



Humboldt County

Community Wildfire Protection Plan

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INTRODUCTION

1.1 PROJECT STRUCTURE

The Healthy Forests Restoration Act (HFRA) of 2003 provides the impetus for wildfire risk assessment and planning at the county and community level. HFRA refers to this level of planning as Community Wildfire Protection Plans (CWPP). The CWPP allows a community to evaluate its current situation with regards to wildfire risk and devise ways to reduce risk for protection of human welfare and other important economic or ecological values. The CWPP may address issues such as community wildfire risk, structure flammability, hazardous fuels mitigation, and non-fuels mitigation, community preparedness, and emergency procedures. The Project Team provided the collection of information used for the development of the CWPP and its implementation in Humboldt County.

The focus of the Humboldt County CWPP is county-wide. The plan emphasizes the communities at risk within the vicinity of federal lands that are most vulnerable to the threat of wildfire as identified in the 2001 Federal Register (Appendix G). Human life and welfare are values at risk to wildfire because of the buildup of hazardous fuels around communities and structures, poor emergency vehicle ingress and egress, major transportation routes and traffic flow, a large area to cover with the fire authorities, and volunteer (part-time) fire suppression authorities. Throughout the County, there are scattered small communities and ranches with houses and out-buildings without structural fire protection. Other economic values at risk include businesses, farmland, ranchland, grazing land, hunting and other recreational land, historic and cultural sites, and critical infrastructure.

The Nevada Department of Forestry contacted Humboldt County Emergency Management who assembled a project team of experts in the fields of fire behavior and suppression, natural resource ecology, ranch management, county management, and geographic information systems (GIS) to review the assessment for each Humboldt County community listed in the Federal Register. The Nevada Division of Forestry (NDF) Project Team spent several days inventorying conditions in several communities within Humboldt County and completing the primary data collection and verification portions of the risk assessment.

The specific goals of the Nevada Community Risk/Hazard Assessment Project are to:

- Assess the wildfire hazards present in each community on the Federal Register list of communities at risk in Nevada.
- Identify firefighting resource needs (e.g. equipment and infrastructure).
- Conduct fuel hazard mapping for high fuel hazard communities.
- Describe proposed risk and hazard mitigation projects in enough detail to aid communities in applying for future implementation funds.
- Distribute assessment results and proposed mitigation project descriptions to each County in a format that will be easily updated and useful for public meetings and other public education activities.

Wildland fire is the highest rated hazard in Humboldt County. During the 19-year period of 2003 to 2022, there were 941 ignitions encompassing 1,374,499 acres for an average of 50 fires destroying 72,342 acres per year. 37 percent of wildfires were the result of natural causes, while 54 percent were human-caused, and 9 percent had undetermined causes. Even though these fires have been predominantly in areas without residents or other structures, the economic impact to agriculture and environments remains substantial.

Numerous agencies and individuals were involved in the planning and implementation of this effort. Special thanks and acknowledgement are given to:

- Bureau of Land Management (BLM)
- Nevada Division of Forestry (NDF)
- University of Nevada Cooperative Extension (UNCE)
- Humboldt County County Manager
- Humboldt County Commissioner
- County residents and ranchers
- Humboldt Communities
- Fire Chiefs county-wide

1.2 COMMUNITIES ASSESSED

Fourteen communities in proximity to federal lands within Humboldt County were identified in the Federal Register (66 FR 160) and are included in this assessment:

- Artemisia
- Denio/Denio Junction
- Golconda
- Grass Valley
- Herschel
- Jungo
- McDermitt
- Orovada
- Paradise Ranchos
- Paradise Valley
- Prairie-Dog
- Rose Creek
- Valmy
- Winnemucca Proper

Humboldt County has several agricultural ranch communities that face a greater risk of economic loss from damage to agricultural commodities (e.g. livestock, hay, and crops) than risks to residential structures. General recommendations for rural ranch communities have been developed to address hazards that are unique to the private lands in remote settings.

There may be additional rural areas or small subdivisions within Humboldt County that were not included on the Federal Register list, but are included in the scope of this project. Conditions in and around some of these communities may warrant future individual hazard/risk assessment. However, many of the recommendations developed for similar communities in this report may apply to additional areas.

1.3 COMMUNITIES NOT CURRENTLY ASSESSED

1.3.1 Summit Lake

Summit Lake, located in the northwest part of Humboldt County, is Paiute tribal land. There is no residential community on the property and no one currently lives there. The risk/hazard assessment was not completed for Summit Lake because it is not a residential community.

1.3.2 Fort McDermitt Reservation

SWCA Environmental Consultants (2003) was contacted to conduct a Wildfire Hazard Assessment and Mitigation Plan for the Primary Residential Community on the Fort McDermitt Reservation on behalf of the Bureau of Indian Affairs in January 2003. The assessment covered the 16,831 acres of the Fort McDermitt Reservation within Nevada.

SWCA assessed community design, physical conditions, existing fuel conditions, fire behavior factors, ignition risks, and fire suppression and protection resources. The following activities were recommended:

- Defensible space of at least seventy feet surrounding residences
- Fuel reduction to cover 976 acres in two phases over three years
- Maintenance and inspection of fire hydrants
- Installation of water tanks
- Construction, maintenance, and improvement of street signs and residential addresses
- Public education

1.3.3 Winnemucca Indian Colony

Contact with tribal leaders was attempted with no response. The Project Team is attempting to work through the BLM BIA personnel to gather information.

METHODOLOGY

2.1 PROJECT TEAM

The Project Team was composed of experts in the fields of fire behavior and suppression, geographic information systems (GIS), and natural resource ecology who collaborated to complete a Community Risk/Hazard Assessment for each community. The Project Team included BLM and NDF fire specialists with extensive wildland fire prevention and suppression experience in Nevada, NDF Fire Adapted Partnership Coordinator, and University of Nevada Reno (UNR) natural resources specialists experienced in the Great Basin environment. The depth of knowledge of the Project Team was deepened through the addition of County government leadership, local ranchers, and Fire Protection District Fire Chiefs.

2.2 Base Map Data Collection

The Project Team compiled and reviewed existing statewide geospatial data to create field maps for recording baseline data and data verification. Data sources for the maps were the Nevada Division of Forestry and the Bureau of Land Management. Datasets and sources utilized are listed below:

- Land Ownership
- Vegetation Classes
- Fuel Types
- Fire History
- Rangeland Fire Protection Associations
- Greenstrip Projects
- Community Sites (Appendix C)

Maps are located in Appendix E.

2.2.1 Wildfire History

Wildfire history was mapped using Bureau of Land Management and US Forest Service datasets that identify wildfire perimeters on federally managed lands covering the past 19 years. This dataset was updated at the BLM Nevada State Office at the end of each fire season from information provided by each Nevada BLM Field Office. The dataset is the central source of historical GIS fire data used for fire management and land use planning on federal lands.

Fires that occur on private lands are generally recorded on paper maps and have not been consistently included in federal agency GIS datasets. Additional fire locations identified during interviews with local fire personnel were recorded on the field maps where possible and added to the project wildfire perimeter dataset. In addition to the fire perimeter information, point data for all fire ignitions within Nevada from 2003-2022 was obtained from the Nevada Fire Intel within the National Interagency Fire Center (NIFC)

of Boise, ID. This dataset includes an ignition point coordinate and an acreage component as reported to NIFC through a variety of agencies.

The wildfire history and ignition history data were used to formulate risk ratings and to develop recommendations specific to areas that have been repeatedly impacted by wildland fires. Observations made from the Project Team and comments from local fire agency personnel were also used to develop recommendations in areas without recent wildfire activity where a significant buildup of fuels or expansion of urban development into the interface area represents a growing risk.

2.3 Community Risk/Hazard Assessment

The wildland-urban interface is the place where homes and wildland meet. This project focuses on identifying risks and hazards in the wildland-urban interface areas countywide by assessing each community individually. Site-specific information for each community was collected during field visits conducted between March 1, 2023, and April 30, 2023. The predominant conditions recorded during these site visits were used as the basis for the Community Risk and Hazard Assessment ratings. See Community Risk/Hazard Assessment reports in Appendix D.

To arrive at a score for the community, five primary factors that affect potential fire hazard were assessed: community design, construction materials, defensible space, fire suppression capabilities, and physical conditions that affect fire behavior such as fuel loading and topography. A description of each of these factors and their relative importance in developing the overall score for the community is provided below. Individual community score sheets presenting the point values assigned to each element in the hazard assessment are provided at the end of each community assessment.

Community Design

Many aspects of community design can be modified to make a community more fire safe. Factors considered include:

- **Interface Condition** Community safety is affected by the density and distribution of structures with respect to the surrounding wildland environment. Four interface condition classes are used to categorize the wildland-urban interface.
- **Access.** Design aspects of roadways influence the hazard rating assigned to a community. A road gradient of greater than five percent can increase response times for heavy vehicles carrying water. Roads less than twenty feet in width often impede two-way movement of vehicles and fire suppression equipment. Hairpin turns and cul-de-sacs with radii of less than 45 feet can cause problems for equipment mobility. Adequately designed secondary access routes and loop roads in a community can lower a hazard rating. Visible, fire-resistant street and address identification and adequate driveway widths also reduce the overall community wildfire hazard rating.

- **Utilities.** Poorly maintained overhead power lines can be a potential ignition source for wildfires. It is important to keep power line corridors clear of flammable vegetation, especially around power poles and beneath transformers. Keeping flammable vegetation cleared from beneath power lines and around power poles reduces potential hazards from damaged power lines. Power failures are especially dangerous to a community without a back-up energy source. Many communities rely on electric pumps to provide water to residents and firefighters for structure protection and fire suppression.

Construction Materials

While it is not feasible to expect all structures in the wildland/urban interface area to be rebuilt with non-combustible materials, there are steps that can be taken to address specific elements that strongly affect structure ignitability in the interface area. Factors considered in the assessment include:

- **Structure Building Materials.** The composition of building materials determines the length of time a structure could withstand high temperatures before ignition occurs. Houses composed of wood siding and wood shake roofing are usually the most susceptible to ignitions. Houses built with stucco exteriors and tile, metal, or composition roofing are able to withstand much higher temperatures and longer heat durations, thereby presenting a much lower ignition risk from firebrands or the proximity to advancing flames when defensible space conditions are adequate.
- **Architectural Features.** Unenclosed or unscreened balconies, decks, porches, eaves, or attic vents on homes can create drafty areas where firebrands and embers can accumulate, smolder, and ignite, rapidly spreading fire to the house. A high number of houses within a wildland-urban interface area with these features imply a greater hazard to the community.

Defensible Space

The density and type of fuel around a home determines the potential fire exposure and the potential for damage to the home. A greater volume of trees, shrubs, dry weeds and grass, woodpiles, and other combustible materials near the home will ignite more readily, produce more intense heat during a fire, and increase the threat of losing the home. Defensible space is one of the factors that homeowners can most easily manipulate in order to improve the chances that a home or other property avoids damage or complete loss from a wildfire.

Suppression Capabilities

Knowledge of the capabilities or limitations of the fire suppression resources in a community can help the residents take action to maximize the resources available. Factors considered in the assessment include:

- **Availability, Quantity, and Training Level of Firefighting Personnel** When a fire begins in or near a community, having the appropriate firefighting personnel

available to respond quickly is critical to saving structures. Whether there is a local paid fire department, volunteer department, or no local fire department impacts how long it takes for firefighters to respond to a reported wildland fire or a threatened community.

- **Quantity and Type of Fire Suppression Equipment.** The quantity and type of available fire suppression equipment has an important role in minimizing the effect of a wildfire on a community. Wildland firefighting requires specialized equipment.
- **Water Resources.** The availability of water resources is critical to fighting a wildland fire. Whether there is a community water system with adequate flow capabilities, or whether firefighters must rely on local ponds or other drafting sites affects how difficult it will be for firefighters to protect the community. Additionally, communities served by water systems that are dependent upon electricity for operation may be left defenseless in the event of a power outage and backup power generation is not in place.

Physical Conditions

Physical conditions include slope, aspect, topography, fuel type, and fuel density. With the exception of changes to the fuel composition, the physical conditions in and around a community cannot be altered to make the community more fire safe. Therefore, an understanding of how these physical conditions can influence the behavior of a fire is essential to planning effective preparedness activities such as fuel reduction treatments. Physical conditions considered in the assessment include:

- **Slope, Aspect, and Topography.** In addition to local weather conditions, slope, aspect, and topographic features are also used to predict fire behavior. Steep slopes greatly influence fire behavior. Fire usually burns upslope with greater speed and longer flame lengths than on flat areas. Fire usually burns downhill at a slower rate and with shorter flame lengths than in upslope burns. West and south facing aspects are subject to more intense solar exposure, which preheats vegetation and lowers the moisture content of fuels. Canyons, ravines, and saddles are topographical features that are prone to higher wind speeds than adjacent areas. East facing slopes in the Great Basin routinely experience strong down slope winds in the afternoon that can rapidly push fires down slope. Fires pushed by winds grow at an accelerated rate compared to fires burning in non-windy conditions. Homes built mid-slope, at the crest of slopes, or in saddles are most at risk due to wind-prone topography in the event of a wildfire.
- **Fuel Type and Density.** Vegetation type, fuel moisture values, and fuel density around a community affect the potential fire behavior. Areas with thick, continuous, vegetative fuels carry a higher hazard rating than communities situated in areas of irrigated, sparse, or non-continuous fuels. Several consecutive years of above normal precipitation will result in excessive cheatgrass growth and ground litter, ranging as high as two to four tons per acre. In Humboldt County, where a large percentage of BLM administered lands have converted to cheatgrass following wildfires, these conditions, in combination with steep slopes or high winds, can create a situation in which the worst-case fire

severity scenario can occur. Photographs of representative fuel types in the interface area throughout Humboldt County are provided in Appendix C.

2.3.3 Fuel Hazard Mapping

Fuel hazard maps were initially generated by the Bureau of Land Management Nevada and Utah State Offices. A total of 65 vegetation types were mapped statewide and reclassified into four wildfire hazard categories (low, moderate, high, and extreme) based on the anticipated fire behavior for each vegetation cover type.

The Project Team visited high and extreme hazard communities and verified the BLM fuel hazard information by comparing the hazard ratings on the existing fuel hazard map to vegetation, slope, and aspect conditions directly observed in the field. Where necessary, changes to the ratings were drawn on the maps and used to update the wildfire hazard potential layer of the project database.

2.4 Interviews with Fire Personnel

The Project Team interviewed local fire department personnel and local fire management officers to obtain information on wildfire training, emergency response time, personnel and equipment capability and availability, evacuation plans, pre-attack plans, and estimates of possible worst-case scenarios. Local fire personnel reviewed maps showing the history of wildfires to ensure that local information on wildfires was included. A list of fire agency personnel contacted for information used in the assessments is included in Appendix D.

2.5 Recommendation Development

A wide variety of treatments and alternative measures can be used to reduce ignition risks, mitigate fire hazards, and promote fire safe communities. Proposed recommendations typically include physical removal or reduction of flammable vegetation, increased community awareness of the risk of fires and how to reduce those risks, and coordination among fire suppression agencies to optimize efforts and use of resources.

3.0 Description of the County

3.1 Demographics, Location, Topography, and Climatic data

Humboldt County is located in northern Nevada, adjacent to the Oregon border and immediately east of Washoe County, Nevada. Humboldt County is approximately 6.2 million acres in size. A jurisdictional summary of land management administration is provided in Table 3-1 and presented on Figure 3-1. The majority of land within Humboldt County is administered and managed by federal agencies. See Map 4 in Appendix F.

Table 3-1. Land Management Acreage within Humboldt County

Land Administrator	Acreage
BLM	4,382,343
USFS	275,283
BIA	22,226
USFWS	371,641
Private	1,117,728
Other (water, etc.)	8,003
<i>Source: BLM land ownership GIS database.</i>	

Elevations within the county range from 4,500 feet in the valley bottoms to 9,700 feet at Granite Peak in the Humboldt-Toiyabe National Forest. Primary mountain ranges include the Black Rock Range, the Santa Rosa Range, and the Sonoma Range. There are several smaller mountain groups throughout the county. Major valleys are the Kings River Valley and the Quinn River Valley. The Black Rock desert lies in the southwestern portion of the county.

In 2022, the 2020 United States Census the population for Humboldt County at 17,285 persons. The Nevada Department of Employment, Training, and Rehabilitation listed mining, trade, government, and service industries as the major employers in the County (Governor's Office of Economic Development, 2004).

3.2 Wildfire History

Humboldt County has the highest incidence of wildfire in Nevada. Total acres burned from 2003-2022 are 1,374,499. Table 3-2 summarizes the fire histories and fire ignitions by year. This table illustrates the fire history in Humboldt County. Fires that occur on private lands are predominantly recorded on paper maps and are often not included in the GIS datasets. Where possible, anecdotal information from fire professionals and local residents was added to the database information. See Map 6 in Appendix E.

Table 3-2. Summary of Available Fire Occurrence Data and Estimated Acreage, 2003-2022

YEAR	Number of Fires	Total Fire Acreage	Year	Number of Fires	Total Fire Acreage
2003	23	1466	2013	66	39,946
2004	24	872	2014	50	1750
2005	27	20,446	2015	42	381
2006	76	72,881	2016	52	1958
2007	53	55,611	2017	80	44,363
2008	28	2106	2018	72	449,462
2009	23	119	2019	70	10,592
2010	23	1219	2020	35	2471
2011	68	115,395	2021	25	61
2012	59	537,020	2022	45	16,380

Source: Fire ignition and vase acreage data provided by the Nevada Fire Intel of the National Interagency Fire Center, Boise, ID. Additional fire history information provided by BLM Nevada State Office and USFS Supervisor’s Office.

3.2.1 Ignition Risk Factors

Wildfire ignition risks fall into two categories: natural and human caused. Human caused ignitions can come from a variety of sources such as burning material thrown out of vehicle windows or ignited during auto accidents, off-road vehicles, railroads, arcing power lines, agricultural fires, unattended campfires, debris burning in piles or burn barrels, target shooting, and fireworks. The ignition source records for Humboldt County indicate that for 941 fire incidents recorded, 346 (37%) were due to natural causes, 508 (54%) were human caused, and 89 (9%) were of unknown origin.

3.2.2 Fire Ecology

The science of fire ecology is the study of how fire contributes to plant community structure and species composition. A “fire regime” is defined in terms of the average number of years between fires under natural conditions (fire frequency), and the amount of dominant vegetation replacement (fire severity). Natural fire regimes have been affected throughout most of Nevada by twentieth century fire suppression policies. Large areas that formerly burned with high frequency but low intensity (fires more amenable to control and suppression) are now characterized by large accumulations of unburned fuels, which once ignited, will burn at higher intensities.

Big sagebrush is the most common plant community in Nevada with an altered fire regime, now characterized by infrequent, high-intensity fires. Sagebrush requires ten to twenty or more years to reestablish on burned areas. During the interim these areas can provide the conditions for establishment and spread of invasive species and in some cases inhibit sagebrush reestablishment. The most common invasive species that reoccupies burned areas in northern Nevada is cheatgrass.

Effect of Cheatgrass on Fire Ecology

Cheatgrass is a common introduced annual grass that aggressively invades disturbed areas, especially burns. Replacement of a native shrub community with a pure stand of cheatgrass increases the susceptibility of an area to repeated wildfire ignitions, especially in mid to late summer when desiccating winds and lightning activity are more prevalent. The annual production, or volume of cheatgrass fuel produced each year is highly variable and dependent on winter and spring precipitation. In a normal or above normal precipitation year, cheatgrass can be considered a high hazard fuel type. In dry years cheatgrass poses a low fire behavior hazard because it tends to burn with a relatively low intensity. In every year dried cheatgrass creates a highly flammable fuel bed that is easily ignited with the propensity to rapidly burn into adjacent cover types that may be characterized by more severe and hazardous fire behavior. The ecologic risk of a fire spreading from a cheatgrass stand into adjacent unburned native vegetation is that additional disturbed areas are thereby opened and vulnerable to cheatgrass invasion. Associated losses of natural resource values such as wildlife habitat, soil stability, and watershed functions are additional risks.

Mowing defensible space and fuel breaks annually before seeds mature will reduce cheatgrass growth and reproduction over time. Use of pre-emergent herbicides can have the same effect. Early season livestock grazing prior to and during flowering is another mechanism for depleting the seed bank. It may take years of intensive treatment with any of these efforts to fully eliminate cheatgrass from being a dominant component of the vegetation, but it is a necessary process in order to return the landscape to a natural fire cycle and reduce the occurrence of large, catastrophic wildfires.

3.3 Natural Resources and Critical Features Potentially at Risk

Critical features at risk of loss during a wildfire event can be economic assets such as agricultural and industrial resources or cultural features, such as historic structures, archaeological sites, and recreation-based resources.

3.3.1 Historical Registers

There are sixteen sites in Humboldt County listed on the National Register of Historical Places. The Nevada State Register of Historical Places lists on site. The effects of fire on cultural and historical resources depend upon site-specific factors such as fuels, terrain, and cultural or historical buildings or resources present. Archeological sites and

historic trails are not necessarily vulnerable to wildfire impacts. The historic resources that lie in the wildland-urban interface that could be negatively impacted by wildfire are summarized in Table 3-3.

Table 3-3. At Risk Historical Places in Humboldt County

SITE	LOCATION	SOURCE REGISTER
Last Supper Cave	Denio	Nevada Register of Historic Places
Golconda School	Golconda	National Register of Historic Places
Micca House	Paradise Valley	National Register of Historic Places
Paradise Valley Ranger Stations	Paradise Valley	National Register of Historic Places
Silver State Flour Mill; aka Adams Mill, Martin Creek Mill	Paradise Valley	National Register of Historic Places
Andorno Station	Winnemucca	Nevada Register of Historic Places
Cumley-Richardson House	Winnemucca	National Register of Historic Places
George G. Berry House	Winnemucca	National Register of Historic Places
Humboldt County Courthouse	Winnemucca	Nevada Register of Historic Places
Humboldt River Bridge	Winnemucca	Nevada Register of Historic Places
Martin Hotel	Winnemucca	Nevada Register of Historic Places
W.C. Record House	Winnemucca	National Register of Historic Places
U.S. Post Office-Winnemucca	Winnemucca	Nevada Register of Historic Places
Winnemucca Grammar School	Winnemucca	Nevada Register of Historic Places
Winnemucca Hotel	Winnemucca	National Register of Historic Places
Applegate-Lassen Trail	Rye Patch NW to state line	National Register of Historic Places

3.3.2 Natural Resources and Recreation

Humboldt County offers a wide range of outdoor recreation opportunities that depend on healthy rangelands and environments. Camping, fishing, hunting, touring, hiking and wildlife viewing are some of the outdoor activities that contribute to local economies.

Sheldon National Wildlife Refuge

The Sheldon National Wildlife Refuge lies in the northwest portion of Nevada, in Humboldt and Washoe Counties. The US Fish and Wildlife Service administers over 0.5 million acres in the Refuge, which provide yearlong or seasonal habitat for pronghorn antelope, bighorn sheep, mule deer, sage grouse, and many other species. The refuge includes old ranches and homesteads, geothermal hot springs, waterfalls, narrow gorges, and expansive tablelands. Preparedness planning and fuels management would benefit the protection and maintenance of critical wildlife habitat and cultural resources.

Lahontan Cutthroat Trout Natural Area

The Lahontan Cutthroat Trout Natural Area is 12,216 acres in size and lies just south of the Sheldon National Wildlife Refuge, adjacent to the Summit Lake Reservation. The Natural Area was established in 1973, to ensure the preservation of the Lahontan cutthroat trout. A wildfire in the watersheds that support Lahontan cutthroat trout streams could adversely impact fish habitat. Loss of vegetation would lead to increased runoff, erosion, and sedimentation of critical spawning habitat and fisheries.

3.3.3 Sensitive Species

There is one plant federally listed as endangered, the Osgood Mountains milkvetch; and one fish federally listed as threatened, the Lahontan cutthroat trout, with potential habitat in Humboldt County. Project implemented to protect habitat for these species require formal consultation with the US Fish and Wildlife Service. An additional 17 species are protected by Nevada State legislation and are identified in Table 3-4. The Nevada Natural Heritage Program, the Nevada Division of Forestry, and the Nevada Department of Wildlife should be consulted regarding specific concerns and potential mitigation to minimize impacts to state-listed species prior to the event of a catastrophic wildfire or in the implementation of projects intended to reduce the threat of wildfires to a community.

Table 3-4. Federal and State Listed Flora and Fauna At Risk in Humboldt County

SCIENTIFIC NAME	COMMON NAME	LEGISLATION
PLANTS		
Astragalus yoder-williamsii	Osgood Mountains milkvetch	ESA listed endangered; NRS 527.260.300
Opuntia pulchella	Sand cholla	NRS 527.060.120
FISH		
Oncorhynchus clarki henshawi	Lahontan cutthroat trout	Moderately vulnerable

Eremichthys across	Desert dace	Moderately vulnerable
Siphateles Alvordensis	Alvord Chub	Highly vulnerable
MAMMALS		
Lasiurus blossevillii	Wester red bat	Moderately vulnerable
Sorex preblei	Prebles shrew	Highly vulnerable
Neotamias amoenus celeris	Humboldt yellow-pine chimpunk	Moderately vulnerable
BIRDS		
Accipiter gentilis	Northern goshawk	Moderately vulnerable
Antigone canadensis tabida	Greater sandhill crane	Moderately vulnerable
Centrocercus urophasian	Greater sage grouse	Highly vulnerable
Leucosticte atrata	Black rosy-finch	Extremely vulnerable
Leucosticte tephrocotis	Gray-crowned rosy-finch	Highly vulnerable
Pelecanus Erythrorhynch	American white pelican	Moderately vulnerable
Riparia riparia	Bank Swallow	Moderately vulnerable
Spizella breweri	Brewers sparrow	Moderately vulnerable

3.3 Previous Fire Hazard Reduction Projects

3.4.1 Wildfire Support Group

The Wildfire Support Group was formed in 2001 in Humboldt County to provide additional resources for initial attack on wildfires. Local ranchers are often the first to observe lightning strike ignitions in remote areas far away from fire departments. A group of citizens in Humboldt County were trained for initial attack in cooperation with the Bureau of Land Management Winnemucca Field Office. A second objective of the Wildfire Support Group is to participate in grazing trials to develop treatments for cheatgrass control. With careful monitoring and evaluation it is anticipated that this project will identify a variety of grazing practices that can be refined and used on a broader scale for fuel reduction and maintenance in the Great Basin. Prescribed grazing can be an effective tool for many communities to reduce fuels in the wildland-urban interface. See Map 1 in Appendix F.

3.4.2 Multi-Agency Collaborative Fuel Reduction Treatments

The Bureau of Land Management Winnemucca Field Office, the Bureau of Indian Affairs, Nevada Division of Forestry, and the Nevada Department of Transportation have been working together to install and maintain fuel reduction treatments, fuel breaks, and greenstrips throughout Humboldt County. The primary treatments that have been used are mowing and reseeding disking along highway rights-of-way and road corridors. See Map 8 in Appendix F.

4.0 County-Wide Assessment Results

4.1 COUNTY-WIDE RISK AND HAZARD ASSESSMENT OVERVIEW

The Project Team evaluated the fourteen communities in Humboldt County from March 1 to April 30, 2023. The Fort McDermitt community assessment was completed by SWCA (2003). Inventory and analyses of community design aspects (roads, signage, utility infrastructure), defensible space conditions, construction materials, architectural features, wildland-urban interface characteristics, fuel types, and fuel hazards resulted in an overall hazard rating for each community. The overall risk and hazard conditions for each community are summarized in Table 4-1.

Table 4,1 Community Risk and Hazard Assessment Results

COMMUNITY	PRIMARY COMMUNITY TYPE	SURROUNDING ENVIRONMENT RATING	COMMUNITY HAZARD RATING	DWELLINGS
Artemisia	Residential-Mixed	Moderate	High (136)	80
Denio/Denio Junction	Residential- Mixed	Moderate	High (102)	67
Golconda	Residential-Stick built	Moderate	High (128)	136
Grass Valley	Residential-Stick built	Moderate	High (107)	1882
Herschel	Residential-Mixed	Moderate	High (119)	79
Jungo	Residential-Mixed	Moderate	Moderate (94)	35
McDermitt	Residential- Mixed	Moderate	Moderate (91)	80
Orovada	Residential-Mobile	Moderate	High (107)	40
Paradise Ranchos (Paradise Hills)	Residential-Mixed	Moderate	High (140)	80
Paradise Valley	Residential-Mixed	Moderate	High (105)	50
Prairie-Dog	Residential-Mixed	High	High (145)	30
Rose Creek	Residential-Mobile	Moderate	High (110)	215
Valmy	Residential-RV	Moderate	High (123)	55
Winnemucca	Residential-Mixed	Moderate	Moderate (97)	3538
Fort McDermitt	Intermix	Low to High	N/A ²	High ³

²N/A - This information was not provided in the SWCA report

³This rating was based upon similar community hazard assessment procedures reported in the SWCA (2003) report.

4.1.1 Wildfire Protection Resources

The Bureau of Land Management administers the largest land base in Humboldt County. As such, The BLM generally manages the wildland-urban interface areas, responds to wildland fires, and is responsible for reducing fuel hazards adjacent to communities. Initial attack on wildfires in Humboldt County is provided by local volunteer fire departments. The BLM has cooperative agreements with each volunteer fire department in Humboldt County and has entered into a Memorandum of Understanding

with the Wildfire Support Group for initial attack of wildfires on public lands. (Refer to Section 3.4.1 for background on the Wildfire Support Group.)

The Central Nevada Interagency Dispatch Center in Winnemucca dispatches Bureau of Land Management and US Forest Service fire suppression resources and also provides logistical support for additional interagency partners such as the US Fish and Wildlife Service and the Bureau of Indian Affairs. Federal agency resources are commonly relocated to areas of high activity during a fire season. The actual resources sent to a specific incident are dependent on fire activity and available personnel and equipment. The types of wildfire suppression resources available from the BLM Winnemucca Field Office are summarized in Table 4-2. The BLM Winnemucca Field Office has 25 trained fire suppression personnel and fifty seasonal employees. All BLM Winnemucca Field Office firefighters receive training to meet National Wildfire Coordinating Group qualifications. The US Forest Service Santa Rosa Ranger District has one Type 4 engine available to respond to fires in the vicinity of Paradise Valley, and one Type 4 engine from the BLM is assigned to this station during fire season. Additional resources are available upon request through the dispatch system. The local wildfire suppression resources available for each community are detailed in subsequent community chapters.

Table 4.2 BLM Winnemucca Field Office Wildfire Suppression Resources

Type of Equipment	Amount available	Cooperation Partner (Resource Location)
Super Heavy Engines	4	BLM NV-WID (Winnemucca)
Heavy Engines	3	NDF Northern Region
Heavy Engines	2	NDF Western Region
Heavy Engines	2	BLM NV-Winnemucca
Heavy Engines	2	BLM NV-WID (Lovelock)
Heavy Engines	2	BLM NV-WID (McDermitt)
Heavy Engines	1	BLM NV-WID (Paradise Valley)
Heavy Engines	4	BLM NV-BMD
Light Engines	2	NDF Northern Region
Light Engines	1	NDF Western Region
Light Engines	1	BLM NV-WID (Winnemucca)
Water Tenders	1	NDF Northern Region
Water Tenders	2	BLM NV-WID (Winnemucca)
Fire Crew	1 (7-10 personnel)	NDF Northern Region (Ely/Carlin)
Fire Crew	2	NDF Western Region (Carson City)
Fire Crew	2	NDF South (Pioche)
Dozer Modules	2	BLM NV-BTM
Dozer Modules	3	BLM NV-WID (Winnemucca)
BCs	2	BLM NV-WID (Winnemucca)
BCs	1	BLM NV-WID (Lovelock)
BCs	2	BLM NV-BTM

Source: Results of a joint meeting with BLM-WID and NDF

4.1.2 Detection and Communication

Fires are reported in Humboldt County through 911 calls to the Humboldt County Sheriff's Office. The Humboldt County Sheriff's Office Emergency Dispatch in Winnemucca notifies the local Volunteer Fire Departments and the Central Nevada Interagency Dispatch Center of the fire. The Humboldt County Sheriff's Office has access to state mutual aid frequencies, and the radio system is compatible with neighboring agencies. Fires are communicated to the BLM Winnemucca Field Office and the US Forest Service Santa Rosa Ranger District through the Central Nevada Interagency Dispatch Center.

The BLM Winnemucca Field Office has cooperative agreements and annual operating plans with all Humboldt County Fire Departments that outline how the BLM will conduct fire suppression activities. The BLM Winnemucca Field Office has recently changed their run card system from paper-based to the "WildCAD" (Computer Aided Dispatch) system. When a fire is reported, the system identifies the daily fire hazard level (low, moderate, high, extreme) and assigns the appropriate available BLM equipment and personnel to the incident. The system also identifies potential fire suppression resources from local volunteer fire departments and the Wildfire Support Group.

4.1.3 Community Preparedness

Humboldt County has an active Local Emergency Planning Committee and has adopted an emergency plan that includes a hazardous materials response plan. The County also has an all-risk disaster response plan that is updated annually. The plan is routinely updated to reflect the inherent disasters related to wildfire, and especially those mentioned in the worst case wildfire scenario mentioned listed for each community.

5.0 Community Specific Reports

(All listed reports are included in Appendix D)

- 5.1 Artemisia**
- 5.2 Denio/Denio Juntion**
- 5.3 Golconda**
- 5.4 Grass Valley**
- 5.5 Herschel**
- 5.6 Jungo**
- 5.7 McDermitt**
- 5.8 Orovada**
- 5.9 Paradise Ranchos (Paradise Hills)**
- 6.0 Paradise Valley**
- 6.1 Prairie-Dog**
- 6.2 Rose Creek**
- 6.3 Valmy**
- 6.4 Winnemucca Proper**

APPENDICES

APPENDIX A – Risk Assessment report

APPENDIX B – Definitions/species

APPENDIX C – Rating scores

APPENDIX D – Communities Assessed

APPENDIX E – Fuel types

APPENDIX F – Maps

Map 1 – WSG

Map 2 – Fields-Andrews RFPA

Map 3 – Blue Mountain RFPA

Map 4 – Ownership

Map 5 – Reguime Classes

Map 6 – Fire history

Map 7 – Vegetation classes

Map 8 - Greenstrips

APPENDIX G – Recommendations

APPENDIX H – 2001 Federal Register – Urban Wildland Interface
Communities Within the Vicinity of Federal Lands That
Are at High Risk from Wildfire

TABLES

Table 3-1 Land Management Acreage Within Humboldt County

Table 3-2 Summary of Available Fire Occurrence Data and Estimated
Acreage, 1980-2003

Table 3-3 At Risk Historical Places in Humboldt County

Table 3-4 Federal and State Listed Flora and Fauna At Risk in
Humboldt County

Table 4-1 Humboldt County Risk/Hazard Assessment Results

Table 4-2 BLM Winnemucca Field Office Wildfire Suppression
Resources

