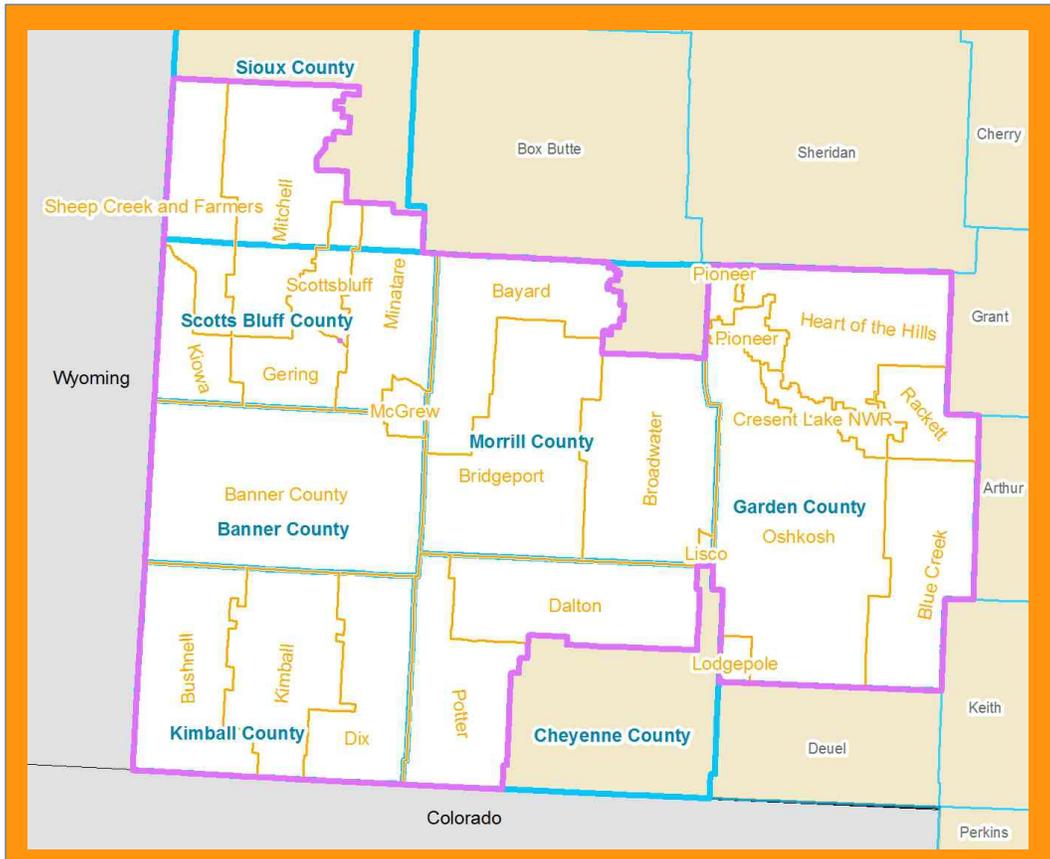


Wildcat Hills Community Wildfire Protection Plan Part A ~ Narrative

Developed for these Fire Districts

Banner County ~ Bayard ~ Blue Creek
Bridgeport ~ Broadwater ~ Bushnell ~ Crescent Lake NWR
Dalton ~ Dix ~ Gering ~ Heart of the Hills ~ Kimball
Kiowa ~ Lisco ~ Lodgepole ~ McGrew ~ Minatare
Mitchell ~ Oshkosh ~ Pioneer ~ Potter
Rackett ~ Scottsbluff
Sheep Creek and Farmers



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for
Nebraska State Forest Service

In collaboration with

Fire Districts
Emergency Managers
Nebraska Game & Parks
National Park Service
US Fish & Wildlife Service
Municipalities
County Governments

An expansion and update of
Wildcat Hills Estates CWPP 2008

Part B contains
Maps and Fire Department Survey Summaries

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Introduction

In the last decade, two broad overarching natural resource assessments and strategies for conservation were developed in each state as required by the federal government to be eligible for possible future funding assistance. One was for wildlife and one for forests.

Nebraska Natural Legacy Project was published initially in 2005 as the state's first Wildlife Action Plan and took a *"habitat-based approach to conservation, identifying 40 biologically unique landscapes to help prioritize where conservation work can best be directed"*. All or part of five the biologically unique landscapes (BULs) are within the Wildcat Hills Community Wildfire Protection Plan area (CWPP): Kimball Grasslands, North Platte River, Panhandle Prairies, Sandhills Alkaline Lakes, and Wildcat Hills ([Appendix A](#)).

The 2008 Farm Bill mandated each state to conduct a comprehensive analysis of its forests. The Nebraska Forest Service (NFS) with several partners completed the analysis and formulated the Statewide Forest Resource Assessment and Strategy, which is now referred to as the Forest Action Plan (FAP). The strategic spatial analysis of all the data helped identify Priority Forest Landscapes ([Appendix B](#)) throughout the state using the National Land Cover Database (NLCD) as the base data of where forest is located. The NLCD represents 15 land cover and land use types covering open water, development, crops, shrubs, pasture, wetlands and forest types.

The Wildcat Hills Priority Forest Landscape falls entirely within the CWPP boundary. The CWPP or outcomes from its implementation falls under several FAP objectives:

Objective 1—Actively and Sustainably Manage Forests (Implementation)

Objective 2—Restore Fire-Adapted Lands and Reduce Risk Of Wildfire Impacts In Forests & Adjacent Communities (Directly)

Objective 3—Identify, Manage and Reduce Threats To Forest and Ecosystem Health (Implementation)

Objective 4—Protect and Enhance Water Quality and Quantity (Implementation)

Objective 6—Assist Communities In Planning For and Reducing Wildfire Risks (Directly)

Objective 7—Maintain And Enhance The Economic Benefits and Values Of Trees and Forests (Implementation - Fuels reduction projects)

Objective 8—Protect, Conserve and Enhance Fish and Wildlife Habitat (Implementation)

Objective 9—Manage and Restore Trees and Forests to Mitigate and Adapt To Global Climate Change (Indirectly)

Priority landscapes were identified during the FAP process with the intention of focusing effort and scarce project funding on landscape scale projects in the priority landscapes. The area represented by the CWPP boundaries contains a range of these landscapes.

Process

The Wildcat Hills Estate CWPP in 2008 covered one subdivision and adjacent state park acres. Implementation of plan priorities included completion of some thinning and development of additional water sources in the neighborhood. NFS identified other wildland urban interface (WUI) areas, not only in the Wildcat Hills BUL and Priority Forest Landscape, but other areas in the panhandle that should be covered by a CWPP.

The expansion was defined the North Platte Natural Resources District (not already in Pine Ridge CWPP) and additional area by county boundaries using the Biologically Unique Landscapes, priority forest landscapes and known WUI areas. This plan expansion also encompasses half of the South Platte NRD. The 24 fire districts cover all or a majority of Banner, Cheyenne, Garden, Kimball, Morrill, Scotts Bluff, and Sioux Counties. Each district will be considered a WUI for planning purposes, as each contains one or more villages, cities, unincorporated communities, and scattered farmsteads and infrastructure. The CWPP area in and around the Wildcat Hills are of most concern with more homes amongst the Eastern red cedar growth.

Collaborators were given the opportunity to provide input via personal communication and a web survey covering fire district equipment and personnel, community infrastructure, access and fuels concerns. Fire Chiefs, Emergency Managers, Municipal and County officials, the Natural Resource Districts, Federal land managers and Nebraska Public Power District were asked what if any concerns they had and to rank possible programs in fire prevention, suppression and education areas. The survey is found in [Appendix C](#). The narrative that follows includes the concerns and information provided by all partners.

Aerial Views

Visual assessments of each district was made using United States Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) 2012 imagery. The one-meter ground sample distance of the imagery allows some analysis of fuel concentrations and trouble spots in areas not easily accessible on the ground in a time efficient manner. An aerial view map in each fire district's map section displays the NAIP imagery.

Native Vegetation Data

Native Vegetation of Nebraska was gathered from the University of Nebraska - Lincoln School of Natural Resources. The layer is described in it's metadata as "data from a mylar 1:1,000,000 map published by CSD in 1993. Used to determine the number of acres of each broad vegetation type across the state. Considerable effort was required to geocode over 1000 polygons to properly represent the map."

The Mosaic of Mixed-grass/Shortgrass Prairie is by far the most prevalent native vegetation in the CWPP at nearly 61%; it is within four of the five BULs. With the next most abundant type of Sand Hills Mixed-grass Prairie, 24.65%, is within three of the four BULs. The generalized Native Vegetation map is in [Appendix D](#).

Table 1

Native Vegetation	Acres	% of CWPP
Lowland Tallgrass Prairie	126,956.804	2.98%
Mosaic of Mixed-grass/Shortgrass Prairie	2,584,761.398	60.71%
Ponderosa Pine Forests and Savannas	56,623.849	1.33%
Riparian Deciduous Forests	31,643.401	0.74%
Salt Marsh and Flats	47,369.743	1.11%
Sand Hills Borders Mixed-grass Prairie	360,794.935	8.47%
Sand Hills Mixed-grass Prairie	1,049,351.727	24.65%

LANDFIRE & National Land Cover Database (NLCD)

Data regarding fuel models was acquired from LANDFIRE. LANDFIRE (Landscape Fire and Resource Management Planning Tools) contains 20 national geospatial layers of data that support regional and landscape scale projects including hazardous fuel reduction and ecological conservation activities, and initiatives set forth in the Healthy Forests Restoration Act and National Fire Plan, such as Community Wildfire Protection Plans.

Grass fuel models dominate the entire CWPP. Maps showing each Fire District with fire behavior fuel models to assist in prioritizing hazardous fuels projects are found in Part B. Fuel models used are the 40 Scott and Burgan Fire Behavior Fuel Models (40FBFMs) which are a more dynamic predictor of fire behavior across prairie type fuels than those that were defined by the original 13 fire fuel models in 1982. More information on the fuel models can be found in the USDA Forest Service Rocky Mountain Research Station General Technical Report RMRS-GTR-153.

The data layers are scientifically based and the process was thoroughly ground truthed to develop this nationwide resource for planning. The NFS agrees with the boundaries between fuel types, but questions the accuracy of some of the underlying fuel descriptions in the state, i.e. the fuel may be more dense than what LANDFIRE defines as was presented in the original publication of data. This 40FBFMs layer was published March 31, 2013 and appears to have improved in that area.

The NLCD and LANDFIRE layers are in raster format, with each cell in the raster representing 0.222 acres (900 sq meters) which provides avenues for spatial analysis. Should the partners decide, a more detailed spatial analysis with LANDFIRE and other data

could be completed in plan revisions.

An NLCD and fire behavior fuel model maps for the whole CWPP are in [Appendix E](#) and in each fire district's map section displaying the 40FBFMs in that district. Each district's write-up contains a breakdown of acres from the NLCD, the 15 classifications were simplified into fewer broad categories – crop, developed, forest, shrub, water, barren, and wetlands for more relate-able than the 40FBFMs. Acres listed as shrub are typically rangeland, which will have varying fire hazard, risk, and resulting activity based on annual vegetation growth and amount and consistency of grazing.

Weather Effects

Predominant wind direction across the area was obtained from the National Weather Service records and verified with personal records of district personnel and emergency managers. Weather factors are a driving force for defining 'fire season' and fire direction. Two general fire seasons have been noted in the area. From the last spring frost, bud break, and grass flush in wildland fuels up to early May is the early season, with a fall season starting mid-to-late September to mid-November aligning with both agriculture crop harvests, leaf drop and curing of grasses in wildland areas. Wet winters and springs can produce more grasses and forbs (fine fuels) in ditches and across rangelands that in late summer-fall become cured tender for sparks to start wildfires. In dryer years, there is less growth, therefore there is less fine fuels to catch the sparks from trains, farm equipment, and traffic.

Wind is primarily northwest as seen in wind rosettes from April and October from three stations surrounding the plan area, Cheyenne, Kimball, and Scottsbluff (Appendix F). Wind is also a prime factor in fire spread where fuels are light and/or discontinuous as is much of the agriculture area and rangeland at certain times of the year. Most districts are more than fifty-percent (50%) shrub fuels which are described in each section.

Historic Fire Activity

Wildland fire occurrences are suppose to be reported to the NFS. Since 2007, all fire locations have been reported with latitude/longitude coordinates for mapping purposes. The data is then able to be analyzed to find any human caused fire patterns that can assist in targeting fire prevention education messages or if more staffing is needed in a district. In each fire district's map section is a map displaying 2004-2014 fires reported by size class. In that time frame 1,090 fires are in the database, with only 21 being lightning fires. (Table 2)

Special Concerns

Infrastructure of any type, homes and farm yards are not safe from a wildfire just because they are not surrounded by a forest or woodland. Grass fires, and some crop fires, can present more of a challenge and can be more dangerous with a hot drying wind pushing the fire, increasing the rate of spread, directing the fire's path and jumping areas of little to no wildland fuels. Because of their fast rate of spread and sometimes unpredictable direction, wind driven fires present a shortened response time for the people in its path, and those

Table 2. Historic Fire Occurrences

Fire Dept	# Man Caused	Man Acres	# Lightning	Lightning Acres
Banner County	43	1972	53	18743.5
Bayard	70	337.62	7	3925.05
Blue Creek				
Bridgeport	27	1574.39	9	1216.1
Broadwater	19	439.47	8	382.01
Bushnell	22	855.51	4	18.5
Crescent Lake NWR				
Dalton	52	1881.37	7	44
Dix	29	2140.55	2	251
Gering	128	613.73	22	612.3
Heart of the Hills				
Kimball	19	68.335	4	70.5
Kiowa	23	107.6	0	0
Lisco				
Lodgepole				
McGrew	10	117.2	2	25.25
Minatare	250	2443.98	12	1911.31
Mitchell	24	297.6		
Oshkosh	3			
Pioneer				
Potter	47	535.18	7	3613.51
Rackett	1			
Scottsbluff	237	1930.48	5	0.9
Sheep Creek and Farmers	24	36.16	7	365.15

unreported fires does not mean no fire occurrence

needed to suppress the fire.

Soil stability and apparatus weight should always be considered before the unit is in the position of leaving any maintained road.

The fast rate of spread and small, fine fuels does mean the fire does not linger and cause catastrophic damage to the soil or other resources, unless a piece of infrastructure ignites as well. Since a 'forest' fire is rare in the CWPP area, firefighter training should include mop up and handling heavy fuels for those wildland fires that burn into riparian forests, windbreaks and wood lots.

Large confinement facilities of poultry, pork and cattle represent unique interface locations. Each facility and oil and gas well locations should have a fire response plan that they share with the Fire Chief.

FireWise principles and concepts found in Living with Fire should be practiced around all critical infrastructure, farm yards, stock facilities, cities and villages.

Expansive areas in several fire districts have rough topography, limited access and water sources. Modified suppression plans should be developed to establish locations for natural fire breaks, or back burns / dozer lines with landowners and neighboring fire districts, especially when trying to return fire's natural role to the landscape. Having places preselected to use under various weather and fuel conditions and other parameters can reduce resources engaging the fire with direct attack where large amounts of water may be needed. With predefined locations of engagement, the fire could be handled like a controlled burn.

GIS/Mapping

Local resources in each District know which loaded fire truck or tender they should not take over which bridges and how many homes are down a specific narrow road. Updated maps showing this information is imperative if a large fire requires mutual aid from farther away than adjacent districts. Current technology would allow smart phone, tablet or laptop displays of dynamic maps, even without internet access.

It is suggested that all fire districts/counties work towards having these map layers.

- Industrial areas should be mapped and potential hazards known. This includes agriculture and other chemical storage, propane storage, and stockpiled feed at feedyards that turns a wildland fire into an industrial fire.
- Oil and gas well locations - available from the state.
- Bridges with height, width, and load restrictions — available from the state.
- Roads with width and surface.
- Railroads, including hazardous crossings.
- Power lines, radio or communication towers.
- Airstrips / airports that could be used by air resources during an incident.
- Parcels with building footprints.
- Water sources – hydrants, locations on ponds, streams. and rivers for drafting or with dry hydrants, irrigation pumps with access.
- Any other layers specific for local resources or hazards

Communications

Dispatch communications and communications between mutual aid responders can be issues in the CWPP area. In areas along or near the state line, 911 calls can go to Wyoming.

When working together on mutual aid, Nebraska resources and Wyoming resources are on different radio frequencies/systems. This is a major wildland fire Watch-Out Situation that should be fixed. Some fire districts already carry portable radios with Wyoming frequencies. This practice should be standard operating procedure for any unit that could be dispatched closer to the frequency overlap areas.

District Capacity

A listing of apparatus and manpower for each district (as reported) is listed in Part B with the individual maps. Some have agreements with other agencies, other county departments such as Roads for assistance with heavy equipment. All are actively participating in Mutual Aid Associations (MAA). The order for district write-ups will be alphabetic within their respective MAA.

Fire Districts as Communities for Planning

Information by Fire District, arranged by Mutual Aid Associations for reference.

Mutual Aid Districts

Central Panhandle	Interstate Fire Assoc	Scotts Bluff Co
Alliance*	Arthur Co.*	Banner County
Bayard	Blue Creek	Gering
Bridgeport	Chappell*	Kiowa
Broadwater	Dalton	McGrew
Crescent Lake NWR	Dix	Minatare
Heart of the Hills	Kimball	Mitchell
Lisco	Lodgepole	Scottsbluff
Pioneer	Oshkosh	Sheep Creek and Farmers
	Potter	
	Rackett	Not part of a MAA
	Sidney*	Bushnell

Central Panhandle

Bayard

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
46,059.48	5,771.54	2,580.21	154,632.77	950.97	59.60	3,442.98	213,497.54
21.57%	2.70%	1.21%	72.43%	0.45%	0.03%	1.61%	

City of Bayard, population of 1,209

The majority of the landscape is classified as shrub, which is within the Panhandle Prairies and Wildcat Hills BULs with the minor forest component mainly in the North Platte River BUL and scattered creek stringers and windbreaks. The remaining landscape is Bayard itself and crop acres.

Areas of concern include multiple areas of limited access, poor terrain, and isolated rural homes with long access 'driveways'. These isolated homes should practice FireWise principles and concepts found in Living with Fire and develop water sources where needed for fire suppression around infrastructure.

Areas that represent hazards with fuels, access issues, and/or frequency of public use includes the golf course, Chimney Rock, game preserve and unattended riparian growth along the river.

Northern Goodstreak and North Platte River: fire prevention and response plans developed in coordination with landowners, NRD and fire department; hazard reduction elements to include infrastructure improvements such as dry hydrants as needed, and fuels reduction.

Bridgeport

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
87,379.36	10,124.33	5,450.71	219,128.79	1,259.87	145.61	2,017.61	325,506.27
26.84%	3.11%	1.67%	67.32%	0.39%	0.04%	0.62%	

City of Bridgeport, population of 1,545

The majority of the landscape is classified as shrub, which is within the Panhandle Prairies and Wildcat Hills BULs with the minor forest component mainly in the North Platte River BUL and scattered creek stringers and windbreaks. The remaining landscape is Bridgeport itself and crop acres.

Broadwater

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
51,953.81	5,154.38	2,371.67	212,512.93	1,649.10	93.93	6,732.36	280,468.18
18.52%	1.84%	0.85%	75.77%	0.59%	0.03%	2.40%	

Village of Broadwater, population of 128

The majority of the landscape is classified as shrub, which a small portion is within the Panhandle Prairies on the north, the Wildcat Hills BULs across the southern edge and the minor forest component mainly in the North Platte River BUL and edge of the Wildcat Hills. The remaining landscape is crop acres.

Crescent Lake NWR

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
155.54	0.00	282.77	41,064.40	1,935.08	0.00	2,114.69	45,552.47
0.34%	0.00%	0.62%	90.15%	4.25%	0.00%	4.64%	

A unit of the US Fish and Wildlife Service with a fire use and suppression policy.

The entire fire district is within the Sandhills Alkaline Lakes BUL. Vegetation communities within and adjacent to the BUL include wetland meadows, marshes and sandhill dune prairie on which fire can be beneficial. Conditions would need to be dry, with high heat, low humidity, and high wind to increase the potential for a major fire occurrence.

Heart of the Hills

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
916.09	0.00	768.07	221,149.73	8,539.16	252.59	10,807.22	242,432.85
0.38%	0.00%	0.32%	91.22%	3.52%	0.10%	4.46%	

The landscape is classified as shrub, with the majority within the Sandhills Alkaline Lakes BUL. Vegetation communities within and adjacent to the BUL include wetland meadows, marshes and sandhill dune prairie on which fire can be beneficial. Conditions would need to be dry, with high heat, low humidity, and high wind to increase the potential for a major fire occurrence.

Lisco

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
790.16	82.12	90.83	4,068.66	75.71	8.47	268.74	5,384.69
14.67%	1.53%	1.69%	75.56%	1.41%	0.16%	4.99%	

The majority of the landscape is classified as shrub, some crop acres and the minor forest component is mainly in the North Platte River BUL. A majority of the flood plains within the BUL are farmed. The riparian forest has invasive plants including Russian olive and Eastern redcedar which both burn hot and where stand densities are thick, that can lead to sterilized soil from prolonged exposure to heat.

Pioneer

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
159.94	0.00	136.21	34,967.39	1,354.27	40.24	1,579.20	38,237.24
0.42%	0.00%	0.36%	91.45%	3.54%	0.11%	4.13%	

The entire landscape is classified as shrub, and it is all Sandhills Alkaline Lakes. Vegetation communities within and adjacent to the BUL include wetland meadows, marshes and sandhill dune prairie on which fire can be beneficial. Conditions would need to be dry, with high heat, low humidity, and high wind to increase the potential for a major fire occurrence.

Interstate Fire Assoc

Blue Creek

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
31,759.87	2,667.36	4,034.01	166,783.53	677.42	43.75	3,074.97	209,040.90
15.19%	1.28%	1.93%	79.79%	0.32%	0.02%	1.47%	

Village of Lewellen, population of 224

The majority of the landscape is classified as shrub and the minor forest component is mainly in the North Platte River BUL and along Blue Creek drainage. A majority of the flood plains within the BUL are farmed. The riparian forest has invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

Dalton

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
182,926.53	6,542.92	56.39	32,131.59	8.44	1.51	47.18	221,714.55
82.51%	2.95%	0.03%	14.49%	0.00%	0.00%	0.02%	

Village of Dalton, population of 315

Village of Gurley, population of 214

The majority of the landscape is crop acres, which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence. The scattered shrub acres on the north near Wildcat Hills BUL and along Rush Creek and tributaries would also need dry hot conditions for a major fire.

Dix

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
99,212.65	5,438.52	49.91	77,551.56	16.12	39.19	3.90	182,311.86
54.42%	2.98%	0.03%	42.54%	0.01%	0.02%	0.00%	

Village of Dix, population of 255

The landscape is slightly more crop than shrub acres, with the shrub acres along the water ways like Lodgepole Creek and others. Weather conditions would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Kimball

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
96,338.35	8,326.05	190.08	100,763.61	257.48	133.45	524.84	206,533.85
46.65%	4.03%	0.09%	48.79%	0.12%	0.06%	0.25%	

City of Kimball, population of 2,496

The landscape is nearly half crop and half shrub acres, with the what is defined as shrub along the water ways like Lodgepole Creek and tributaries, along with Kimball and Bennet Canals. The southwest portion of the district is within the Kimball Grasslands BUL. Stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

Lodgepole

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
12,350.16	282.93	24.95	2,792.39	1.31	0.00	12.19	15,463.92
79.86%	1.83%	0.16%	18.06%	0.01%	0.00%	0.08%	

A small portion of the fire district is within the CWPP. The included portion is nearly 80% crop acres with the small shrub component on the north end. The crop acres would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Oshkosh

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
105,967.00	7,244.91	4,702.32	346,192.64	4,823.72	295.30	11,015.37	480,241.25
22.07%	1.51%	0.98%	72.09%	1.00%	0.06%	2.29%	

Lisco CDP, population of 64
 City of Oshkosh, population of 884

The majority of the landscape is classified as shrub, with a portion within the Sandhills Alkaline Lakes BUL on the north and the minor forest component mainly in the North Platte River BUL, along Blue and Rush Creek and tributaries. The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence, as would the vegetation communities within the Sandhills Alkaline Lakes BUL.

Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

Potter

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
90,370.80	6,507.37	220.65	98,684.12	49.05	108.47	382.26	196,322.72
46.03%	3.31%	0.11%	50.27%	0.02%	0.06%	0.19%	

Village of Potter, population of 330

The half of the landscape is classified as shrub and the minor forest component is mainly

along Cow, Lodgepole and Rush Creeks and tributaries. Riparian forests along stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Rackett

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
302.82	0.00	101.93	73,991.30	186.94	0.00	2,353.85	76,936.83
0.39%	0.00%	0.13%	96.17%	0.24%	0.00%	3.06%	

The almost 100% of the landscape is classified as shrub. The vegetation across the district is consistent, though only a third of the landscape is within the Sandhills Alkaline Lakes BUL. Vegetation communities within and adjacent to the BUL include wetland meadows, marshes and sandhill dune prairie on which fire can be beneficial. Conditions would need to be dry, with high heat, low humidity, and high wind to increase the potential for a major fire occurrence.

Scotts Bluff Co

Banner County (Harrisburg)

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
136,652.76	10,205.72	7,471.67	313,448.92	56.54	333.83	723.65	468,893.08
29.14%	2.18%	1.59%	66.85%	0.01%	0.07%	0.15%	

Village of Harrisburg, population of 75

Two-thirds of the landscape is classified as shrub, which is within the Wildcat Hills BUL as is the minor forest component. The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Gering

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
27,443.40	6,138.43	4,276.78	45,896.68	315.28	261.33	115.06	84,446.97
32.50%	7.27%	5.06%	54.35%	0.37%	0.31%	0.14%	

City of Gering, population of 8,500

City of Terrytown, population of 1,198

Just over half of the landscape is classified as shrub and forest, which is within the Wildcat Hills and North Platte River BULs. Riparian forests along the North Platte River may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions. Shrubs in the Wildcat Hills include the largest stands of mountain-mahogany in the state according to the Nebraska Game and Parks.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

The original Wildcat Hills CWPP written in 2008, centered on Wildcat Hills Estates roughly 8 miles south of Gering along Highway 71 and tied in to the Nebraska Game & Parks Commission's Wildcat Hills State Recreation Area and Wildlife Management Area to the south.

The Wildcat Hills Nature Center has had an active FireWise Plan (FWP) for seven plus years. Actions detailed in the FWP for education continues. Fuel treatment projects were completed as recommended in the CWPP. A map showing completed thinning locations on Wildcat Hills State Recreation Area is in [Appendix G](#). An additional 34 acres were treated between Scotts Bluff County right of way thinning in the subdivision and four (4) homeowners in Wildcat Hills Estates who completed FireWise practices on their property utilizing cost share funds thru NFS.



Pre

Post



Pre

Post



Wildcat Estates remains a the main concern for the fire district, with public education on why the thinning is needed to reduce risk. Public perception that all trees would be gone is hard to overcome. More thinning projects are outlined and waiting for landowner permission and funding.

Limited water resources are common throughout the district. Strategically placed dry hydrants could reduce the scarcity of available water during a fire event and save time from tenders bringing water from Gering. Locations should be investigated along Kiowa and Owl Creeks, and Fort Laramie Canal or other water bodies in the west and south portions of the district.

Kiowa

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
34,359.91	2,743.62	1,395.23	46,832.18	153.73	166.76	128.49	85,779.93
40.06%	3.20%	1.63%	54.60%	0.18%	0.19%	0.15%	

Village of Lyman, population of 341

The majority of the landscape is classified as shrub, with the east portion of the south within the Wildcat Hills BUL with the minor forest component mainly in the North Platte River BUL. Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

McGrew

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
7,830.28	817.86	797.32	14,340.13	175.23	65.89	436.84	24,463.55
32.01%	3.34%	3.26%	58.62%	0.72%	0.27%	1.79%	

Village of McGrew, population 105

A majority of the landscape is classified as shrub, which is within the Wildcat Hills BUL with the minor forest component mainly in the North Platte River BUL and scattered creek stringers and windbreaks. Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Minatare / Melbeta

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
67,350.32	6,461.10	2,215.20	87,533.52	2,432.91	190.97	1,286.75	167,470.78
40.22%	3.86%	1.32%	52.27%	1.45%	0.11%	0.77%	

Village of Melbeta, population of 112

City of Minatare, population of 816

The majority of the landscape is classified as shrub, which is within the Panhandle Prairies and Wildcat Hills BULs with the minor forest component mainly in the North Platte River BUL and at Minatare Lake Recreation Area. Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Mitchell

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
55,329.08	6,186.90	1,368.47	190,674.04	525.17	327.78	1,731.87	256,143.32
21.60%	2.42%	0.53%	74.44%	0.21%	0.13%	0.68%	

City of Mitchell, population of 1,702

Almost three-quarters of the landscape is classified as shrub, which is within the Panhandle Prairies and Wildcat Hills BULs with the minor forest component mainly in the North Platte River BUL. Native prairie and scattered shrubs will have varying potential for large fire growth, depending on season and recent precipitation. Most of the time grasses will need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Scottsbluff

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
23,753.31	7,347.95	1,105.16	27,617.80	1,175.85	60.19	523.64	61,583.90
38.57%	11.93%	1.79%	44.85%	1.91%	0.10%	0.85%	

City of Scottsbluff, population of 15,039

Just under half of the landscape is classified as shrub, which is within the Panhandle Prairies BUL and the minor forest component is mainly in the North Platte River BUL. Native prairie and scattered shrubs will have varying potential for large fire growth, depending on season and recent precipitation. Most of the time grasses and crop acres will need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is in Scottsbluff urban area.

Sheep Creek and Farmers

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
49,777.40	4,824.64	1,683.11	88,306.10	418.84	79.95	893.06	145,983.10
34.10%	3.30%	1.15%	60.49%	0.29%	0.05%	0.61%	

Village of Henry, population of 106

Village of Morrill, population of 921

The majority of the landscape is classified as shrub, which is within the Panhandle Prairies BUL with a minor amount of Wildcat Hills BUL. The minor forest component is mainly in the North Platte River BUL.

Native prairie and scattered shrubs will have varying potential for large fire growth, depending on season and recent precipitation. Most of the time grasses and crop acres will need to be dry, with high heat, low humidity, and high wind for a major fire occurrence. Riparian forests along the North Platte River and stream channels may have invasive non-native species such as Russian olive and encroaching Eastern redcedar which burn hot and where stand densities are thick could lead to sterile soil issues from prolonged exposure to heat under prime fire conditions.

The remaining landscape is in crop acres which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Not in a Mutual Aid District

Bushnell

Acres

CROP	DEVELOPED	FOREST	SHRUBS	WATER	BARREN	WETLANDS	TOTAL
90,794.93	5,908.92	660.35	124,260.61	89.60	113.74	539.99	222,368.13
40.83%	2.66%	0.30%	55.88%	0.04%	0.05%	0.24%	

Village of Bushnell, population of 124

The majority of the landscape is classified as shrub, which is within the Kimball Grasslands BUL. The remaining landscape is in crop acres and wetlands which would need to be dry, with high heat, low humidity, and high wind for a major fire occurrence.

Action Plan

Education and Involvement of community leaders and landowners will be important to achieve reduced hazard and risk. Under certain weather and fuel conditions fire can be a beneficial tool for removing the overabundant fuels and restoring prairie grassland Ecosystems. Some prescribed fire is already occurring in some fire districts.

It is when there are weather extremes of prolonged heat, below average rainfall, low relative humidity, high winds and an unintentional spark from a human source or a dry lightning strike that resources are typically under heightened risk of loss. It is under these 'perfect storm' circumstances that previously completed proactive steps can reduce the threat for one or many properties and infrastructure.

Individuals can reduce structure ignitability on their home and outbuildings. For example, cedar shake shingles should be replaced with asphalt shingles or metal roofing so firebrands landing on the roof cannot start the building on fire. New buildings in wooded or dense shrub area should consider construction techniques that would reduce ignitability from fire brands, or convective and radiant heat as a fire moves past, such as steel, stucco or cement siding. Removing ignitability sources in the buildings' ignition zone is also needed to increase defensible space and possibly provide a safe zone for the landowner or firefighters.

More information on reducing hazard and risk, and definitions of unfamiliar terms used here, can be found at:

- FIREWISE (firewise.org) is a great resource for educational materials in wildfire preparedness.
- Nebraska Forest Service has several resources for Fire Prevention (<http://nfs.unl.edu/fire-prevention>)
- Wildland Fire Protection (<http://nfs.unl.edu/wildland-fire-protection>)
- Living With Fire, A Homeowner's Guide (Western Neb. Edition) available (<http://nfs.unl.edu/> hover over Resources & Publications, click Publications, click Wildland fire Protection, scroll down)
- Ready, Set, Go (<http://www.wildlandfirersg.org/>) International Association of Fire
- Chiefs program for those who live in high risk wildfire areas best prepare themselves and properties against fire threats.

The Collaborator's Survey contained a poll to rank six possible programs that could facilitate portions of this plan. Based on input received the suggested implementations is as follows:

Emergency Preparedness And Communications Program

This can include training, equipment and education at many levels, and preparedness plans for evacuation procedures for a fire district, mutual aid district, entire county, or individual homeowners - trigger points for when, where to go/how to get there,

including pets, people and livestock.

Community Homeowner Wildland Fire Education Program

This would likely be FIREWISE educational programs on how to make your home and **farmstead safer from wildland fire threat.**

Hazardous Fuels Projects

The harvest and removal of excessive wildland fuels such as encroaching Eastern redcedar and riparian invasive plants. Evacuation routes, ingress and egress may also need treatments to have sufficient width with low density of trees and shrubs.

Wildfire Protection Program

Could include activities such as Smokey Bear school programs, home or farmstead inspections for FIREWISE practices to reduce fire risk and ignitability, and improve defensibility of the home/farmstead.

Restoration Of Fire-Adapted Ecosystems Programs

This could include a combination of harvest and prescribed fire to return rangelands to their native grassland or shrub-grassland state.

Wildfire Suppression Program

Additional firefighter training for wildland Red Card certification (approved National Wildfire Coordinating Group [NWCG] courses), additional firefighting equipment and firefighter recruitment.

Economic Impacts

The excessive fuel loading of Eastern redcedar in some areas is reducing forage resources for cattle and upland game. Less forage reduces the carrying capacity of the pastures and therefore limits herd size of both cattle and deer. residences have been built. Some of these subdivisions have narrow one-way access with no turn-around. Fire in these areas could mean loss of life and property under fuel and weather conditions equating the 'perfect storm'.

If the cedar is removed by uncontrolled wildfire, other resources are also affected. Intense fires may induce hydrophobic soils, where in steep terrain runoff is significantly accelerated. Loss of all grazing and decreased quality water quality can be long lasting affects for landowners and their livestock and hunting livelihoods.

A proactive approach to reducing hazardous fuel levels can provide jobs and a resource of biomass or other products from the cedar trees. Mechanical removal of encroaching Eastern redcedar will reduce the hazard and risk of intense wildfire to plant and soil resources, homes and infrastructure, as well as improve wildlife habitat and increase water amounts reaching the streams, lakes and the water table.

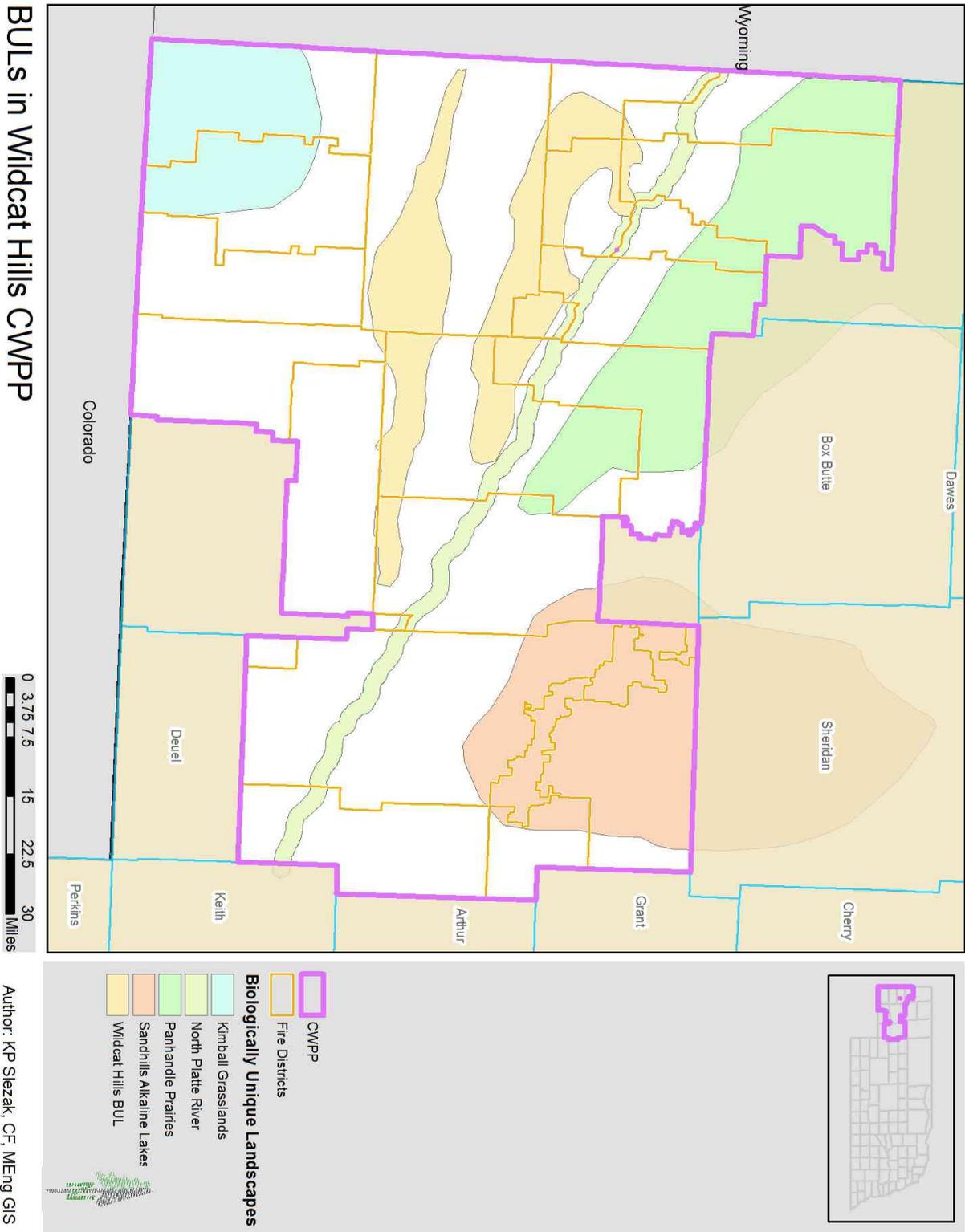
Care on river bluff slopes and hillsides is needed so as to reduce potential erosion from both equipment use and less plant root zones holding soil.

Landowners or organizations within the NFS FAP Priority Landscapes proposing a project to reduce fuels would be first for assistance grant requests, especially those working in concert with neighbors providing a contiguous area.

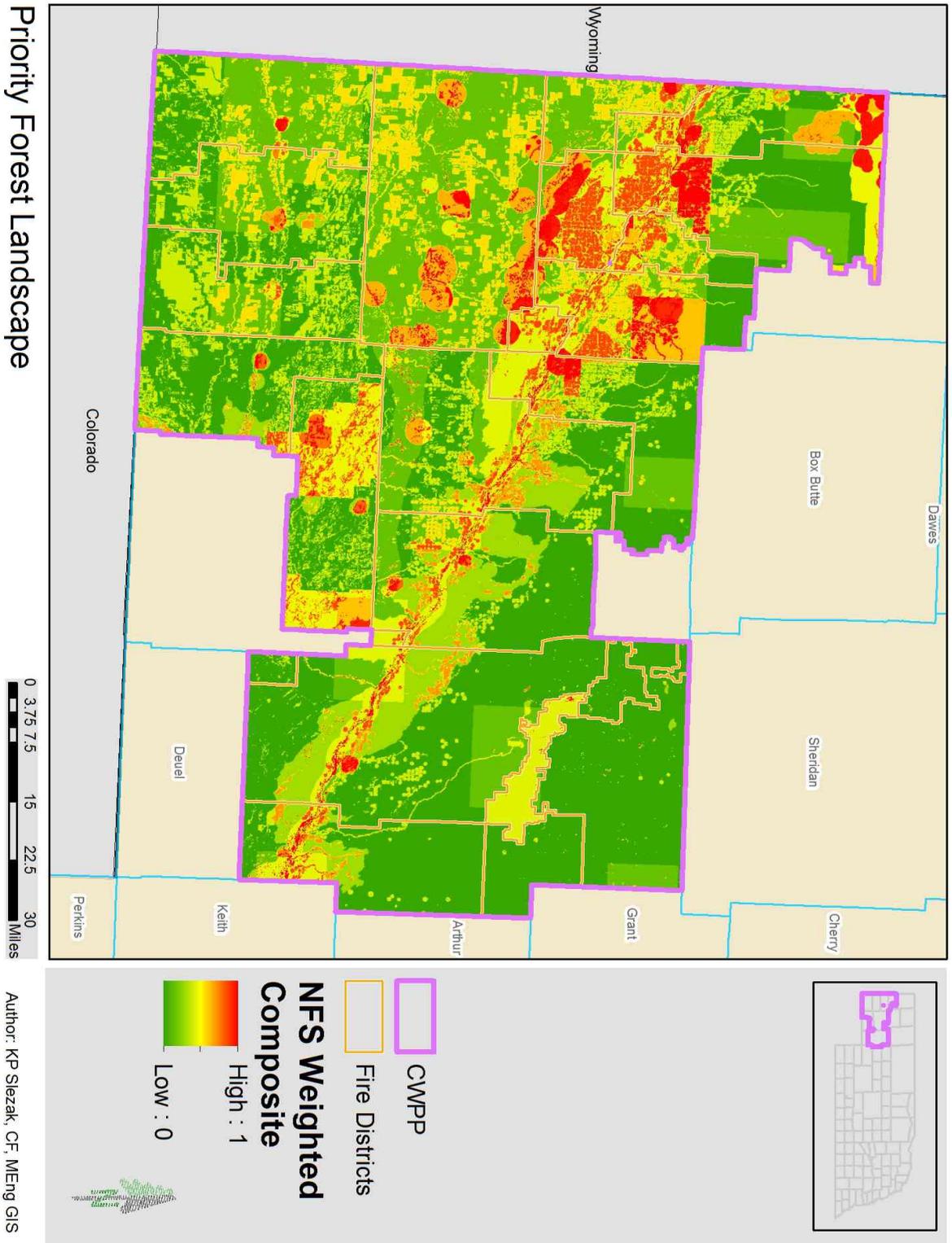
NFS is anticipating that material being removed can be utilized by local artisans, small wood processing businesses, or new biomass facilities.

Appendices

Appendix A – Biologically Unique Landscapes (BULs) – Map



Appendix B – Priority Forest Landscapes – Map



Appendix C – Survey Questions

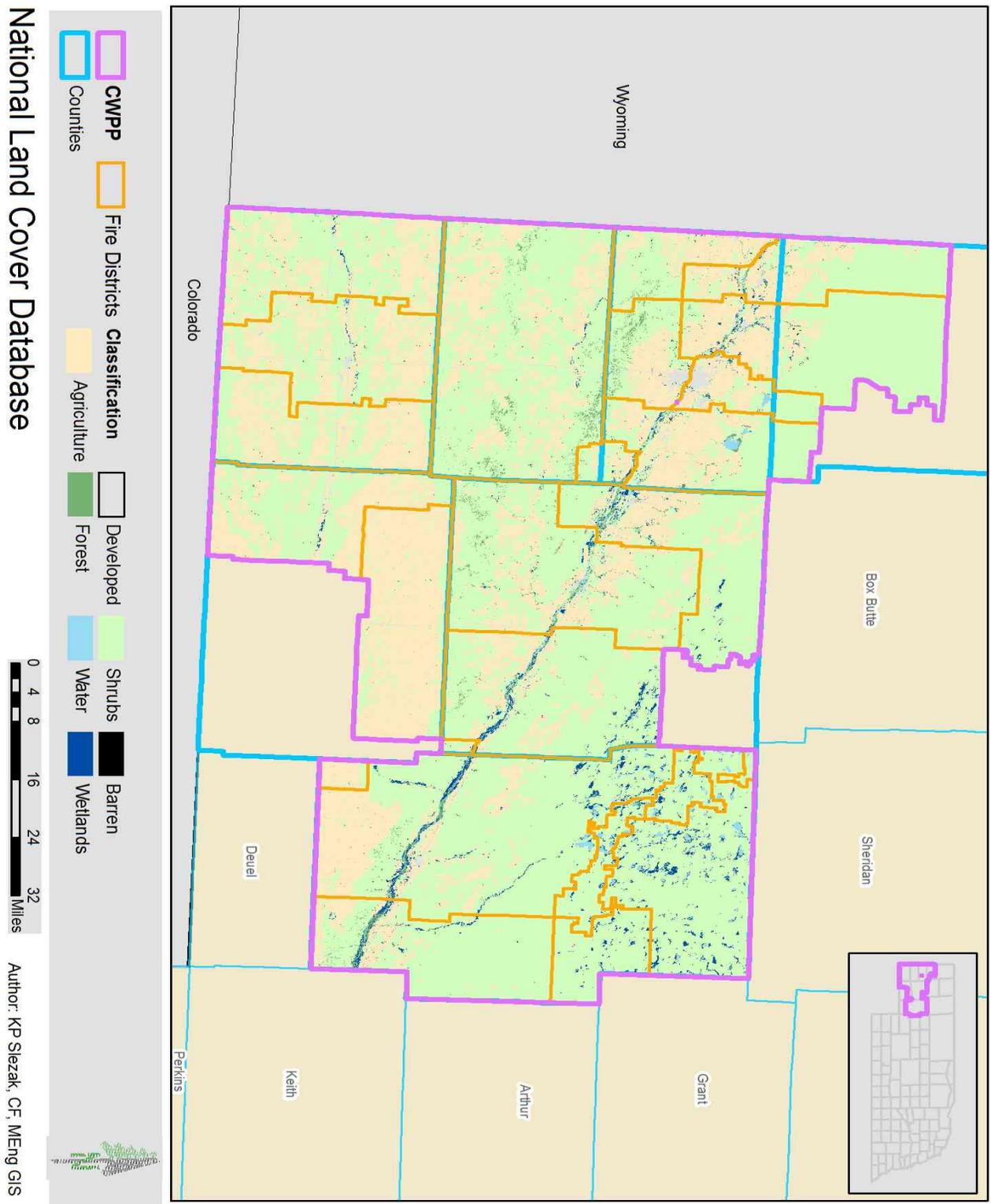
Survey
Date submitted
Please provide your first name
Last name:
Affiliation: Your County, Fire District, Village/City, or other agency:
Best email to contact you:
Business or daytime phone
Cell phone if it would assist us during this process
How many personnel are available to respond to fires- [Full-time]
How many personnel are available to respond to fires- [Part-time]
How many personnel are available to respond to fires- [Volunteer]
Please define apparatus [Engines Type 1]
Please define apparatus [Tenders Type 2]
Please define apparatus [Tenders Other (please describe in comments)]
Please define apparatus [Engines Type 6 (Brush trucks)]
Please define apparatus [Engines Other (please describe in comments)]
Please define apparatus [Equipment Truck/Van]
Please define apparatus [Other (please describe in comments)]
Please define apparatus [Any equipment housed on ranches/not at main fire barn, please describe in comments]
Please select Districts with whom you have existing mutual aid agreements [Banner County]
Please select Districts with whom you have existing mutual aid agreements [Bayard]
Please select Districts with whom you have existing mutual aid agreements [Blue Creek]
Please select Districts with whom you have existing mutual aid agreements [Bridgeport]
Please select Districts with whom you have existing mutual aid agreements [Broadwater]
Please select Districts with whom you have existing mutual aid agreements [Bushnell]
Please select Districts with whom you have existing mutual aid agreements [Crescent Lake NWR]
Please select Districts with whom you have existing mutual aid agreements [Dalton]
Please select Districts with whom you have existing mutual aid agreements [Dix]
Please select Districts with whom you have existing mutual aid agreements [Gering]

Please select Districts with whom you have existing mutual aid agreements [Heart of the Hills]
Please select Districts with whom you have existing mutual aid agreements [Kimball]
Please select Districts with whom you have existing mutual aid agreements [Kiowa]
Please select Districts with whom you have existing mutual aid agreements [Lisco]
Please select Districts with whom you have existing mutual aid agreements [Lodgepole]
Please select Districts with whom you have existing mutual aid agreements [McGrew]
Please select Districts with whom you have existing mutual aid agreements [Minatare/Melbeta]
Please select Districts with whom you have existing mutual aid agreements [Mitchell]
Please select Districts with whom you have existing mutual aid agreements [Oshkosh]
Please select Districts with whom you have existing mutual aid agreements [Pioneer]
Please select Districts with whom you have existing mutual aid agreements [Potter]
Please select Districts with whom you have existing mutual aid agreements [Rackett]
Please select Districts with whom you have existing mutual aid agreements [Scottsbluff]
Please select Districts with whom you have existing mutual aid agreements [Sheep Creek and Farmers]
Please select Districts with whom you have existing mutual aid agreements [Other]
As Fire Cheif have you already identified issue areas if a large wildland fire were to start in your area- Please describe.
As Fire Chief, have you already identified one or more areas in your District that is your 'nightmare' if a wildfire were to start- Where- Resources at risk - infrastructure, homes- Firefighter safety- Ingress/egress issues- Topography- Lack of water within effective distance-
As Fire Chief, have you already identified one or more ares for fuel hazard reduction projects- Please describe current fuels, resources at risk and acres (if known).
Is there an area isolated from water sources that may hinder initial response- Description and distance by road (miles) to nearest water. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Yes, please describe...]
Is there an area isolated from water sources that may hinder initial response- Description and distance by road (miles) to nearest water. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Is there an area isolated from water sources that may hinder initial response- Description and distance by road (miles) to nearest water. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [No]

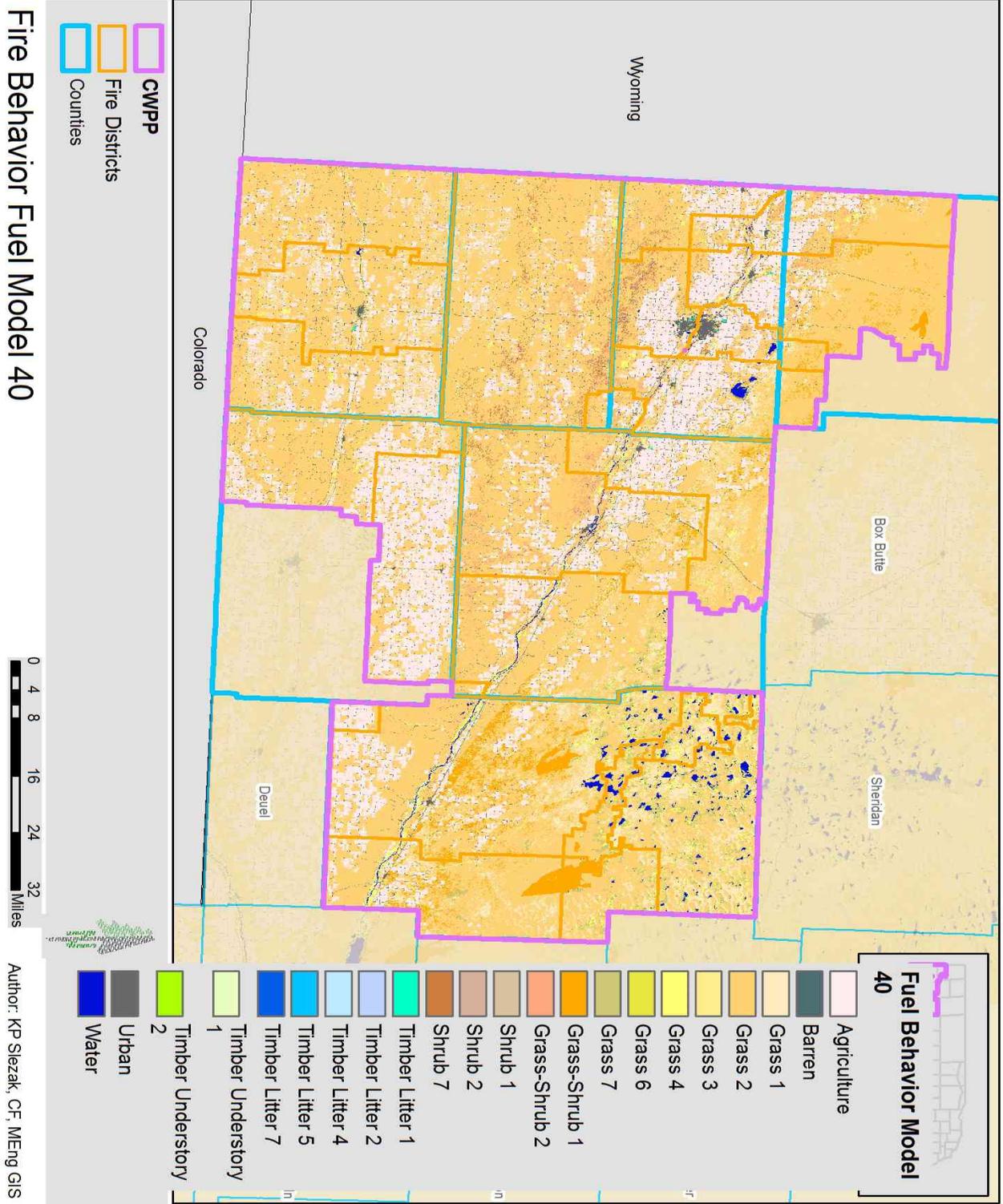
Is there an area isolated from water sources that may hinder initial response- Description and distance by road (miles) to nearest water. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Do you know of an area(s) with a high density of homes, any infrastructure or other resources at high risk from wildfire- If so, please describe. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Yes, please describe...]
Do you know of an area(s) with a high density of homes, any infrastructure or other resources at high risk from wildfire- If so, please describe. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Do you know of an area(s) with a high density of homes, any infrastructure or other resources at high risk from wildfire- If so, please describe. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [No]
Do you know of an area(s) with a high density of homes, any infrastructure or other resources at high risk from wildfire- If so, please describe. (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Are there subdivisions/areas with one-way in/out- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Yes, please describe...]
Are there subdivisions/areas with one-way in/out- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Are there subdivisions/areas with one-way in/out- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [No]
Are there subdivisions/areas with one-way in/out- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Are there any bridges that won't support equipment weight- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Yes, please describe/location...]
Are there any bridges that won't support equipment weight- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Are there any bridges that won't support equipment weight- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [No]

Are there any bridges that won't support equipment weight- (if you click no, please put one character or number in the field to the right, or else the way this program functions it will clear the whole question when you click on the next one) [Comment]
Any other comments or descriptions from items above:
Have you identified one or more areas in your municipality that you are more concerned about than others if a wildfire starts nearby. [Yes - where/why-]
Have you identified one or more areas in your municipality that you are more concerned about than others if a wildfire starts nearby. [Comment]
Have you identified one or more areas in your municipality that you are more concerned about than others if a wildfire starts nearby. [No]
Have you identified one or more areas in your municipality that you are more concerned about than others if a wildfire starts nearby. [Comment]
Does your jurisdiction have equipment to assist the Fire District in your Roads Department (or other)- [Yes, please describe...]
Does your jurisdiction have equipment to assist the Fire District in your Roads Department (or other)- [Comment]
Does your jurisdiction have equipment to assist the Fire District in your Roads Department (or other)- [No]
Does your jurisdiction have equipment to assist the Fire District in your Roads Department (or other)- [Comment]
Any other comments or concerns if a wildfire were to start or head into your jurisdiction:
Does your jurisdiction have GIS layer(s) that would show housing, infrastructure, bridge limits, hydrants and otherwater sources, etc- [Yes, please describe/who should I contact to acquire data...]
Does your jurisdiction have GIS layer(s) that would show housing, infrastructure, bridge limits, hydrants and otherwater sources, etc- [Comment]
Does your jurisdiction have GIS layer(s) that would show housing, infrastructure, bridge limits, hydrants and otherwater sources, etc- [No]
Does your jurisdiction have GIS layer(s) that would show housing, infrastructure, bridge limits, hydrants and otherwater sources, etc- [Comment]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 1]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 2]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 3]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 4]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 5]
Rank these items with 1 having the greatest need in your jurisdiction [Rank 6]
Any other comments or concerns for or about this project:

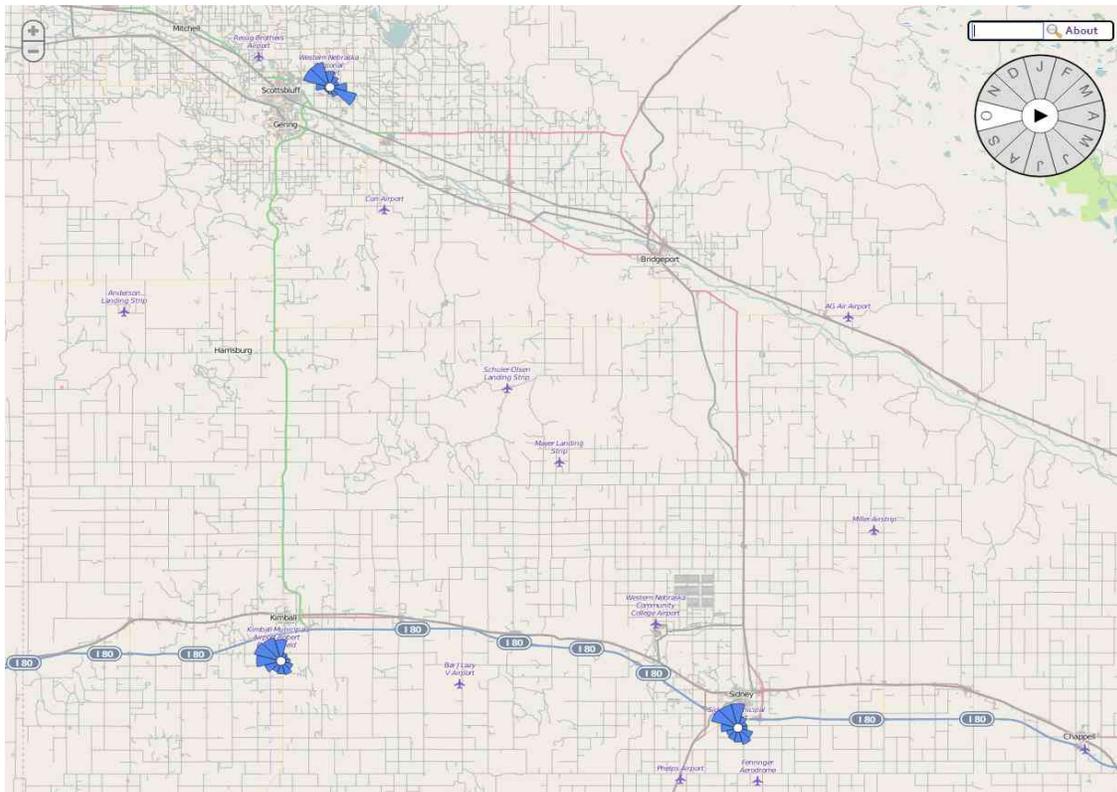
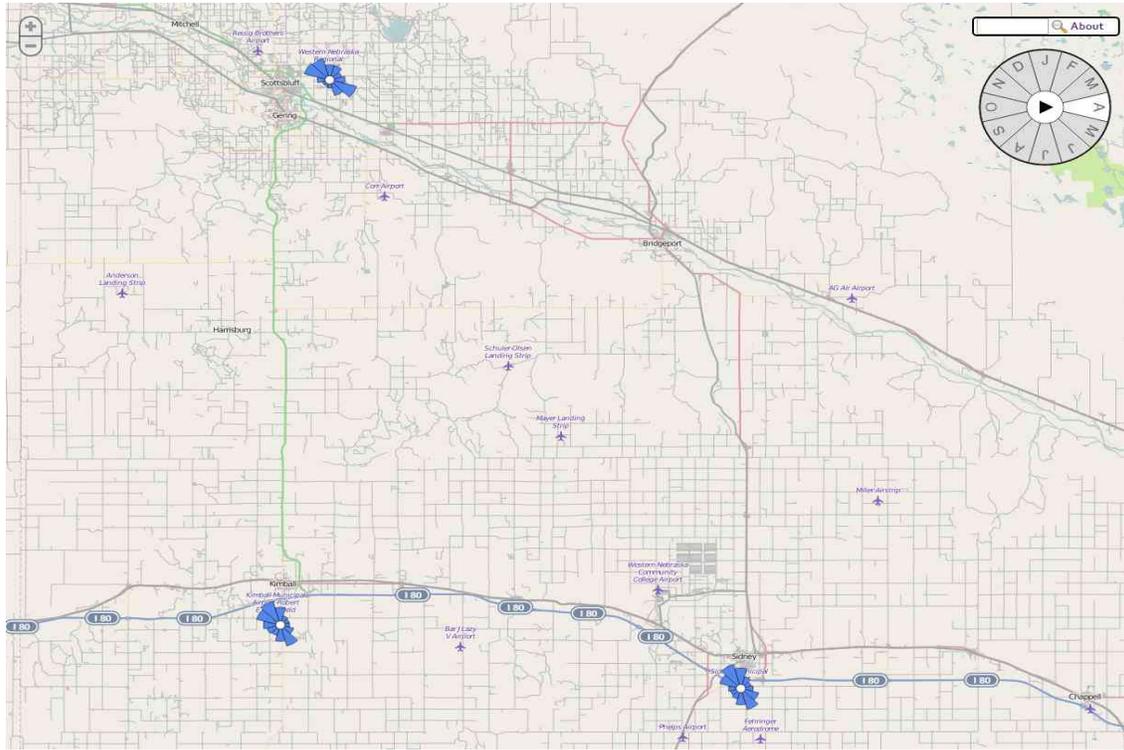
Appendix E – National Land Cover Database



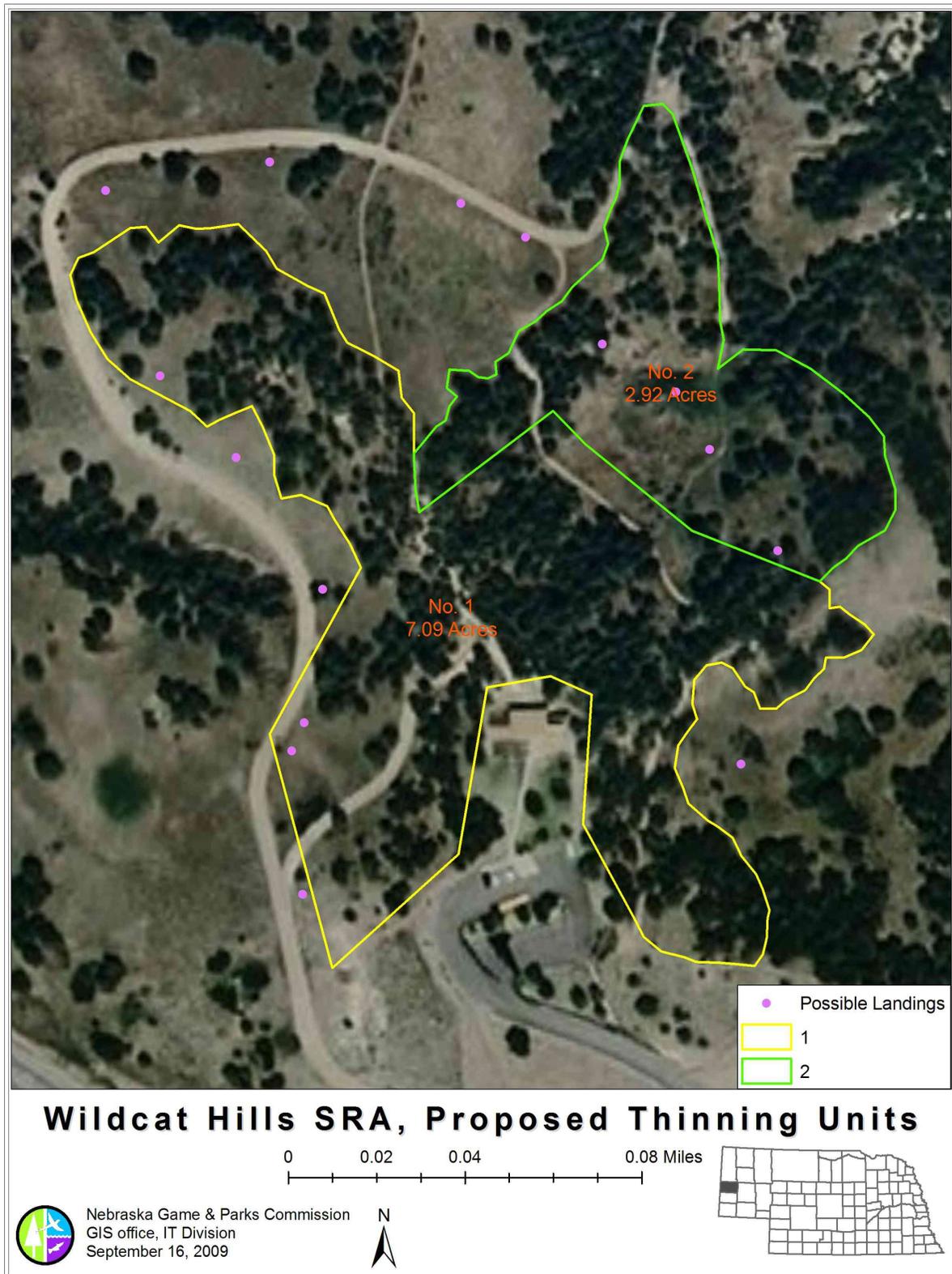
Fire Behavior Fuel Model 40



Appendix F – Wind Roses



Appendix G – Wildcat Hills Estates' Proposed 2008 Thinnings



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<http://outdoornebraska.ne.gov/wildlife/programs/legacy/>

Signature Pages (as received)

I participated in the development of and/or reviewed this CWPP.
I am in support of the plan:

James Templar
Signature

Gering Volunteer Fire Dept
Entity / Departments

James Templar
Printed Name

7/31/15
Date