston	(Survey not returned)
Rosalie	(Survey not returned)
Wakefield	(Survey not returned)
Walthill	(Survey not returned)
Winnebago	(Survey not returned)

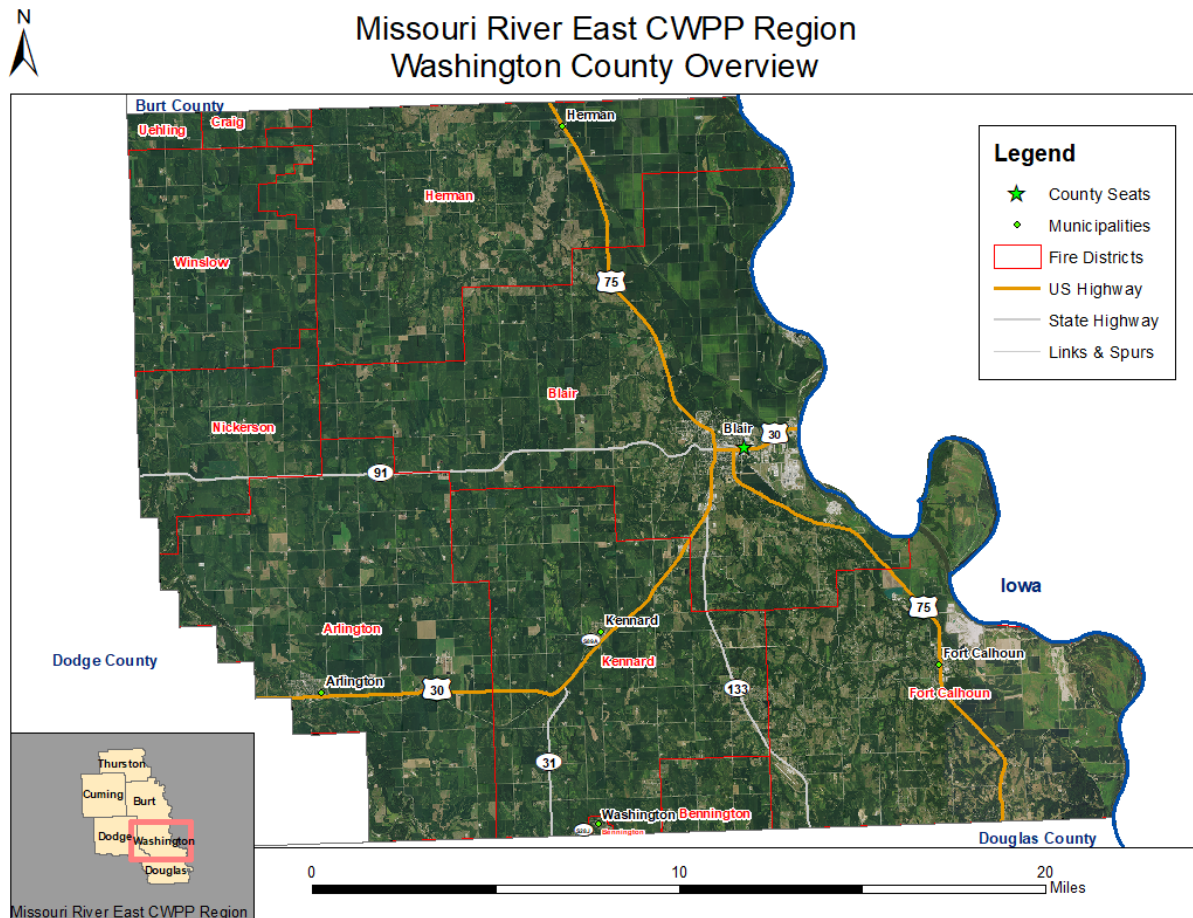


# Missouri River East Community Wildfire Protection Plan

## WASHINGTON COUNTY

393 sq. miles

2020 population: 20,865



### Community Profile

Washington County lies on the east side of the CWPP region. It is bounded on the south by Douglas County, on the west by Dodge County, on the north by Burt County, and on the east by Iowa. Incorporated municipalities include the county seat of Blair (pop. 7,972), Arlington (pop. 1,331), Fort Calhoun (pop. 994), Herman (pop. 273), Kennard (pop. 381), and Washington (pop. 85). There are no unincorporated communities in the county.

US Highway 75 runs the length of the county's east side. US Highway 30 enters from Dodge County west of Arlington, runs east and northeast through Blair, and exits into Iowa. State Highway 91 enters from Dodge County and runs east to Blair. State Highways 31 and 133 provide additional north-south access to the southern part of the county. No major highways exist in the northwest quadrant of the county.

Federal lands in Washington County include 8,253 acres in two national wildlife refuges managed by the USFWS, and 104 acres on the north end of the USACE's 1,544-acre Glenn Cunningham Lake. State lands include 149 acres managed by the NGPC at Fort Atkinson State Historical Park. There are approximately 1,017 acres of state school lands. The Papio-Missouri River NRD manages 218 acres at their California Bend wildlife management area. Pheasants Forever, a non-government conservation organization, manages one ten-acre tract. Other than municipal properties, the balance of the land in the county is privately owned.

The Missouri River forms the county's east boundary. The Elkhorn River forms the south half of the county's west boundary. Major creeks include Bell, Big Papillion, Cameron Ditch, and Rawhide. Most of the county's woodlands are located along the river and creeks.

The majority of the county lies within the upland tallgrass prairie vegetation zone, with strips of lowland tallgrass prairie and riparian deciduous forest along the rivers. A swath of upland deciduous forest is located west of the Missouri River in the eastern part of the county south of Blair. Scattered patches and strips of upland deciduous forest can be found along the Elkhorn River and Papillion Creek. Agriculture crop fields cover most of the county, with grazing lands occupying some of the rougher terrain.

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. The Nickerson fire chief identified the bluffs along Elkhorn River as having difficult terrain, heavy fuels and multiple structures. The Arlington fire chief noted that areas in their district with a lack of water within effective distance are a concern.

Areas of Concern were identified by steering committee members, fire chiefs, or in the statewide Priority Lands analysis are shown on a map in Appendix A. All of Washington 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 Washington County: Arlington, Bennington, Blair, Craig, Fort Calhoun, Herman, Kennard, Nickerson, Uehling, and Winslow. The county has a full-time emergency manager.

#### *Water Sources*

The cities and villages have municipal water systems. Farms and ranches are on wells. The Missouri and Elkhorn Rivers and the larger creeks 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. The Nickerson and Arlington VFDs identified water sources and/or hydrants as a primary concern. According to the county's emergency manager, the southeast part of the county is served by a fire hydrant system; while the rest of the unincorporated areas the county have sporadic or no hydrant system, resulting in a lack of water within effective distance for many areas.

#### *Utilities/Phone Service*

Electric service in Washington County is provided by the Omaha and Burt County PPDs. Both cellular and landline telephone services are available in the county. The emergency manager reports that overall cell service is good in the county.

#### *Roads and Bridges*

The Arlington VFD listed bridge limits in their district as a top concern. No local officials or fire departments reported any issues with roads. 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:

<b>Department</b>	<b>Greatest Concerns</b>
Arlington	None indicated
Bennington	None indicated
Blair	(Survey not returned)
Craig	(Survey not returned)
Fort Calhoun	(Survey not returned)
Herman	(Survey not returned)
Kennard	(Survey not returned)
Nickerson	Water sources
Uehling	(Survey not returned)
Winslow	(Survey not returned)

# Missouri River East Community Wildfire Protection Plan

## Action Plan

This section of the CWPP addresses risk assessment, fire risk rating, treatment of structural ignitability, prioritization, and risk reduction, and it recommends a plan of action for increasing emergency preparedness. The action plan 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.<sup>17</sup>

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.<sup>18</sup> The regional HMPs additionally define **vulnerability** as susceptibility to injury, death, or damages from a specific hazard, and **impact** as the consequences or effect of a hazard on a community. Conducting a risk assessment helps develop strategies to address areas of concern.

This 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 [Nebraska Wildfire Risk Explorer](#) website provides 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.<sup>19</sup>

#### *Wildfire-Related Concerns Identified in HMP 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 Papio-Missouri River NRD, Lower

Elkhorn NRD, and Lower Platte North NRD HMPs all identify their entire planning areas as being at 100% risk of wildfire.

In Douglas County, Grass/Wildfire was listed as a top concern by the City of Bennington due to the demand on local resources. The local HMP planning team indicated the city removes dead and dying trees and brush around the city to reduce potential fuel loads. Although the City of Omaha did not name wildfire as a main concern, respondents to the HMP outreach did include it as a top concern, and 94 of them reported using fire-resistant building materials as a mitigation measure. The local respondents noted that their priorities for identifying hazard mitigation actions were protecting people, critical facilities, natural environments, historical/cultural resources, private property, and community assets; improving emergency response capabilities and community notification and weather alert systems; and preventing development in hazardous areas.

In Thurston County, the HMP's Winnebago Tribe Community Profile lists Grass/Wildfire as a concern due to potential loss of property and wildlife habitat; alteration of water cycles and soil fertility; and endangering the lives and livelihoods of those residing near and/or in the Village of Winnebago and surrounding rural areas. The Ponca Tribe of Nebraska, although it has no geographic reservation, has a service area for tribal members that includes Burt County. The Tribe named Grass/Wildfire as a concern due to impact of public health. Their mitigation strategy calls for development of a 'Wildfire Protection Plan' to help the tribe plan how it will reduce wildfire risk. In Dodge County, the Village of Nickerson identified Grass/Wildfire as a priority hazard because it is in a dense agricultural area that could be subject to large wildfires and relies on volunteers for initial fire suppression.

Section 4 of each HMP, Risk Assessment, thoroughly covers risk history, macro trends including changes in climate (temperature, precipitation, drought frequency), and regional vulnerabilities. This section contains a good set of WUI wildfire risk maps and tables. The HMPs' individual county and community appendices drill down to summarize local resources and capacity, prioritization, and identify mitigation actions at the jurisdictional levels.

#### *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. With the exception of the Omaha metropolitan area, 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 graphic on the following page 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.<sup>20</sup>

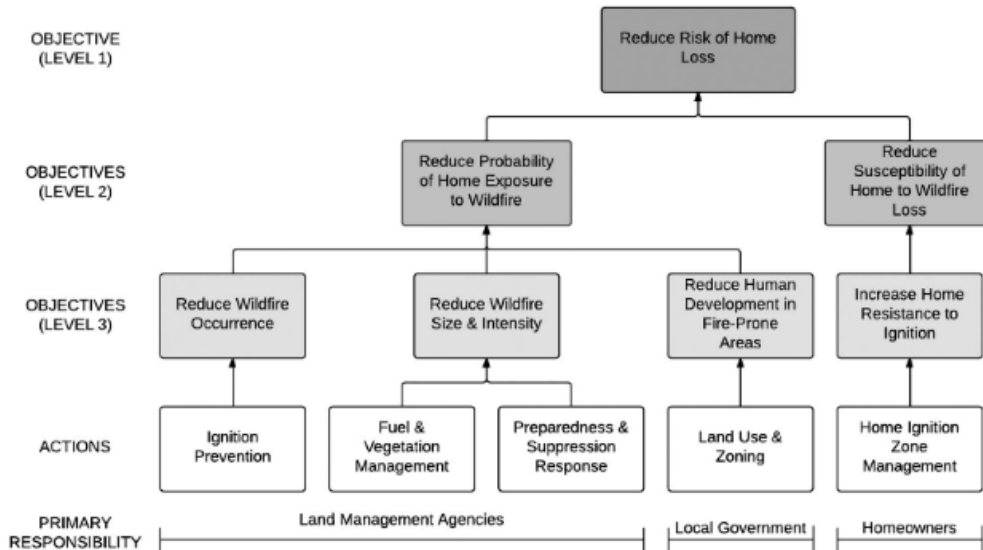
#### *Prioritization*

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.

# Missouri River East Community Wildfire Protection Plan



Conceptual model highlighting the major fundamental objectives (level 1), means-based objectives (levels 2 and 3), and actions for reducing the risk of home loss as a result of wildfire.



David E. Calkin et al. PNAS 2014;111:2:746-751

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Appendix A contains an ‘Areas of Concern’ map depicting the parts of each county considered to be at the highest risk from wildfire. The locations were identified by local fire officials and the steering committee/ 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.<sup>21</sup> 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<sup>22</sup> 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 these standards independently. NFS staff is available to help homeowners in areas at-risk from wildfire to establish formal Firewise® Communities.



## Missouri River East Community Wildfire Protection Plan

Homeowners can also individually 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 on 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.

### *Reducing Risk for First Responders*

An important part of risk mitigation is reducing the risk to the humans who respond to wildfire. Some of the fire-prone areas shown on the Areas of Concern map in Appendix A are located away from the WUI, where there are few or no structures or other human development. Access into some of these areas can be difficult or even dangerous for responders. Fire in many of these sites can be beneficial in terms of reducing vegetation/fuels density, improving range and wildlife habitat, and curbing the spread of invasive or aggressive native plant species. Where human life and property will not be immediately threatened by a wildfire, it makes sense to prioritize such areas in terms of 'contain' vs. 'immediately control.'



For example, this type of pre-planning might be applied to wildfires in wetlands where there is risk that responding firefighters could get stuck. Bringing fire equipment into these areas may constitute an unnecessary risk. If no structures are threatened, containing the fire at easier-to-access locations such as roads or mowed fuelbreaks would help fire departments respond more effectively to wildfires in these locations, while still protecting structures and other human developments. Departments could pre-identify 'contain only' or 'modified contain' sites in their districts.

#### *Reducing Risk for WUI Residents*

In suburban and rural residential developments in WUI areas where there are homeowners and property owners associations, an opportunity exists to reach their memberships with wildfire protection information and assistance. Steering Committee members suggested the following activities property owners can conduct either independently or as a group:

- Provide neighborhood wildfire information, such as fire danger signs and fire weather warnings, emergency communications frequencies, and wildfire evacuation routes
- Provide information about fire-savvy vegetation management, such as Firewise® landscaping practices and vegetative fuels management cost-share programs for property owners
- Provide information about structural mitigation practices homeowners can employ to make their homes more resilient to wildfire
- Look into becoming an official Firewise® Community

Associations and individuals can contact the NFS for assistance in pursuing these suggestions.

## **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 may 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.

## Missouri River East Community Wildfire Protection Plan

- 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 about 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: Machinery (other than 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 municipalities 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.

#### *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](http://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](mailto: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.

Zoning ordinances 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 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.

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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.<sup>23</sup> 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.<sup>24</sup>

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 ¼ 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.<sup>23</sup>

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.<sup>23</sup> 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.<sup>24</sup>

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.<sup>23</sup> 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 cost.

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. These programs are described in the training overview earlier in this document. Departments that do not currently participate can be encouraged to do so.

Although not all VFDs have mandatory fitness requirements, departments can be encouraged to establish and implement them, 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 distributing 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 UNL’s Institute of Agriculture and Natural Resources have specialists available to help landowners develop grazing systems that will address these concerns.

### *Prescribed Fire*

Some public 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 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 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 ERC-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, using methods to mitigate erosion and protect wildlife habitat, will decrease tree density to healthy levels and reduce ERC encroachment in deciduous forests while reducing wildfire hazard. See Appendix J for Firewise® landscaping ideas compatible with plantings that ease home heating and cooling costs.

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 burning during appropriate winter conditions or during green up periods (i.e. June) where risk of escape is reduced or chipping on-site are acceptable means to mitigate this threat. Chips can

## Missouri River East Community Wildfire Protection Plan

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.

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### *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 that appendix in its entirety when developing specific mitigation activities. 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 Missouri River East CWPP 2022-2027				
Task(s)	Who	When	Benchmark(s)	Opportunities/Limits
<b>Risk Assessment, Prioritization, and Analysis</b>				
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.
<b>Risk Reduction/Mitigation</b>				
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
<b>Assess and Enhance Local Response Capacity, Effectiveness, and Safety</b>				
Review regional HMPs, VFD info, and county data	Local officials, VFDs	2023-2024	Checklist/report	Opportunity to identify gaps and needs
Increase fire response reporting	Fire chiefs	Ongoing	# of departments reporting	Opportunity for VFDs to acquire additional equipment
Increase/update fire equipment	VFDs, NFS	Ongoing	# of departments assisted, # of pieces/types of fire equipment obtained	VFDs can utilize NFS FEPP & FFP programs
Increase participation in firefighter training	VFDs, agencies	Ongoing	# of departments and firefighters receiving training; # 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	2023-2024	# documents created, # of VFDs using them	Increases firefighter safety by enabling quick property assessments during wildfires
<b>Increase Communications Effectiveness</b>				
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 notification and involvement process for assessment and assistance on fires	Local and state officials	Ongoing	Checklist/report	Opportunity to expedite response

## Missouri River East Community Wildfire Protection Plan

Task(s)	Who	When	Benchmark(s)	Opportunities/Limits
<b>Increase Aerial Support Effectiveness</b>				
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
<b>Increase Data Availability</b>				
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	2023-2024	# 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
<b>Increase Coordination Among Partners</b>				
Develop & adopt regional WUI standards	Local officials, VFDs; NFS can assist with WUI info	2024-2027	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	2024-2027	Creation of document, # distributed	Having a guide in each engine enhances access to resources
Establish a region-wide public awareness program	Agencies, VFDs	2023-2026	# 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
<b>Increase Public Awareness</b>				
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

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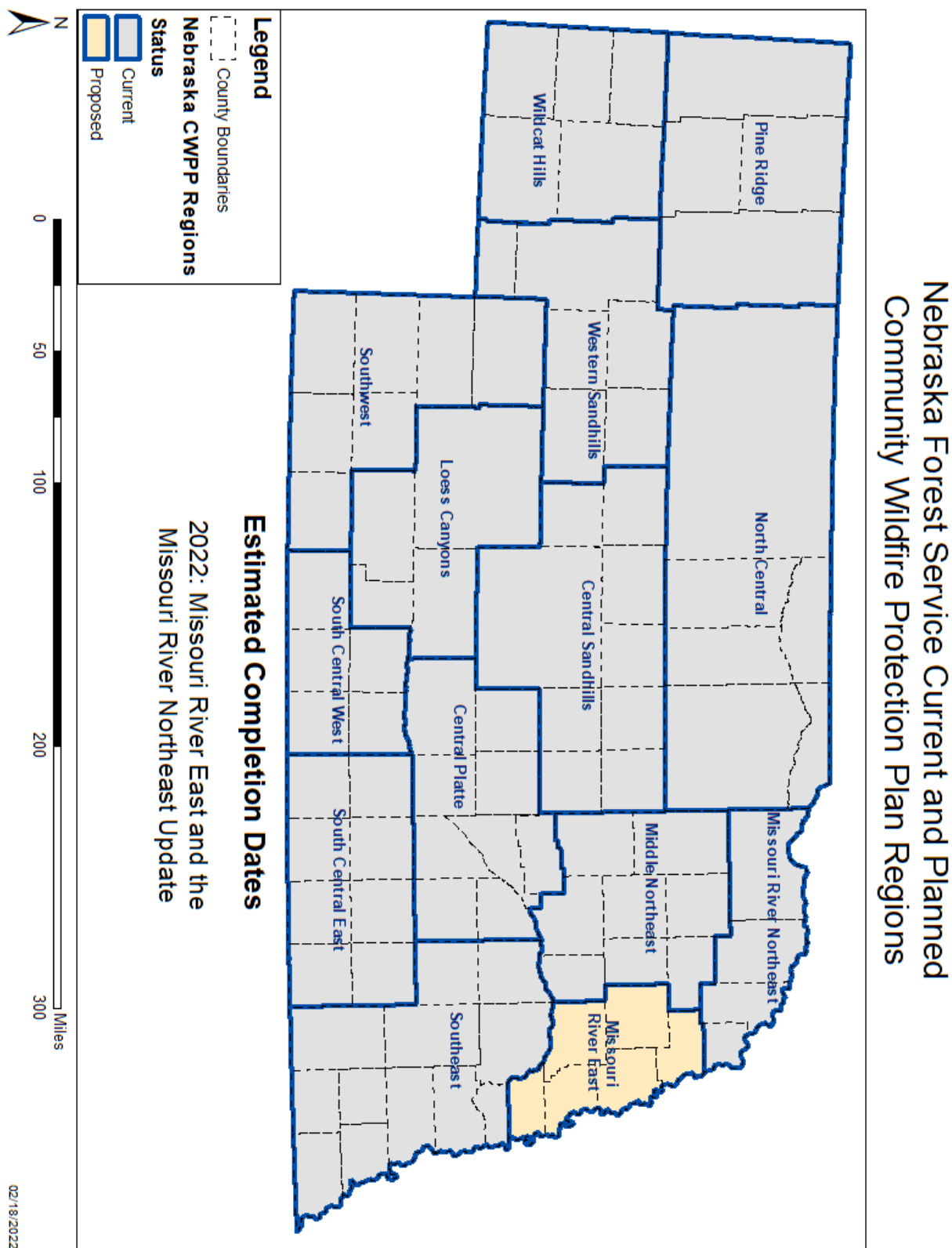
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## Appendix A

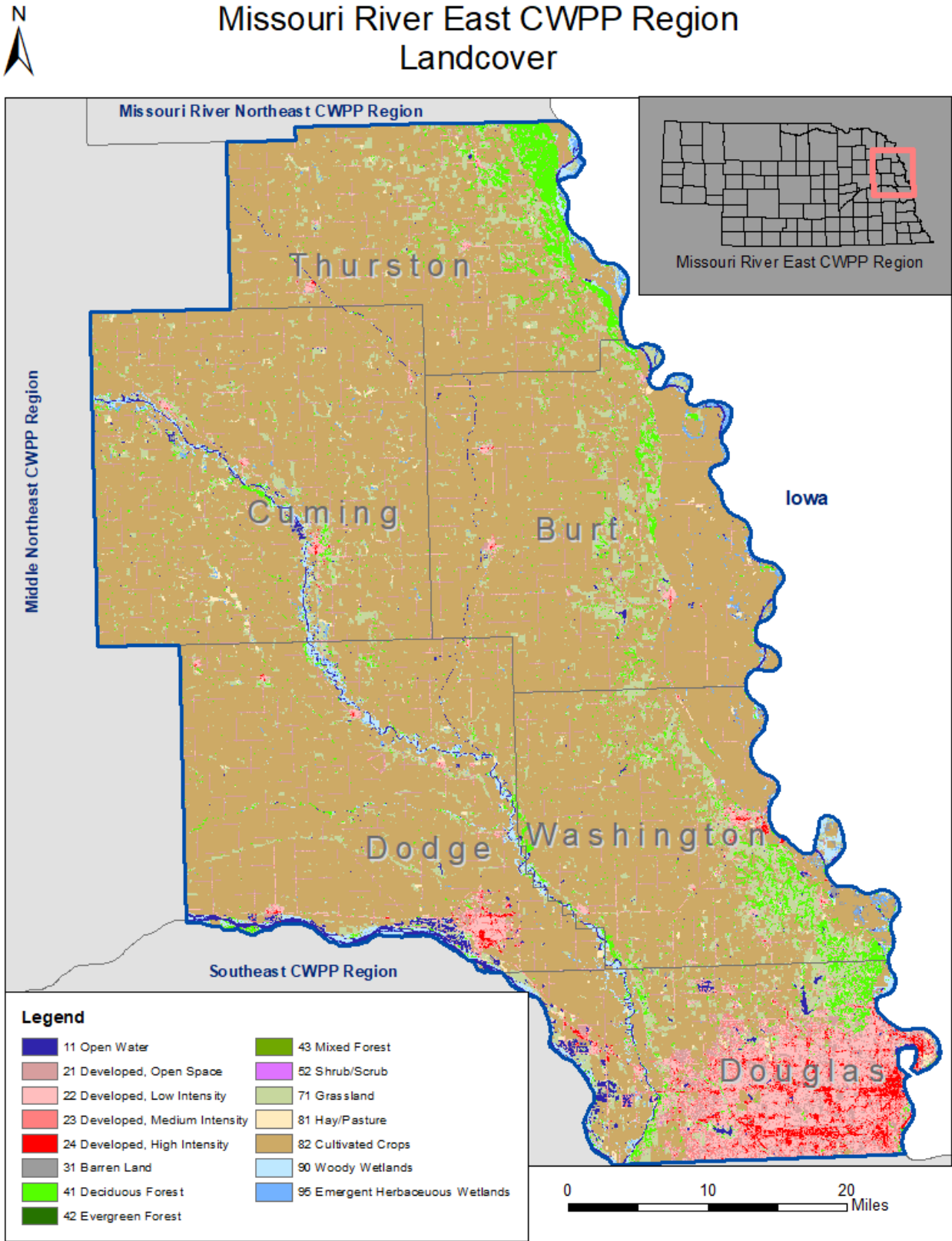
### Maps

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

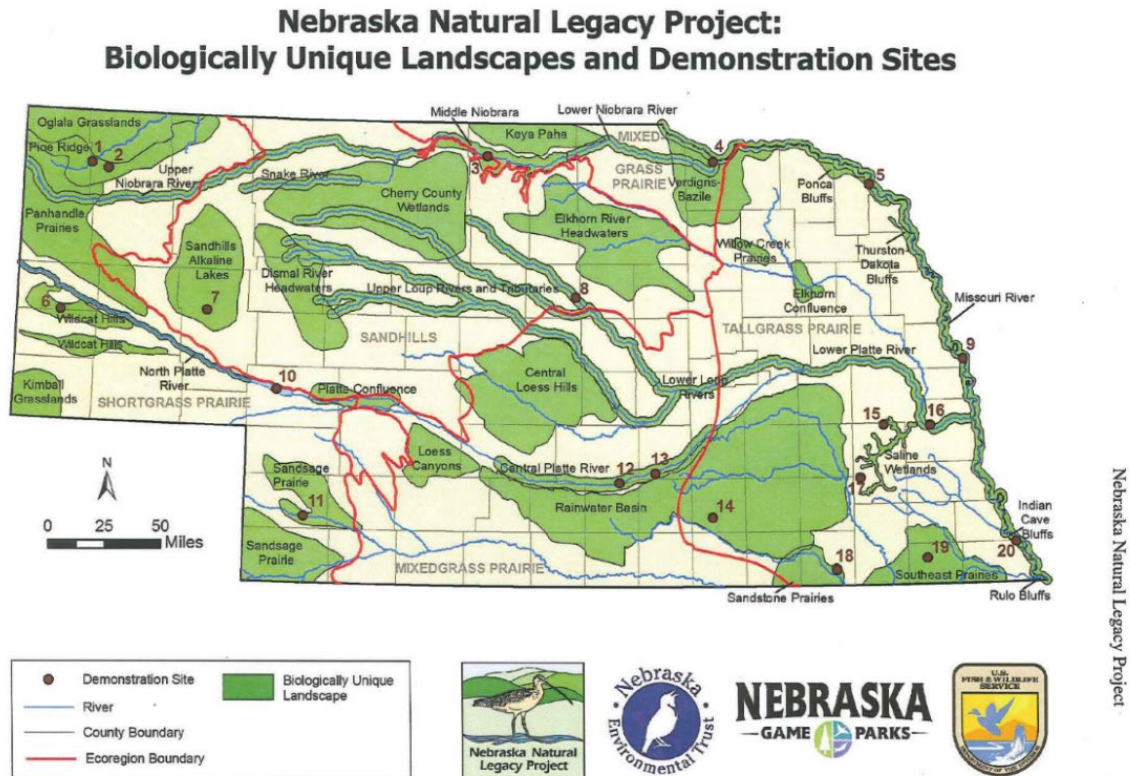
Map 1: Nebraska Community Wildfire Protection Plan Regions



Map 2: Missouri River East CWPP Region Land Cover



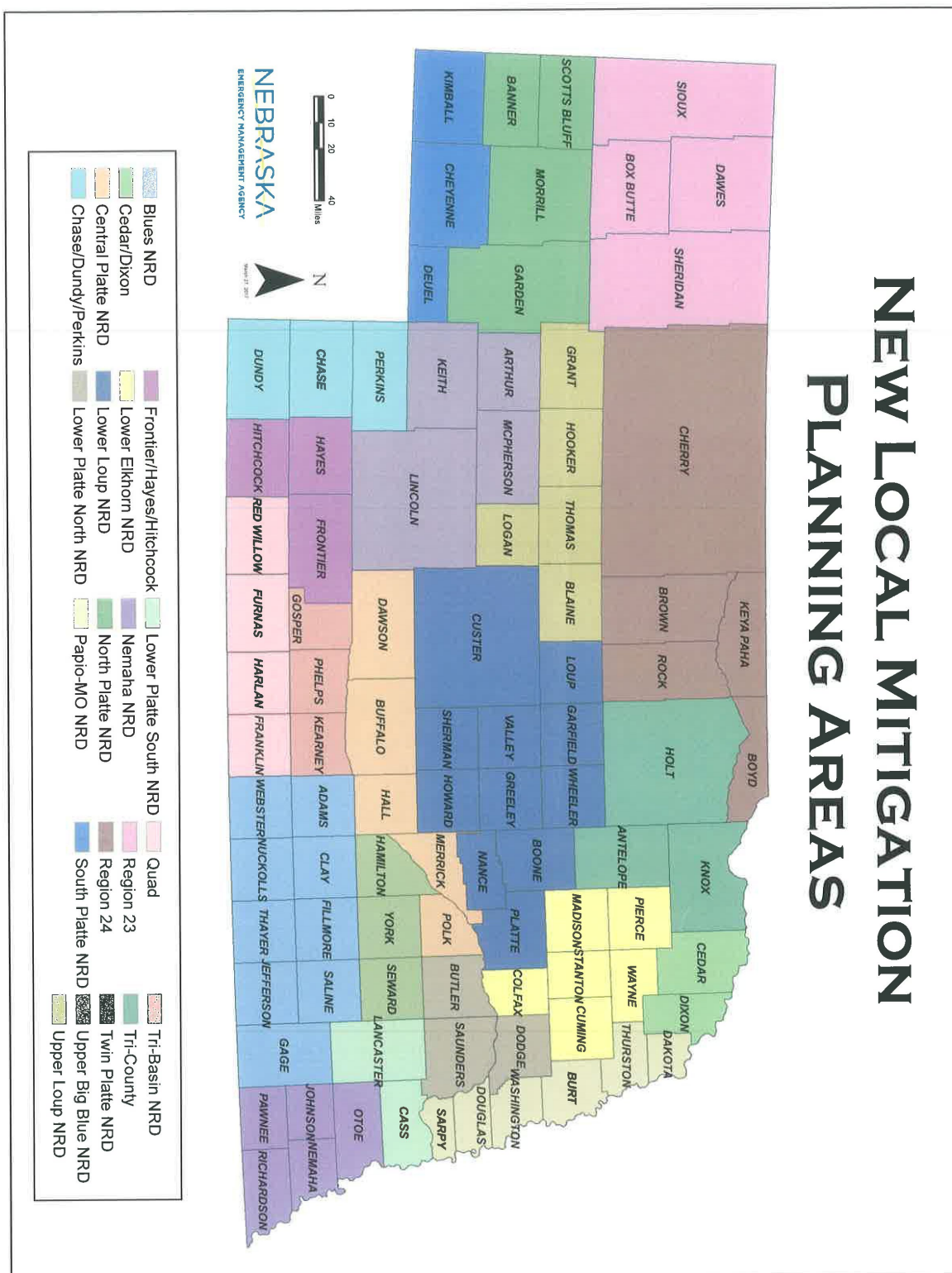
## Map 3: Nebraska Natural Legacy Project: Biologically Unique Landscapes



The full document is available at:

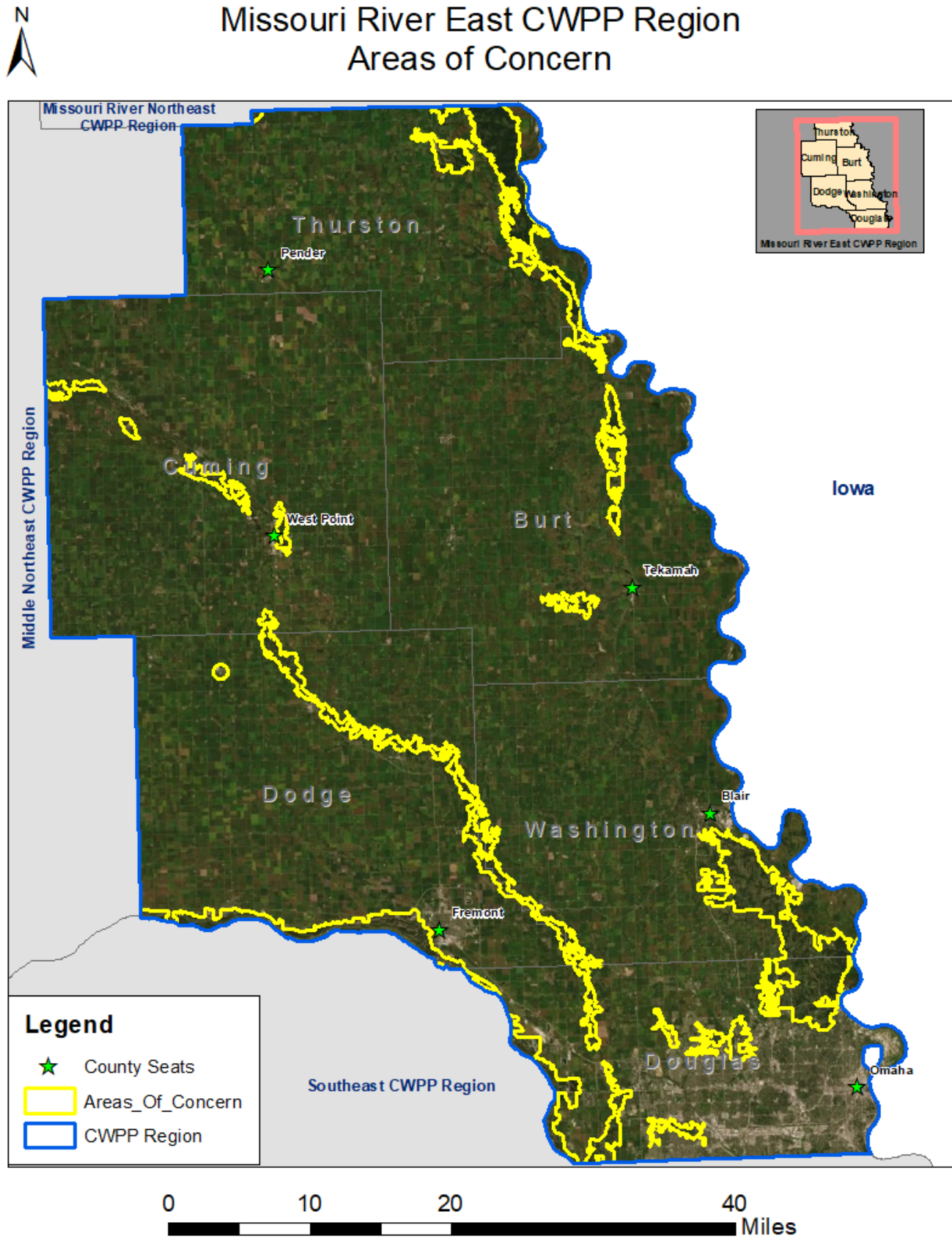
<http://outdoornebraska.gov/wp-content/uploads/2015/09/NebraskaNaturalLegacyProject2ndEdition.pdf>

## Map 4: Nebraska Local Mitigation Planning Areas





Map 5: Missouri River East 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

## Missouri River East Community Wildfire Protection Plan

*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. Papio-Missouri River NRD Hazard Mitigation Plan

<https://papiomitigation.org/>

2. Lower Platte North NRD Hazard Mitigation Plan

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

3. Lower Elkhorn NRD Hazard Mitigation Plan

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

4. Nebraska Forest Action Plan

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

5. Nebraska Natural Legacy Project

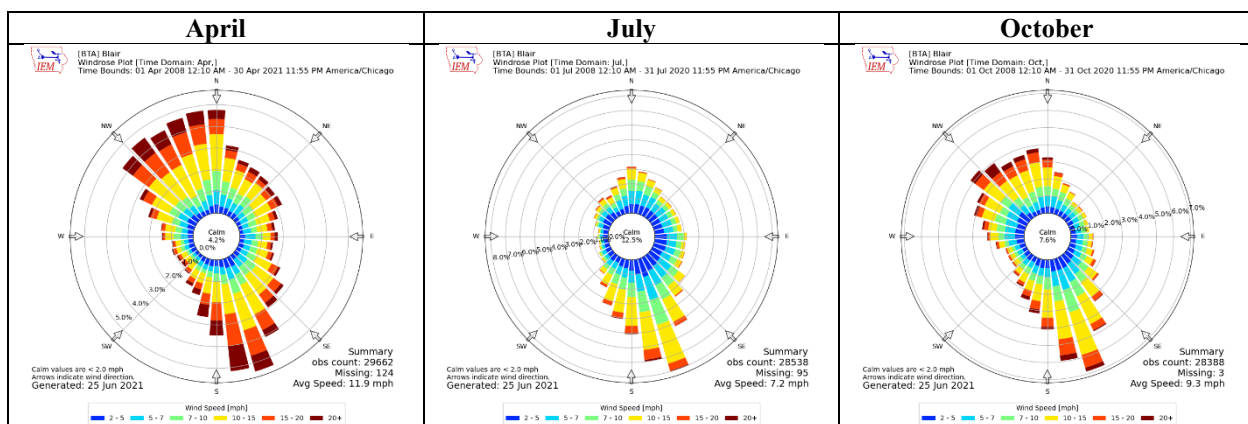
<http://outdoornebraska.gov/http://outdoornebraska.gov/wp-content/uploads/2015/09/NebraskaNaturalLegacyProject2ndEdition.pdf>

## Appendix D

### Wind Roses For Selected Cities in or near the Missouri River East CWPP Region

- a. Blair
- b. Fremont
- c. Millard
- d. Omaha
- e. Tekamah
- f. Wayne
- g. West Point

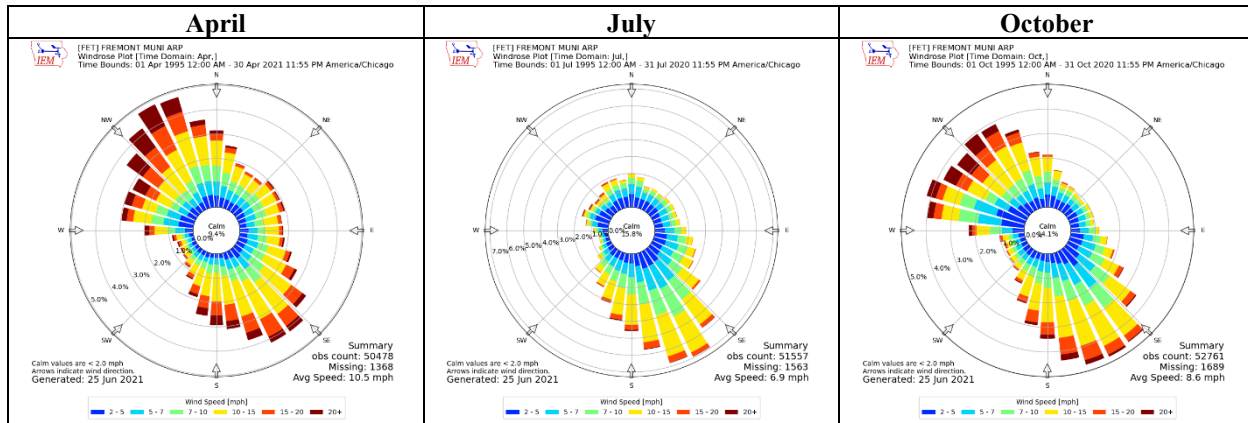
#### Blair, Nebraska Wind Direction and Speed 2008-2021





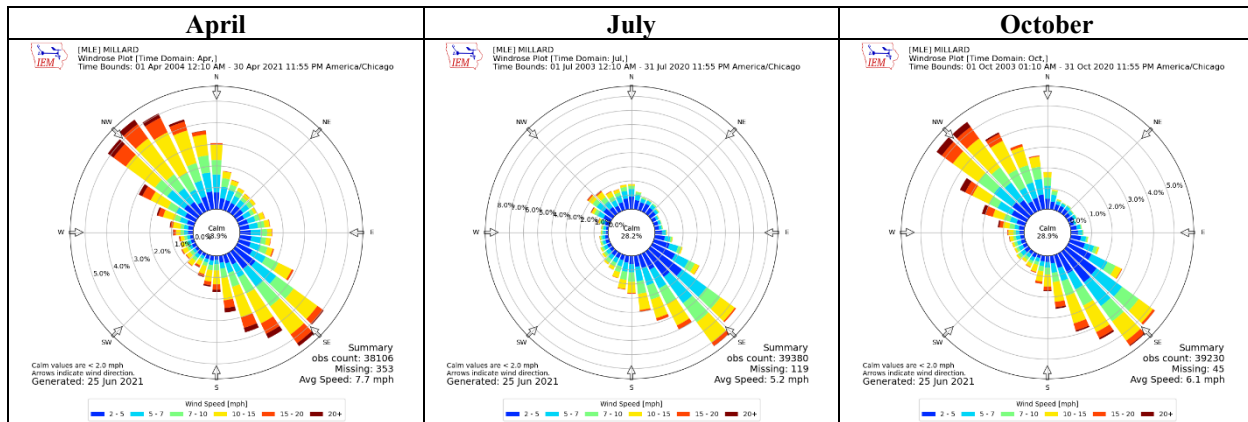
## Fremont, Nebraska

### Wind Direction and Speed 1995-2021



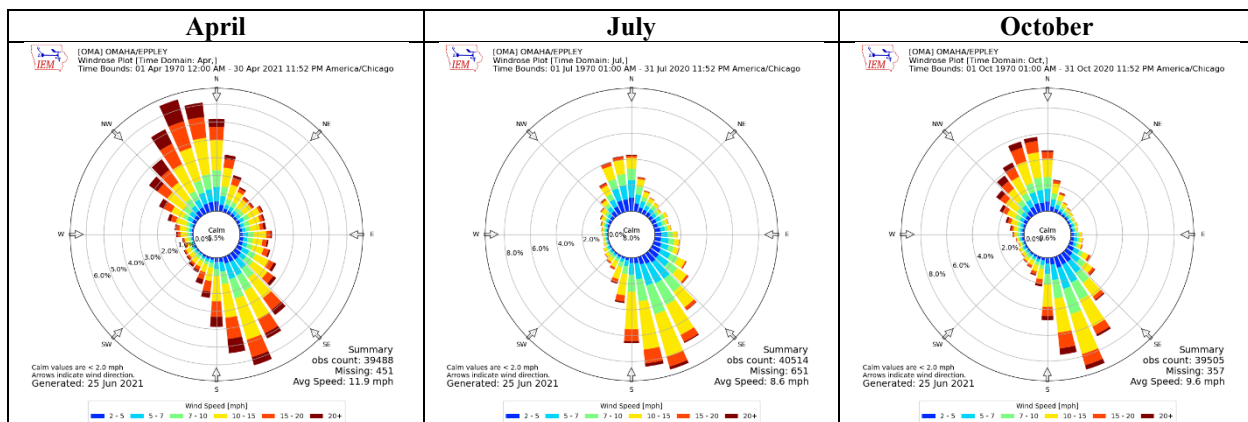
## Millard, Nebraska

### Wind Direction and Speed 2004-2021



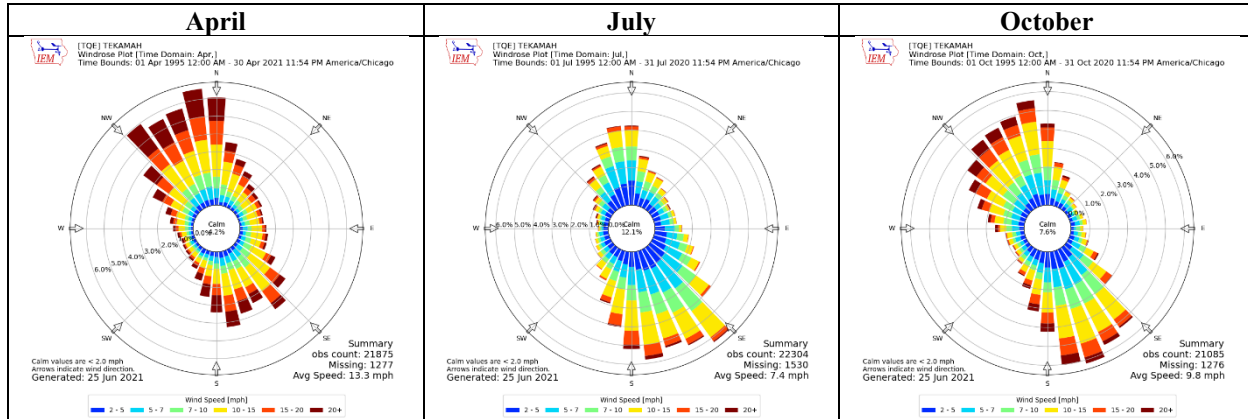
## Omaha, Nebraska

### Wind Direction and Speed 1970-2021

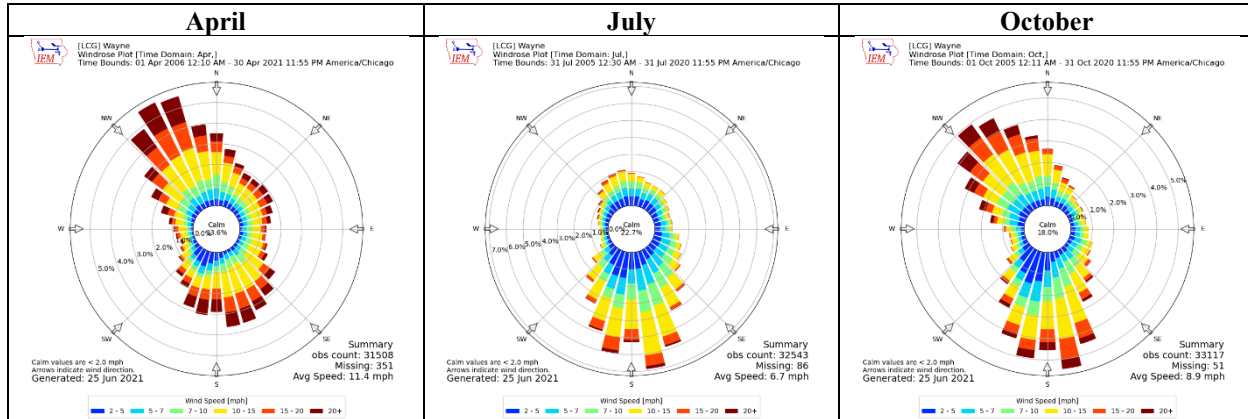


# Missouri River East Community Wildfire Protection Plan

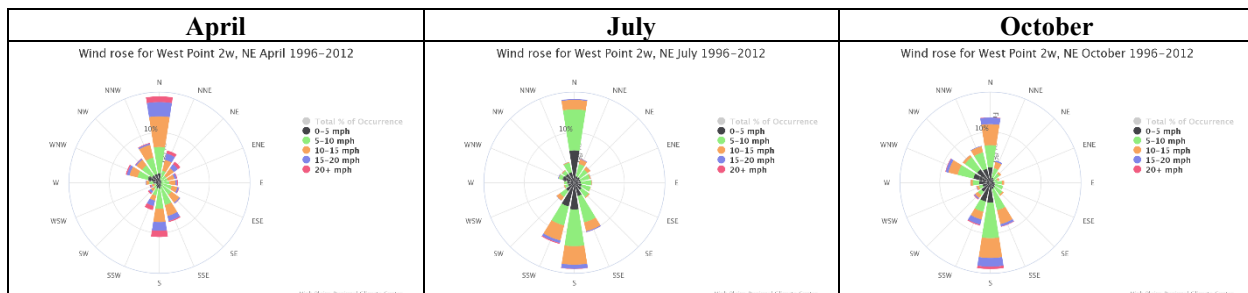
## Tekamah, Nebraska Wind Direction and Speed 1995-2021



## Wayne, Nebraska Wind Direction and Speed 2005-2021



## West Point, Nebraska Wind Direction and Speed 1996-2012



## Appendix E

### Fuel Models for the Missouri River East CWPP Region

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

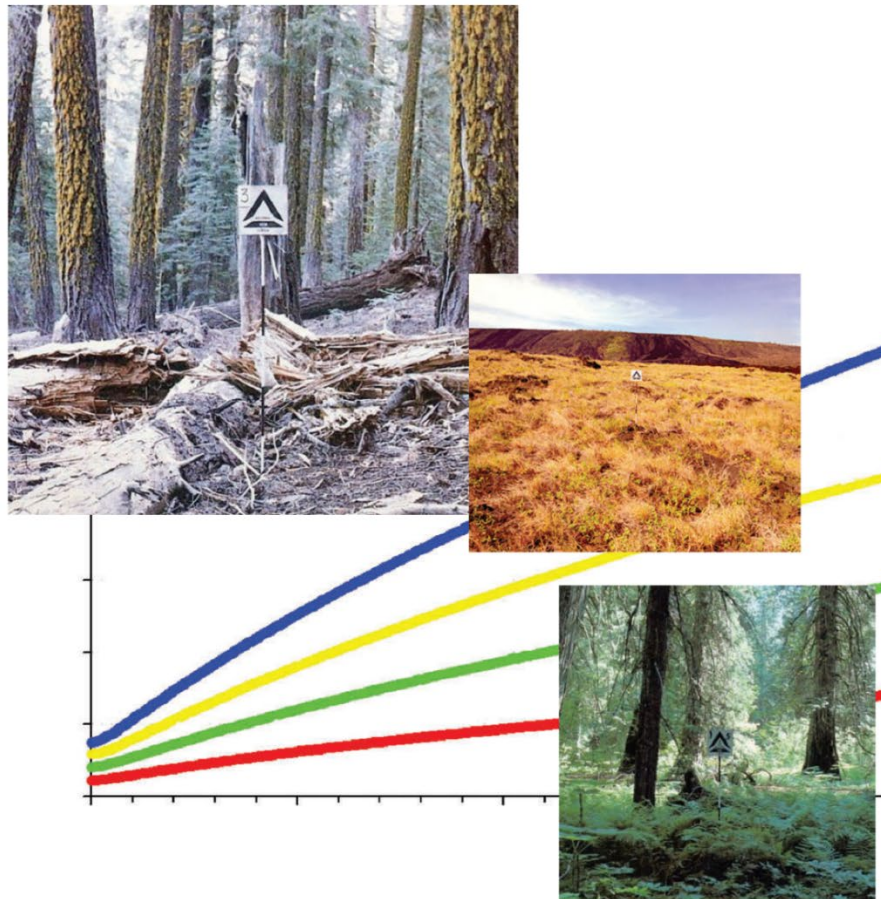
<https://nfs.unl.edu/documents/CWPP/MRECWPP.pdf>

**USDA** United States  
Department  
of Agriculture  
  
Forest Service  
  
**Rocky Mountain  
Research Station**  
  
General Technical  
Report RMRS-GTR-153  
  
June 2005



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

Joe H. Scott  
Robert E. Burgan

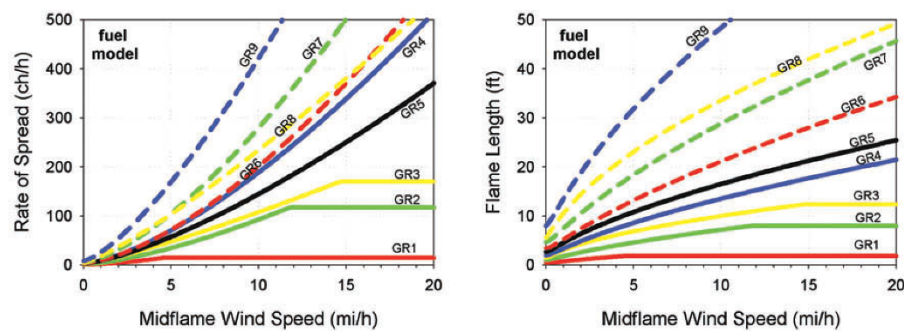


# Missouri River East Community Wildfire Protection Plan

## Grass Fuel Type Models (GR)

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

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



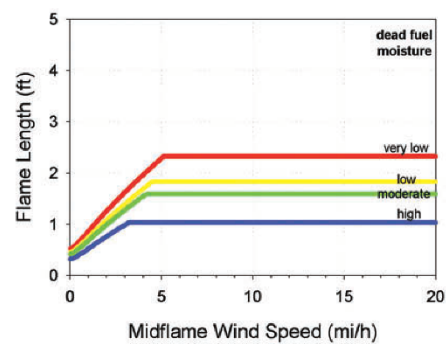
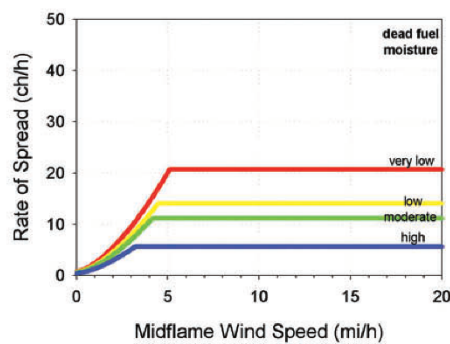
## GR1 (101)

### 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

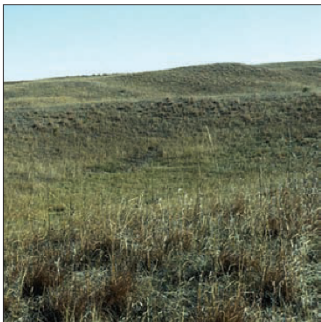




Missouri River East Community Wildfire Protection Plan

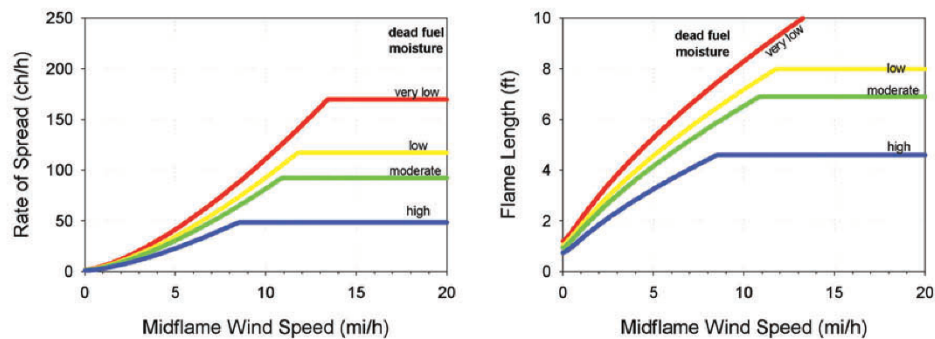
GR2 (102)

Low Load, Dry Climate Grass (Dynamic)



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

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



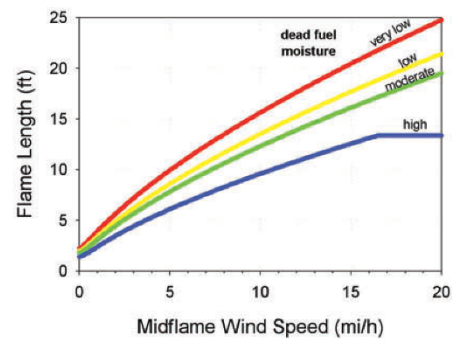
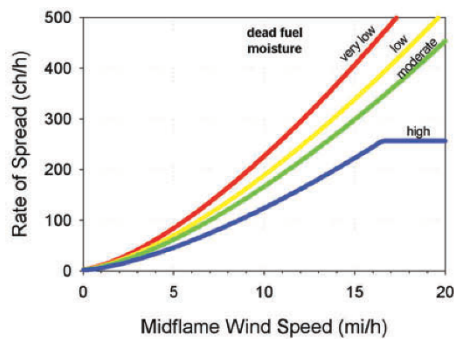
## GR4 (104)

### 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





Missouri River East Community Wildfire Protection Plan

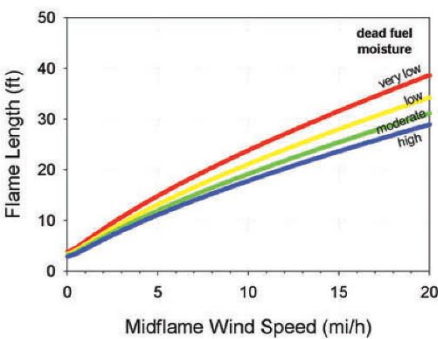
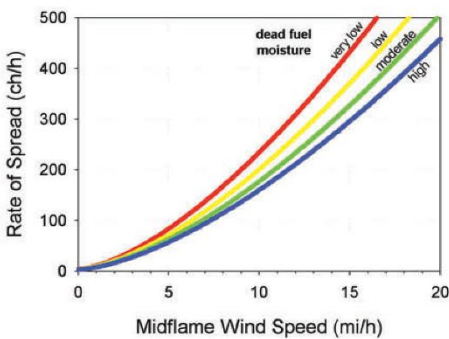
GR6 (106)

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



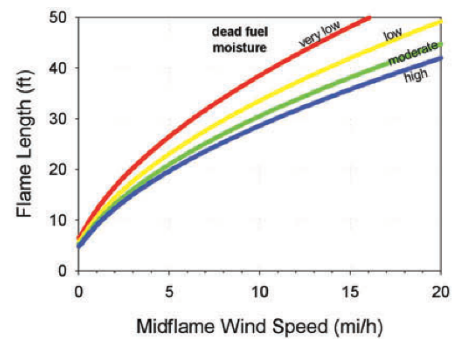
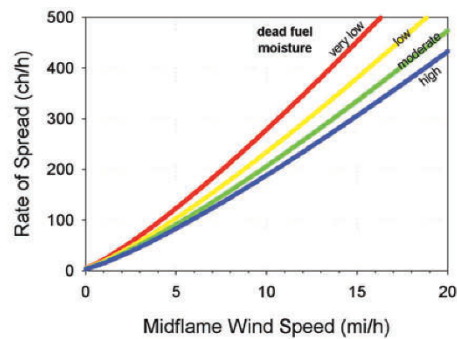
## GR8 (108)

### *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

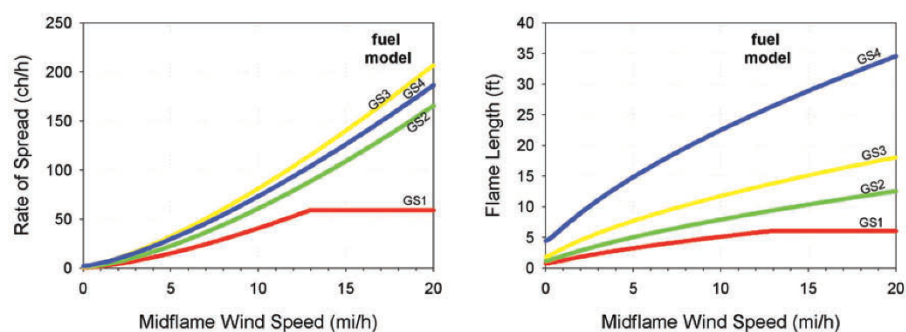


# Missouri River East Community Wildfire Protection Plan

## 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.



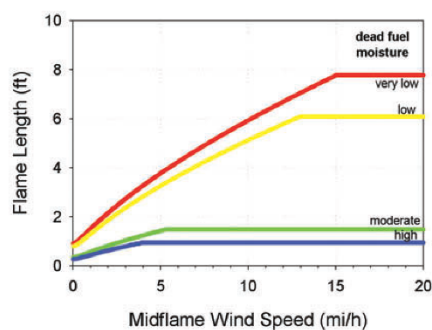
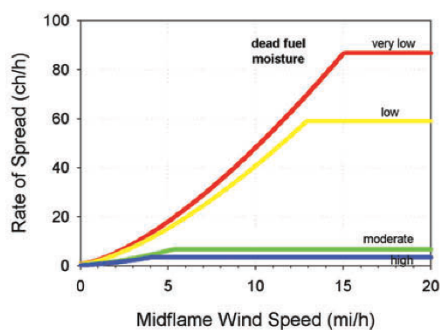
## GS1 (121)

### Low Load, Dry Climate Grass-Shrub (Dynamic)



**Description:** The primary carrier of fire in GS1 is grass and shrubs combined. Shrubs are about 1 foot high, grass load is low. Spread rate is moderate; flame length low. Moisture of extinction is low.

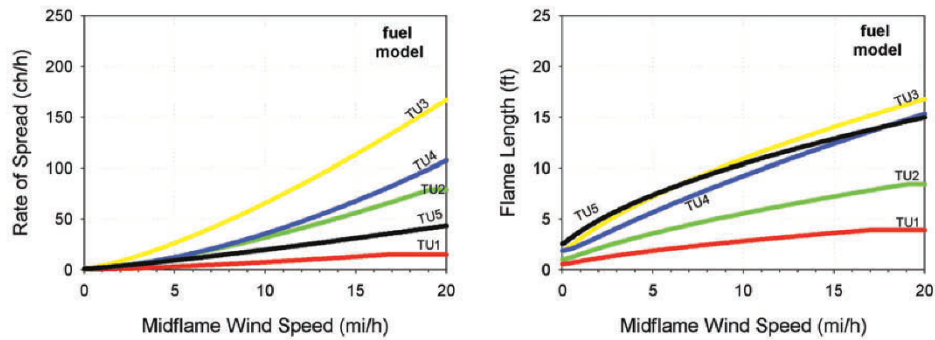
Fine fuel load (t/ac)	1.35
Characteristic SAV (ft-1)	1832
Packing ratio (dimensionless)	0.00215
Extinction moisture content (percent)	15



# Missouri River East Community Wildfire Protection Plan

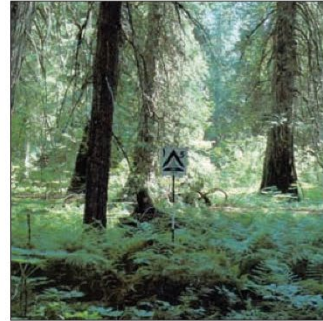
## Timber-Understory Fuel Type Models (TU)

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



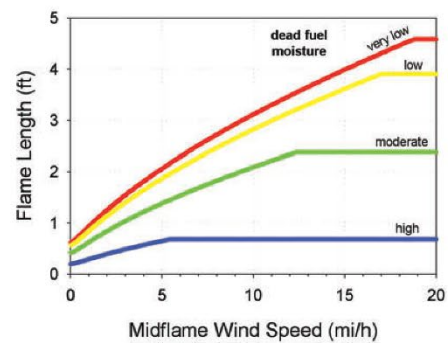
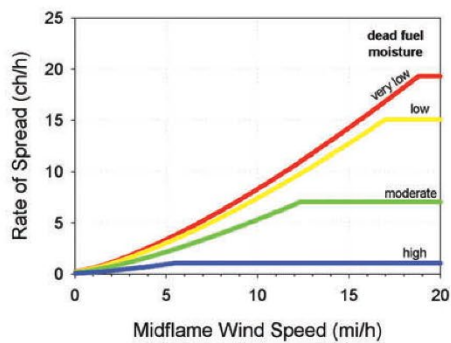
## TU1 (161)

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



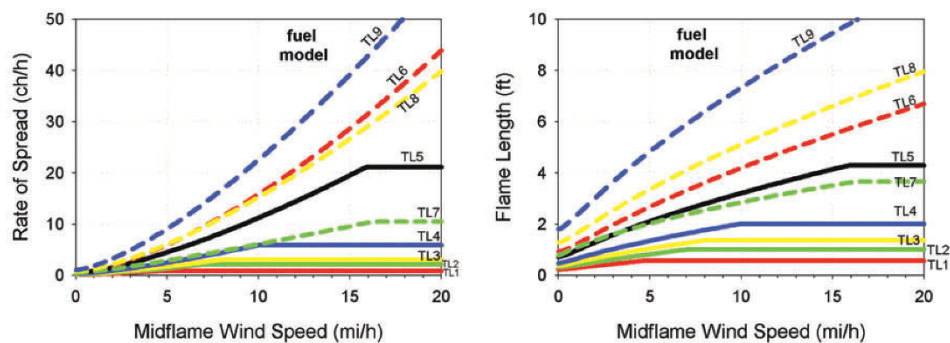
**Description:** The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

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



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.





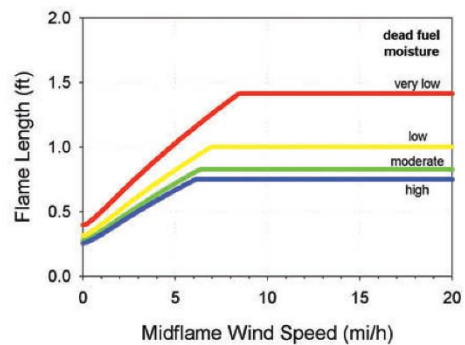
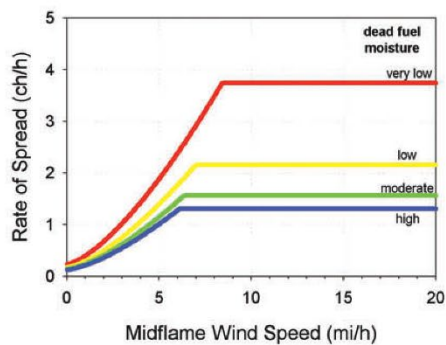
## TL2 (182)

### 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



Missouri River East Community Wildfire Protection Plan

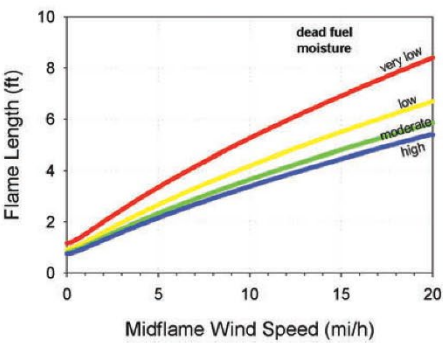
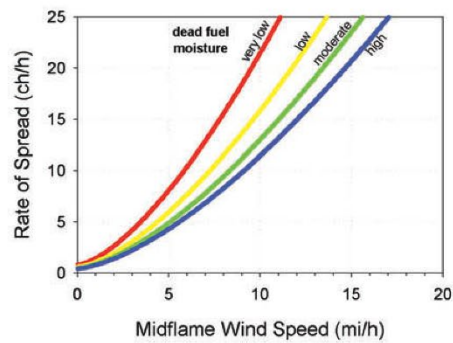
TL6 (186)

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



## Appendix F

### Nebraska Mutual Aid Associations

# Missouri River East Community Wildfire Protection Plan

## Nebraska Mutual Aid Associations

Updated 1/19/2022

### **3 & 33 MA**

Adams Fire, Adams Rescue, Alexandria, Ambulance Dist. 33, Barneston, Beatrice, Beatrice RFD, Blue Springs, Clatonia Fire, Clatonia Rescue, Cortland, Dewitt, Daykin, Diller, Fairbury RFD, Filley, Hallam, Homestead Nat. Mon., Jansen, Odell, Pickrell, Plymouth, Public Health Solutions, Steele City, Swanton, Western, Wilbur, Wymore Fire & Rescue, Wymore Rural Fire, Wymore EMS, Gage Co. EMA, Saline Co. EMA, Jefferson Co. EMA, Beatrice Community Hospital, Jefferson Community Health & Life

### **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, Ohioa, Shickley, Sutton

**Frenchman Valley MA**

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

**Hamilton County MA**

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

**Hastings Area MA**

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

**KBR&C MA**

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

**Lancaster County MA**

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

**Loup Platte MA**

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

**Loup Platte #2 MA**

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

**Loup Valley MA**

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

**Mid-Nebraska MA**

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

**Mid Plains MA**

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

**Nemaha County MA**

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

**Northeast MA**

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

**Northeast Fireman's Association**

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

**Otoe County MA**

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

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

**Pine Ridge MA**

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

**Platte Valley MA (was GI Area MA)**

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

**Quad Cities MA (includes former Franklin Co. MA)**

# Missouri River East Community Wildfire Protection Plan

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 Missouri River East CWPP Region

*This section includes Annex F from county Local Emergency Operations Plans plus additional information from the departments that responded to the CWPP questionnaire*  
*Due to its length, the full Appendix G appears only in the online version of this document, which may be accessed at:*

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



# Missouri River East Community Wildfire Protection Plan

## Burt County

Information from Burt Co. LEOP, Annex F:

BURT COUNTY LEOP

ANNEX F

### FIRE SERVICES

CRAIG FIRE DEPARTMENT

DECATUR FIRE DEPARTMENT

LYONS FIRE DEPARTMENT

OAKLAND FIRE DEPARTMENT

TEKAMAH FIRE DEPARTMENT

BURT COUNTY  
MUTUAL  
AID  
ASSOCIATION

CUMING COUNTY  
MUTUAL  
AID  
ASSOCIATION

DODGE 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

F-1

2014

### BURT COUNTY FIRE RESOURCES (List numbers of equipment)

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/TANKER	GRASS-MEED TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDS/TYPES/SPECIAL TEAMS	KINDS/TYPES/SPECIAL EQUIPMENT	RADIO-LOGICAL EQUIPMENT Yes / No
Craig VFD	402-377-2843	0	1	2	0	2	0	1	0	Jaws, Air bags, Thermal Imaging Camera	YES
Decatur VFD	402-349-5168	0	3	1	0	4	1	2	River Rescue Team	Rescue Boat	NO
Lyons VFD	402-687-2901	0	0	1	2	2	1	2	3 members HazMat Operation Level 1 member Ice Rescue	Portable Air Compressor, 2 Sets Jaws of Life @ Ventilation Fans, Portable Generator	YES
Oakland VFD	402-685-5480	0	2	2	0	1	1	2			
Tekamah VFD	402-374-2900	0	2	2	1	2	0	2	1 member HazMat Operation Level	2 sets Jaws of Life, generator, 20hp water pump motor, Thermal Imaging Camera, 5 Vent Fans, 2 Vent Saws	YES
Nearest HAZMAT Response Team	Norfolk or Omaha/ Bellevue										

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2014

BURT COUNTY LEOP

ANNEX F  
ATTACHMENT 1

### **Survey Responses from Burt County Fire Departments**

Volunteer fire districts all or partly within Burt County include Bancroft, Craig, Decatur, Lyons, Oakland, Tekamah, and Uehling. None of the Burt County departments returned the survey.

# Missouri River East Community Wildfire Protection Plan

## Cuming County

Information from Cuming Co. LEOP, Annex F:

CUMING COUNTY LEOP

ANNEX F

### FIRE SERVICES

BANCROFT FIRE DEPARTMENT

BEEMER FIRE DEPARTMENT

WEST POINT FIRE DEPARTMENT

WISNER FIRE DEPARTMENT

CUMING COUNTY  
MUTUAL  
AID  
ASSOCIATION

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

Lead Agencies:  
State Fire Marshal

Nebraska Emergency Management Agency,  
Dept. of Environmental Quality

F-1

2020

### CUMING 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
Bancroft	911		1	2		1		2			Yes
Beemer	911		2	3			1	2			Yes
West Point	911	1	2	3		1	3	3			Yes
Wisner	911		2	2		1	1	2			Yes
Nearest HAZMAT Response Team											
NORFOLK	402-844-2050										

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2020

CUMING COUNTY LEOP

ANNEX F  
ATTACHMENT 1

## Survey Responses from Cuming County Fire Departments

Volunteer fire districts all or partly within Cuming County include Bancroft, Beemer, Dodge, Howells, Lyons, Pender, Oakland, Snyder, Uehling, West Point, and Wisner. The following departments returned the survey:

**Department Name:** **Dodge** Fire Department (*See listing under Dodge County*)

**Department Name:** **Snyder** Vol. Fire & Rescue (*See listing under Dodge County*)

**Department Name:** **Wisner** Vol. 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 wetlands along the lake developments and the rivers.

## Missouri River East Community Wildfire Protection Plan

**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 4<sup>th</sup> Rd.; the other one is ¼ mile south of 1572 3<sup>rd</sup> Rd.

# Dodge County

Information from Dodge Co. LEOP, Annex F:

DODGE COUNTY LEOP

ANNEX F

## FIRE SERVICES

DODGE FIRE DEPARTMENT	FREMONT FIRE DEPARTMENT
HOOPER FIRE DEPARTMENT	FREMONT RURAL FIRE DEPARTMENT
NICKERSON FIRE DEPARTMENT	NORTH BEND FIRE DEPARTMENT
SCRIBNER FIRE DEPARTMENT	SNYDER FIRE DEPARTMENT
UEHLING FIRE DEPARTMENT	WINSLOW FIRE DEPARTMENT

DODGE 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

F-1

2017

## DODGE COUNTY FIRE RESOURCES

(List numbers of equipment)

FIRE DEPARTMENT	PHONE (402)	AERIAL	PUMPER	TANKER	PUMPER/TANKER	GRASS MOW TRUCK	UTILITY TRUCK	RESCUE UNITS	KINDS/TYPES/SPECIAL-TEAMS	KINDS/TYPES/SPECIAL EQUIPMENT	RADIO-LOGICAL EQUIPMENT Yes / No
DODGE	693-2323		2	2		1	1	2			NO
FREMONT	727-2688	1	3		1		2	4	Water Rescue	Hazmat Trailer	YES
HOOPER	654-2336		3			1	1	1			NO
FREMONT RURAL	721-2667		2	2		1	1	2			NO
NICKERSON	721-8888		1	2				1			NO
NORTH BEND	652-8161		2	2		1	2	2		Hazmat Trailer	NO
SCRIBNER	664-3400		2	3			1	2			NO
SNYDER	568-2612	1	1	1			1	1			NO
UEHLING	567-2597		2	2		1		1		Cascade Trailer	NO
WINSLOW	654-2428		1	1		1		1			NO
OMAHA, BELLEVUE									Hazmat Response Team		

F-11

2017

DODGE COUNTY LEOP

ANNEX F  
ATTACHMENT 1

# Missouri River East Community Wildfire Protection Plan

## Survey Responses from Dodge County Fire Departments

The Dodge, Fremont, Hooper, Nickerson, North Bend, Scribner, Snyder, Winslow, and Uehling Fire Districts lie all or partly within Dodge County. The following departments returned the survey:

**Department Name:** Dodge Fire Department

**Counties:** Dodge, Cuming, Colfax

**Street & Mailing Address:** (not provided) **Dept. Phone:** 402-478-4163

**Chief:** Paul Kempf; 402-380-4976, 402-693-2491; paulkempf53@gmail.com

**Ass't. Chief:** Andy Ortmeier; 402-380-0721

**Secretary:** Megan Nelson; 812-608-1740

**Treasurer:** Ryan Clausen; 402-920-1518

### Personnel

20 Vol.:

**MAD(s):** Dodge Co. Mutual Aid

**Other MA agreements:** Howells Fire Department

### Equipment

#### *Engines*

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

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

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

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

#### *Other*

4 Equipment trucks

1 Other (Describe): Quick truck

0 Road Dept. Equip. (describe):

**Equipment housed away from main barn?** No

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

No

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** No

**Greatest concerns:** Water supply

### **Rank:**

3 Housing

5 Infrastructure

5 Bridge limits

5 Hydrants

3 Other water sources

**Department Name:** Fremont Rural Fire Department

**Counties:** Dodge

**Street/Mailing Address:** 110 Boulevard St., Fremont, NE 68025

**Dept. Phone:** 402-727-4369 **Dept. Email:** fireoffice@omni-tech.net

**Chief:** Carl Nielsen; 402-720-7160, 402-727-4369; frfd22@live.com

**Ass't. Chief:** Marty Jacoby; 402-317-7796, 402-727-4369; frfd239@gmail.com

**Captain:** Jason Meyer; 402-719-1533, 402-727-4369; frfd1826@hotmail.com

**Secretary:** Susie Moravec; 402-533-3153, 402-727-4369; fireoffice@omni-tech.net



## **Personnel**

40 Vol.:

**MAD(s):** Dodge Co. MA Assoc.; Tri-County MA Assoc.

## **Equipment**

### *Engines*

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

- 3 Equipment trucks: (Technical-Rescue Trailer, for Confined Space & Water Rescue); (Revolve-Air Trailer); (Portable-Light-Trailer)
- 3 Other (Describe): (2-Grass-Fire-Side By Sides), (1-4x4 Equipment, Pick-up)

**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:** Platte Township, Meadowbrook Mobile Home Park, 5776 W Hwy. 30. All 3 railroad lines.

### **Issues:**

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

**Location2:** Platte Township, C&F Industries/Rawhide-Chemoil. C&F Industries is an Anhydrous Ammonia Distribution Center. Rawhide-Chemoil is a Fuel/Propane/Chemical Fertilizer Distribution Center.

### **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. Within the Fremont Rural Fire Protection District there are several small dirt county road bridges that are questionable as to whether they could withstand the constant weight of our rural pumpers & tankers.

**GIS layer & contact info:** No

**Greatest concerns:** Accessibility to several areas

### **Rank:**

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

## Missouri River East Community Wildfire Protection Plan

**Department Name:** Nickerson Vol. Fire & Rescue  
**Counties:** Dodge, Washington  
**Street Address:** 101 N Maple **Mailing Address:** PO Box 125, Nickerson, NE 68044  
**Dept. Phone:** 402-459-0515 **Dept. Email:** nickersonvfd@gmail.com  
**Chief:** Jimmy Odle; 402-459-0515; jodlenvfd@gmail.com  
**Ass't. Chief:** Chris Schlosser; 402-350-9747; chris@schlosserent.com  
**Secretary:** Jasmine DeLuna; 402-720-7222; jasminedeluna883@yahoo.com  
**Treasurer:** Matt Gentrup; 402-992-8291; mrmatt911@gmail.com

### Personnel

18 Vol.:

**MAD(s):** Dodge Co. MAA, Washington Co. 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
- 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

**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:** Along Elkhorn River, bluffs, difficult terrain

#### **Issues:**

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

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** No

**Greatest concerns:** Water sources

#### **Rank:**

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

**Comments:** Most wildland fuels are crop land. Have some CRP in our district. Elkhorn River bluffs are most difficult terrain. 2 hydrants in our whole district and a well at our fire station to fill trucks.

**Department Name:** North Bend Fire Department  
**Counties:** Dodge  
**Street Address:** 140 W 7th St. **Mailing Address:** PO Box 8, North Bend, NE 68649  
**Dept. Phone:** 402-652-8161 **Dept. Email:** northbendfire@gmail.com  
**Chief:** Waylon Fischer; 402-317-7829; nbvfd14@hotmail.com  
**Ass't. Chief:** Jeremy Knapp; 402-215-3223; jeremyknapp86@gmail.com

**Ass't. Chief:** Nick Dobrusky; 402-317-0458; dobursky\_nick@hotmail.com

**Secretary:** Pat Tawney; 402-719-1225; patnbfire@gmail.com

**Personnel**

22      **Vol.:**

**MAD(s):** Dodge Co. MA

**Other MA agreements:** Morse Bluff, Linwood, Prague, and Schuyler

**Equipment**

*Engines*

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

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

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

*Other*

1      Equipment trucks

2      Other (Describe): Squad, and SUV and pickup 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?**

Yes

**Location:** Along Platte River

**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, County Rd. 4 and McGinns Lakes

**GIS layer & contact info:** No

**Greatest concerns:** Along Platte River

**Rank:**

3      **Housing**

4      **Infrastructure**

5      **Bridge limits**

1      **Hydrants**

2      **Other water sources**

**Department Name:** **Scribner** Vol. Fire & Rescue

**Counties:** Dodge

**Street Address:** 509 3<sup>rd</sup> St. **Mailing Address:** PO Box 270, Scribner, NE 68057

**Dept. Phone:** 402-664-3400 **Dept. Email:** scribnerfire@gmail.com

**Chief:** Steven Stumpe; 402-380-3742, 402-769-2301; sdstumpe@gmail.com

**Ass't. Chief:** Tim Stockamp; 402-380-3674; tstock777@gmail.com

**Secretary:** Don Westerman; 402-380-3674

**Treasurer:** Todd Meyer; 402-430-2554; tmeyer68@hotmail.com

**Personnel**

36      **Vol.:**

**MAD(s):** Dodge Co. MA Assn., Northeast Nebraska MA Assn.

# Missouri River East Community Wildfire Protection Plan

## Equipment

### *Engines*

- 2 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 2 Type 3 Wildland: 150 GPM, 500 gal. capacity, three crew members
- 1 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 S-2 (support): 200 GPM pump, 2,500 gallon capacity, 1 crew member
- 1 S-3 (support): 200 GPM pump, 1,000 gallon capacity, 1 crew member

**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:** Along Elkhorn River – limited access.

### **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:** Manpower

### **Rank:**

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

**Department Name:** Snyder Vol. Fire & Rescue

**Counties:** Dodge, Cuming

**Street Address:** 502 W 3<sup>rd</sup> St. **Mailing Address:** PO Box 38, Snyder, NE 68664

**Dept. Email:** snydervfd@gmail.com

**Chief:** Mike Smeal; 402-719-1674, 402-568-2655; mdsmeal@gmail.com

**Ass't. Chief:** Mark Kreikemeier; 402-380-1133c, 402-568-2200w; mark@danko.net

**Sec/Treas.:** Mark Larson; 402-380-9888; Chevyman182@gmail.com

## Personnel

31 **Vol.:**

**MAD(s):** Dodge and Cuming

**Other MA agreements:** Dodge, Scribner, North Bend

## Equipment

### *Engines*

- 1 Type 1 Structural: 1,000 GPM, 300 gal. capacity, four crew members
- 1 Type 4: Wildland: 50 GPM, 750 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*

- 6 Equipment trucks

- 1 Other (Describe): Rescue
- 0 Road Dept. Equip. (describe):

**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 identified one location

**Location:** Snyder Township

**Issues:**

- x Multiple structures
- x Lack of water within effective distance

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** No

**Greatest concerns:** To have water and truck to cover it

**Rank:**

- 4 Hydrants
- 4 Other water sources

# Missouri River East Community Wildfire Protection Plan

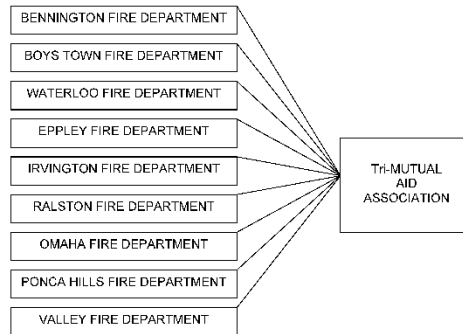
## Douglas County

Information from Douglas Co. LEOP, Annex F:

DOUGLAS COUNTY LEOP

ANNEX F

### FIRE SERVICES



STATE SUPPORT:  
Emergency Support Functions  
# 4, 5, 10,  
Fire Suppression,  
Emergency Management,  
Nebraska Department of Environment and  
Energy

Lead Agencies:  
State Fire Marshal,  
Nebraska Emergency Management Agency,  
Nebraska Department of Environment and  
Energy

F-1

2020

### DOUGLAS COUNTY FIRE RESOURCES (numbers of equipment)

FIRE DEPARTMENT	PHONE	AERIAL	PUMPER	TANKER	PUMPER/TANKER	GRASS WEED TRUCK	UTILITY TRUCK	MEDICAL RESCUE UNITS	KINDS/TYPES/SPECIAL-TEAMS	KINDS/TYPES SPECIAL EQUIPMENT	RADIO-LOGICAL EQUIPMENT Yes/No
Bennington	530-1433	0	2	0	0	1	1	2 ALS	Water Rescue		Yes
Boys Town	498-1115	0	2	0	0	1 ATV	0	2 ALS	HazMat Rope Rescue Ice Rescue	Decon Trailer	Yes
Eppley	661-8040	0	0	0	0	0	1	0	Water Rescue	Decon Trailer MCI Trailer AFFF Trailer	No
Irvington	571-0451	1	0	1	0	1	1	2 ALS		MCI Trailer	Yes
Omaha	444-5700	10	24	1	2	5	9	15 ALS	HazMat High Angle Rope Rescue Water Rescue Dive Team Heavy Rescue	Decon Trailer MCI Trailer SCBA Support Watercraft	Yes
Ponca Hills	453-6656	0	1	0	1	1	1	1 ALS			Yes
Ralston	331-5369	0	3	0	0	1	1	2 ALS		MCI Trailer	
Valley	359-5552	0	1	0	0	2	0	1 BLS	Water Rescue		
Waterloo	779-4250	0	1	1	1	2	1	1 ALS	Water/Ice Rescue	MCI Trailer	

F-11

2020

DOUGLAS COUNTY LEOP

ANNEX F  
ATTACHMENT 1

## Survey Responses from Douglas County Fire Departments

Fire districts all or partly within Douglas County include Bennington, Boys Town, Elkhorn/Omaha, Irvington, Millard/Omaha, Omaha, Ponca Hills, Ralston, Valley, and Waterloo. The following departments returned the survey:

**Department Name:** Bennington Fire/Rescue

**Counties:** Douglas, Washington

**Street/Mailing Address:** 10801 N 156th St, Bennington, NE 68007

**Dept. Phone:** 402-238-2727 **Dept. Email:** bvfd601@benningtonfirerescue.com

**Chief:** Dan Mallory; 402-699-0140; bvfd601@benningtonfirerescue.com

**Ass't. Chief:** Chad Nixon; 402-237-9427; bvfd602@benningtonfirerescue.com

### Personnel

32 **Vol.:**

11 **FT:**

**MAD(s):** Tri-Mutual Aid

**Other MA agreements:** Dual Response/Mutual Aid agreements with Omaha Fire, Waterloo, Irvington, Fort Calhoun, Kennard

### Equipment

#### *Engines*

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

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

1 Type 7: Wildland: 10 GPM, 50 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 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:** No

**GIS layer & contact info:** No, but fire chief's info was provided in this blank

**Greatest concerns:** (None indicated)

### **Rank:**

1 **Housing**

2 **Infrastructure**

5 **Bridge limits**

3 **Hydrants**

4 **Other water sources**

**Comments:** Our district is rapidly expanding to a suburban/residential district w/the growth coming from Omaha. We do have a few areas of slight concern with the wildland interface, but it's not a major concern for our department.

**Department Name:** Boys Town Fire Department

(NFS Survey not returned; below info obtained from Tri-Mutual Aid Inventory)

**Counties:** Douglas

**Street/Mailing Address:** 242 Monsky Dr., Boys Town, NE 68010

**Chief:** John Kava; 402-981-7231; john.kava@boystown.org



# Missouri River East Community Wildfire Protection Plan

**MAD(s):** Tri Mutual Aid

## Equipment

### *Engines*

- 2 (unspecified type)
- 1 Reserve, unspecified type

### *Other*

- 3 Other (Describe): 2 ambulances; 1 UTV

**Department Name:** Omaha Fire Department

**Counties:** Douglas

**Street/Mailing Address:** 1516 Jackson St., Omaha, NE 68102

**Dept. Phone:** 402-444-5700

**Chief:** Dan Olsen; 402-444-5700; daniel.olsen@cityofomaha.org

## Personnel

673 FT:

**MAD(s):** Tri Mutual Aid. Eppeley, Waterloo, Valley, Bennington, Bellevue, Papillion, Ralston, Irvington

**Other MA agreements:** We have a regional mutual aid agreement with our Hazardous Material/heavy rescue unit.

## Equipment

### *Engines*

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

5 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*

9 Other (Describe): Eight 100' and one 75' ladder trucks

Road Dept. Equip.: These apparatus are strategically placed within the 24 Omaha Fire Stations.

**Equipment housed away from main barn?** Yes. These apparatus are strategically placed within the 24 Omaha Fire Stations.

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

Yes

**Location:** The Omaha Fire District encompasses a small amount of Wild Urban Interface areas including the Elkhorn River Bluffs, hill areas around North and Northwest Omaha, recreational areas throughout the city (Lake Cunningham, Lake Zorinski, Flanagan Lake, Standing Bear Lake, etc.), and the Mutual Aid areas surrounding our fire district.

We have water compromised areas, mostly on the west end of Omaha. We have Water Task Force Zones set up to deal with the lack of water and bring in water tenders on the first alarm dispatch. The Elkhorn River bluffs area is our water compromised zone 632. This is roughly from 240th to the Elkhorn river and from Harrison St to Q St. This site can be difficult to access due to lack of roads and the rough terrain along the river and has a lot of natural grass vegetation. The other site of concern is water compromised zone 727, that is 204th to around 220th from Maple to Rainwood. This site is more of the farm fields that can be tough to access and put out a large grass fire.

## **Issues:**

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

Other areas with resources at risk: We have a high home density with our high rise residential structures in downtown Omaha and the row houses in South Omaha.

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** Yes. Craig Carsley, 402-444-1704, cjcarsley@douglascounty-ne.gov

**Greatest concerns:** That it would spread to homes in the area.

**Rank:**

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

**Department Name:** Ponca Hills Fire Department

**Counties:** Douglas

**Street Address:** 12919 Ponca Rd.

**Mailing Address:** PO Box 12085, Omaha, NE 68112

**Dept. Phone:** 402-453-6656

**Chief:** Joel Sacks; 402-660-5130; ponca301@yahoo.com

**Ass't. Chief:** Jason Tomich; 402-968-8890; jasontomich@gmail.com

**Secretary:** Raymond (Skippy) Rice; 402-968-1887; deedeemarj@centurylink.net

**Treasurer:** Jerry Hodges; 402-453-5545

**Personnel**

32        **Vol.:**

**MAD(s):** Tri-Mutual Aid Firefighters Association

**Other MA agreements:** Crescent, Iowa

**Equipment**

*Engines*

- 1        Type 1    Structural: ~~1,000~~ 1,500 GPM, ~~300~~ 1,000 gal. capacity, ~~four~~ six crew members
- 1        Type 2    Structural: ~~500~~ 1,000 GPM, ~~300~~ 1,200 gal. capacity, ~~three~~ two crew members

*Other*

- 1        Equipment truck
- 2        Other (Describe): 1 Brush truck, 250 GPM, 250 gal., 2 crew; UTV, 100 GPM, 50 gal., 2 crew

**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:** Neil Wood Nature Center. Very hilly, open fields with natural grasses, large wooded areas, hiking trails throughout. Only one point of access. Some houses located on the edge of wooded area.

**Issues:**

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

**Location2:** Hummel Park & Canyon Road area. Hummel Park is a city park with heavy timber and hilly with deep ravines. Canyon Road is a gravel road that runs through a hilly timber area with deep ravines. Multiple upscale homes located in timber off of road, narrow, steep driveways. There is a city water supply along Canyon Road.

**Issues:**

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

# Missouri River East Community Wildfire Protection Plan

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** No

**Greatest concerns:** Spring and fall are the worst seasons for us. When the timber and grasses are dry. Many of the timber areas have heavy ground cover, decaying leaves, etc.

**Rank:**

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

**Comments:** The Ponca Hills area has many forested acres and is very hilly. There are few concentrated housing areas, but many of the houses have long, narrow and/or steep driveways.

**Department Name:** **Waterloo** Fire Department

**Counties:** Douglas

**Street Address:** 405 7<sup>th</sup> St. **Mailing Address:** PO Box 273, Waterloo, NE 68069

**Dept. Phone:** 402-779-4250 **Dept. Email:** officers@waterloofire.ne.gov

**Chief:** Travis Harlow; 402-228-5206; travisharlow@hotmail.com

**Ass't. Chief:** T.J. Korpela; 402-312-0334; TJ.korpela@waterloofire.ne.gov

**Secretary:** Andrew Barry; 402-669-5085; Andrew.barry@waterloofire.ne.gov

**Treasurer:** Steve Thurber; 402-995-1837; steve.thurber@waterloofire.ne.gov

## Personnel

60      **Vol.:**

**MAD(s):** Tri Mutual Aid Firefighters

## Equipment

### *Engines*

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

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

- 1      Other:    750 GPM pump, 3,000 gallon capacity, 2 crew members

### *Other*

Other (Describe): 75' aerial 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 described this area with high home density

**Location:** King Lake, N252nd St. & King Lake Rd.

**Issues:**

1 way in/out

**Bridges that won't support equipment weight:** No

**GIS layer & contact info:** No

**Greatest concerns:** High-traffic highways, limited supplies outside of village, spread-out lake communities.

**Rank:**

- 2      **Housing**

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

**Comments:** Riverside Lakes – 228<sup>th</sup> & Dodge – Aged & limited-size water supply. Junkstock Festival – large population when occupied.

# Missouri River East Community Wildfire Protection Plan

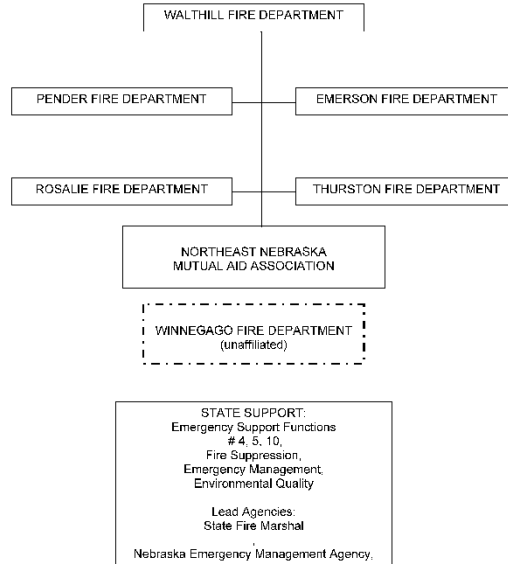
## Thurston County

Information from Thurston Co. LEOP, Annex F:

THURSTON COUNTY LEOP

ANNEX F

### FIRE SERVICES



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2016

### THURSTON 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
Pender Fire & Rescue	385-2255		1	1	1	1	1	2		Utility Trailer W/Air Cascade	No
Walthill Fire & Rescue	846-5512		1	1	1	3		1			No
Rosalie Fire & Rescue	863-2272		1		1	2		1			No
Thurston Fire & Rescue	385-3018		1		1			1			No
Winnegago Fire	878-2505		1	1	1	1	1	0			No
Winnegago Rescue	878-2245							2			No
Omaha Nation Rescue	837-5200							2			No
Nearest HAZMAT Response Team	Norfolk										

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2016

THURSTON COUNTY LEOP

ANNEX F  
ATTACHMENT 1

## Survey Responses from Thurston County Fire Departments

Ten fire districts lie all or partly within Thurston County: Bancroft, Decatur, Emerson, Lyons, Pender, Thurston, Rosalie, Wakefield, Walthill, and Winnebago. The following departments returned the survey:

**Department Name:** Emerson Fire

**Counties:** Dakota, Dixon, Thurston

**Street Address:** 205 N Main St. **Mailing Address:** PO Box 68, Emerson, NE 68733

**Chief:** Richard McCabe; 712-333-6436; dmccabe@abbnebraska.com

**Ass't. Chief:** Marc Anderson; 402-508-5250; anders031@hotmail.com

**Sec/Treas.:** Dena Bartels; 712-898-7430; mdbartels4@gmail.com

### Personnel

32      **Vol.:**

**MAD(s):** Northeast Nebraska 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)*

- 2      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

**Equipment housed away from main barn?** Yes. We have a company 3 in Hubbard Fire Hall

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

No

**Location:** None specified, but the following issues were checked:

#### **Issues:**

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

**Bridges that won't support equipment weight:** Yes. Currently we have one closed for the 3<sup>rd</sup> year.

**GIS layer & contact info:** No

**Greatest concerns:** What is in the path of the fire.

#### **Rank:**

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

# Missouri River East Community Wildfire Protection Plan

## Washington County

Information from Washington Co. LEOP, Annex F:

WASHINGTON COUNTY LEOP

ANNEX F

### FIRE SERVICES

ARLINGTON FIRE DEPARTMENT

BLAIR FIRE DEPARTMENT

KENNARD FIRE DEPARTMENT

FORT CALHOUN FIRE  
DEPARTMENT

HERMAN FIRE DEPARTMENT

WASHINGTON  
COUNTY  
MUTUAL  
AID  
ASSOCIATION

TRI  
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.

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2017

### WASHINGTON COUNTY FIRE RESOURCES

Washington VFD Resource Book can be found On-line [www.region5-6.org](http://www.region5-6.org)

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
Arlington	478-4163		1	2			1	2			Monitors
Blair	426-4262 426-3900	1	2		2	2	2	2			Decon Trailer & Monitors
Fort Calhoun	468-5861			1	3	1	1	2			Monitors
Herman	456-7444		1	3		1	1	1			-0-
Kennard	427-7313		1	1	1	1		2			Monitors
Nearest Tri Mutual Aid HAZMAT Response Team is											
Omaha/Bellevue Offutt AFB											

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2017

WASHINGTON COUNTY LEOP

ANNEX F  
ATTACHMENT 1



## Survey Responses from Washington County Fire Departments

Ten fire districts lie all or partly within Washington County: Arlington, Bennington, Blair, Craig, Fort Calhoun, Herman, Kennard, Nickerson, Uehling, and Winslow. The following departments returned the survey:

**Department Name:** **Arlington** Rural Fire & Rescue

**Counties:** Washington

**Street Address:** 425 N 4<sup>th</sup> **Mailing Address:** PO Box 436, Arlington, NE 68002

**Dept. Phone:** 402-478-4163

**Chief:** Dan Douglas; 402-679-9015; arfd500@gmail.com

**Ass't. Chief:** Chris Martens; arfd500@gmail.com

**Secretary:** Ashley Meyer; arfd500@gmail.com

### Personnel

28 **Vol.:**

**MAD(s):** Washington County; Tri-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)*

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

#### *Other*

1 Equipment trucks

1 Other (Describe): scba cascade 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?**

(left blank, but named the Village of Arlington as a location with high home density)

**Location:** Left blank, but the following issue was checked

**Issues:**

x Lack of water within effective distance

**GIS layer & contact info:** No

**Greatest concerns:** None indicated

**Rank:**

3 **Infrastructure**

2 **Bridge limits**

1 **Hydrants**

**Department Name:** **Bennington** Fire/Rescue: (See listing under Douglas County)

**Department Name:** **Nickerson** Fire/Rescue: (See listing under Dodge County)

## Appendix H

# Fire Department Distribution List and Survey

### Fire Department Survey Distribution List

Arlington	Herman	Rosalie
Bancroft	Hooper	Scribner
Beemer	Howells	Snyder
Bennington	Irvington	Tekamah
Blair	Kennard	Thurston
Boys Town	Lyons	Uehling
Craig	Nickerson	Valley
Decatur	North Bend	Wakefield
Dodge	Oakland	Walthill
Emerson	Omaha (includes Millard & Elkhorn)	Waterloo
Fort Calhoun	Pender	West Point
Fremont City	Ponca Hills	Winnebago
Fremont Rural	Ralston	Wisner

# Fire Department Survey

Distributed to all departments in the CWPP Region 3/21/2022

## 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:

_____
_____
_____

# Missouri River East Community Wildfire Protection Plan

Equipment:

Engines		
(Fill in number of each type of equipment below)		
Number	Type	Description
	Type 1	Structural: 1,000 GPM, 300 gal. capacity, four crew members
	Type 2	Structural: 500 GPM, 300 gal. capacity, three crew members
	Type 3	Wildland: 150 GPM, 500 gal. capacity, three crew members
	Type 4	Wildland: 50 GPM, 750 gal. capacity, two crew members
	Type 5	Wildland: 50 GPM, 400 gal. capacity, two crew members
	Type 6	Wildland: 50 GPM, 150 gal. capacity, two crew members
	Type 7	Wildland: 10 GPM, 50 gal. capacity, two crew members
Tenders (see below)		
Definition: Tactical Tenders: 4x4, 6x6, 8x8 all-wheel drive		
Number	Type	Description
	T-1 (tactical)	250 GPM pump, 2,000 gallon capacity, 2 crew members
	T-2 (tactical)	250 GPM pump, 1,000 gallon capacity, 2 crew members
	S-1 (support)	300 GPM pump, 4,000 gallon capacity, 1 crew member
	S-2 (support)	200 GPM pump, 2,500 gallon capacity, 1 crew member
	S-3 (support)	200 GPM pump, 1,000 gallon capacity, 1 crew member
Other		
Number	Type	
	Equipment trucks	
	Other (Describe):	
	Road Dept. Equipment (describe)	
Yes/No (Circle)	Is any equipment housed away from the main fire barn?	Describe:

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): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Missouri River East Community Wildfire Protection Plan

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

☐ Yes ☐ No

If yes, please describe:

Are there other areas in your jurisdiction with high home density, infrastructure or other resources at high risk, or populated areas with one way in/out? ☐ Yes ☐ No

If yes, please describe:

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

Does your jurisdiction have GIS layer(s) that show housing, infrastructure, bridge limits, hydrants and other water sources (other than the county assessor's GIS information)? ☐ Yes ☐ No

If yes, please provide contact information:

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

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

\_\_\_\_\_ Housing

\_\_\_\_\_ Infrastructure

\_\_\_\_\_ Bridge limits

\_\_\_\_\_ Hydrants

\_\_\_\_\_ Other water sources

Is there anything else you think we should know? \_\_\_\_\_

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Thank you for providing this information.

Please email a scan of the completed form to [sbenson4@unl.edu](mailto:sbenson4@unl.edu) or mail a hard copy to:

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

## Appendix I

### Public Engagement

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

#### Steering Committee

Name	Title/Affiliation
Alvares, Marisa	NEMA Emergency Management Planning Specialist
Bang, KC & Connealy, Audra	Burt Co. Emergency Mgmt.
Cox, Tom	USFWS Project Leader, DeSoto & Boyer Chute NWRs
Douglas, Dan	Washington Co. Emergency Manager
Fields, Jeff	NGPC Parks Division-NE Pod
Hindt, Lexy	NEMA Deputy State Hazard Mitigation Officer
Koplin, Glenn	Public Relations Officer, Fremont Rural Fire Dept.
Larkin, Leo	NEMA Program Specialist
McGill, Jeff	Cuming Co. Emergency Manager
Perez, Tom	Thurston Co. Emergency Manager
Pleiss, Tom	NRD Representative
Reisen, Dave	NEMA State Training/Exercise Officer
Sacks, Joel	Ponca Hills Fire Chief
Shipley, Whitney	Douglas Co. Assistant Emergency Manager
Smith, Jorden	NFS Forester (Burt, Douglas, Thurston, Washington)
Sunderland, John	Ponca Hills Preservation Association
Sutherland, Robin	NRCS Cuming Co.
Traversie, Duwayne	BIA Fuels Specialist
Wessel, Scott	NGPC Wildlife Division Pvt. Lands-NE District
Wood, Chris	NFS Forester (Cuming and Dodge)
Benson, Sandy	CWPP Coordinator/NFS



# Missouri River East Community Wildfire Protection Plan

## Outreach Documents

### County Boards and Emergency Managers

(sent via e-mail 1/27/2022)

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 Missouri River East 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 eight months. 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 and, when it is finalized, will be invited 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](mailto: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 Missouri River East region of Nebraska, which includes Burt, Cuming, Dodge, Douglas, Thurston, and Washington 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 Missouri River East CWPP is one of nine 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 should be complete within about eight months. Counties are invited to sign the finalized plans.

Further information is available by emailing [sbenson4@unl.edu](mailto:sbenson4@unl.edu) or call Sandy Benson at 402-684-2290.

#### **Fire Departments**

*(This was sent via e-mail 3/21/2022 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 3/21/2022.

#### **Other Stakeholders**

Outreach flyers were emailed to NRDs, state and federal natural resources agencies, Non-government organizations (NGOs), and state and federal legislators in January 2022 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.

# Missouri River East Community Wildfire Protection Plan

## Media Releases

### Print Media and Radio

*An invitation to participate was published in local newspapers and sent to local radio stations on March 21, 2022:*

### **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 Missouri River East region 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 Burt, Cuming, Dodge, Douglas, Thurston, and Washington 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](mailto:sbenson4@unl.edu)

\* \* \*

### **Follow-up News Releases**

Media releases for draft review and publication of final plan were distributed in July and September 2022.

### **Online Outreach**

On March 24, 2022, NFS staff added information about the Missouri River East 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 March 24, 2022, NFS staff posted the public outreach news release for the Missouri River East 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*

Burt, Cuming, Dodge, Douglas, Thurston, and Washington

### *Fire Departments*

See Appendix H

### *Natural Resources Districts*

Papio-Missouri River, Lower Elkhorn, Lower Platte North

### *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, US Fish and Wildlife Service, US Army Corps. of Engineers, Bureau of Indian Affairs

### *Non-Government Conservation Organizations*

Pheasants Forever, Audubon, Fontanelle Forest Association

### *Municipalities*

In the counties of Burt, Cuming, Dodge, Douglas, Thurston, and Washington

### *Prescribed Fire Associations*

Elkhorn Valley PBA

### *State Legislators*

Districts 15, 16, 17, 39, 10, 13, 11, 18, 8, 7, 5, 12, 31

### *Interested Individuals*

## **Comments Received During Draft Review**

- The Washington County Emergency Manager provided minor wording changes to the Washington Co. Community Profile.
- Elizabeth Anderson of Blair submitted the following italicized questions and comments. Answers to her questions and notations of the clarifications made in the final document are shown below:

*\* How will the introduction of the CWPP affect the various entities which already have fire prevention programs in place?*

Entities already having fire prevention programs in place may find it helpful in their outreach planning as they choose topics, focus areas, and audiences. If they opt to pursue external funding for various fire prevention programs, the CWPP provides basic information and links to multiple sources of assistance. For entities already having or seeking to implement wildfire mitigation programs, the CWPP provides a starting point for designing individual projects to address specific areas of concern. For mitigation projects requiring external funding, the CWPP can provide the basis for effective grant applications (see Appendix B).

*\* Two very important members were missing from the committee - Union Pacific and Burlington Northern Railroad representatives. They could play an important role in prevention and spread of potential fires.*

Thank you for bringing this to our attention. We are adding them to the list of entities to contact prior to preparing future updates. We encourage entities implementing this CWPP to reach out to the railroads when considering mitigation activities in areas the rails traverse.

*\* A number of fire departments submitted limited information - they need to be active participants.*

We, too, were disappointed that so few fire departments participated. We made extensive efforts to reach out to them. We were fortunate to have on the steering committee representatives from the Fremont Rural and Ponca Hills Fire Departments, both of whom provided a great deal of assistance. In addition, the Omaha Fire Department was extremely helpful in providing information. All of the Emergency Managers in the region were represented on the steering committee and they, too, were helpful.

*\* In case of an extreme emergency situation, consideration should be given to creating a training and utilization plan for a 'civilian fire force'*

That is an excellent idea. Many, if not most, VFDs across the state are experiencing declining membership as their volunteers age and can no longer meet the physical demands of firefighting, and there are few younger members rising up through the ranks to assume leadership roles. Many VFDs cannot afford a cadet program, which leaves new volunteers on their own to fund training. This makes joining a VFD difficult for many would-be volunteers. The NFS has been trying for several years to obtain funding for a 'Nebraska Cadet Academy' to encourage younger Nebraskans to participate in their local volunteer fire departments. The program would encourage communities to invite high school juniors and seniors from across the state to join their local VFDs as cadets and receive basic firefighting training from the program at no cost to the participants or the VFDs. When these students graduate high school, they would have all the training they need to move out of cadet status and join the VFD as a full-fledged member. The NFS has not yet been successful in obtaining funding for this program, but is continuing to push for it.

*\* Will the thinning of vegetation create erosion? Much of the terrain in Washington County is of a very steep nature.*

The NFS designs vegetative thinning projects with erosion considerations in mind. Each project comes with a set of specifications addressing erosion control and other factors that can affect the landscape. We added wording to the Action Plan to clarify.

*\* Will the plan have a criteria for dry vs. wet years?*

Although the end goal of helping communities protect themselves from wildfire remains constant, mitigation activities may well vary during wet vs. dry years. This detailed information is more appropriate to be handled at the individual project level. For example, project specifications may include wet-year considerations limiting entry into flooded or swampy areas to avoid getting stuck or damaging terrain, or dry-year

## Missouri River East Community Wildfire Protection Plan

considerations limiting equipment use during peak fire danger to reduce potential ignition from machinery sparks. Such limitations would best be prescribed by local authorities who know the area and hazards.

*\* The majority of the land within the Missouri River East Region is private (1,468,317 acres) vs. public (287,302 acres). In addition, a great deal of the Washington County acres reside in the bluffs of the Missouri River. Removal of vegetation will be difficult and costly. Will grant monies be available to private citizens as well as public entities?*

Yes. One of the benefits of the CWPP is that private landowners in counties that adopt it are eligible to apply for the NFS fuels treatment cost share program, which offers them 75% reimbursement on vegetative fuels reduction projects. Qualifying state and municipal public lands are eligible to apply for a 50% cost share on these projects.

*\* After seeing news footage of the fires in the western states I understand the reasoning of removing vegetation close to building structures. This does, however, create a conflict when it comes to home cooling/heating efficiencies; the shade from trees helps to cool homes in the summer months - likewise, shrubs around the home's foundation help block winter winds thus keeping heating bills under control.*

Deciduous trees and shrubs present less of a fire hazard than coniferous trees and shrubs. In the arid west, most of the native forests are conifers containing flammable oils that pose a fire hazard. East of the Rockies we have more native deciduous forests, such as those along our rivers. Removing conifers from the deciduous overstory reduces the hazard. Homeowners can, by paying careful attention to the tree and shrub species they plant or manage near their structures, reap the benefits you mention, while reducing the fire hazard. Even deciduous trees, however, must be maintained to keep risks in check. When the trees that help cool homes in the summer lose their leaves in the fall, the leaves should be removed from roof valleys, rain gutters, and under decks. Dry leaves can provide a landing point for hot embers to ignite a fire. Deciduous shrubs around a foundation will not block winter winds as effectively as evergreens, but several rows of them will still provide limited protection. Some people use small hay bales along the north side of the house to augment the shrubs. We added a mention of this into Appendix J.

*\* How will the wild habitat be affected with the removal of ground vegetation?*

Forest thinning can be done in such a way as to not damage habitat, or even to improve habitat for certain species. For example, removing encroaching eastern redcedar from under deciduous trees helps restore the habitat to its condition prior to encroachment. All NFS fuels mitigation projects include wildlife-friendly project specifications; we added a mention of this into the Action Plan.

*\* If landscaping and building ordinances are to be considered as a means to reduce fire risks, local county and city representatives should be added to this committee.*

Local county boards and/or their emergency managers from all six counties participated on the steering committee. We formally notified municipalities of the project and invited them to participate, either informally or by appointing a representative to the committee. Several municipalities, including Omaha, participated informally, providing information and ideas during the process. Any county or municipal ordinances proposed in response to wildfire preparedness planning would have to be proposed and implemented by those entities themselves, according to their existing policies and practices.

*\* In conclusion, when the CWPP is finalized you may want to consider restricting 'all-inclusive distribution of information' to only those entities with a need to know. Terrorism and foul play must be taken into consideration—weaknesses in firefighting ability, weight loads on bridges, inability of organizations to communicate with each other—this information exposes vulnerabilities in our communities.*

Care was used when preparing the CWPP to include only non-sensitive information that is publicly available. When communities prepare more detailed project implementation plans, they are expected to abide by their internal security policies.

## Appendix J

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

## Missouri River East Community Wildfire Protection Plan

### Wildland Urban Interface Mitigation Strategies and Structural Ignitability Reduction Practices

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

### Web Sources: Wildfire Preparedness

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

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

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

NFS Firewise Landscaping Practices: <https://nfs.unl.edu/publications/firewise-landscaping-practices#pub-section-1036>

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>

Nebraska Wildfire Risk Assessment Portal: Public site: <https://nebraskawildfirerisk.com/>

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

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



## **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.

## Missouri River East Community Wildfire Protection Plan

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.

A note on home cooling/heating efficiencies and Firewise protections: A reader noted that the shade from trees helps cool homes in the summer months; likewise, shrubs around the home's foundation help block winter winds thus keeping heating bills under control. This is true. Deciduous trees and shrubs present less of a fire hazard than coniferous trees and shrubs. Removing conifers from the deciduous overstory reduces the hazard. Homeowners can, by paying careful attention to the tree and shrub species they plant or manage near their structures, reap home heating/cooling benefits, while reducing fire hazard. Even deciduous trees, however, must be maintained to keep risks in check. When the trees that help cool homes in the summer lose their leaves in the fall, the leaves should be removed from roof valleys, rain gutters, and under decks. Dry leaves can provide a landing point for hot embers to ignite a fire. Deciduous shrubs around a foundation will not block winter winds as effectively as evergreens, but several rows of them will still provide limited protection. Some people use small hay bales along the north side of the house to augment the shrubs.

## 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, *Fragaria*  
Yarrow, *Achillea*

### Shrubs

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

### Trees

Aspen, cottonwood and poplar, *Populus*  
Birch, *Betula*  
Black cherry, *Prunus*  
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