

Beaverhead County



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Beaverhead County

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BEAVERHEAD COUNTY COMMUNITY WILDFIRE PROTECTION PLAN

1. Executive Summary

1.1. Problem Overview

Beaverhead County, located in Southwest Montana, is surrounded by the Continental Divide on three sides and is adjacent to Idaho. Beaverhead County is the largest county in the State of Montana covering an area of 5,572 square miles. Beaverhead County has a high degree of potential for extended fire seasons ranging from March through October or November. Beaverhead County has fire departments located in Dillon, Lima, Grant, Jackson, Wisdom, Grasshopper Valley and Wise River. Beaverhead County has the potential to interact with not only DNRC, but also the Bureau of Land Management, Dillon Field Office, the Beaverhead-Deerlodge NF, and the US Fish and Wildlife Service, thus providing a high degree of interagency complexity. As with numerous counties in Montana, there is an increasing development of wildland-urban interface areas, especially in the Grasshopper Valley, with potential access problems and a general lack of understanding of the need for an asset protection zone to protect the improvements. As a general matter, the fire agencies in Beaverhead County have to deal with multiple ignitions throughout the county from lightning storms.

1.2. Process Overview

The Beaverhead County Community Wildfire Protection Plan (2010 Update) -- hereafter known as "CWPP," has been developed to assist Beaverhead County, Beaverhead County's Fire Departments and the federal, state, tribal wildland agencies in the identification of private and public lands at risk of severe wildland fires and to explore strategies for the prevention and suppression of such fires. The CWPP is intended to outline the Beaverhead County's plans and activities targeted at reducing the risk of a catastrophic wildland and/or wildland-urban interface (WUI) fire event in Beaverhead County. The intent of this planning document will ensure that the health, safety and welfare of Beaverhead County's citizens remain secure from the threats of structural and wildland fires in the county.

1.3. Overall Goals

The CWPP will improve planning and fire suppression tools for county and the county fire department alike, which will result in Beaverhead County providing its citizens with tools to live more safely in a fire prone ecosystem. The CWPP fosters the preservation of the economy of Beaverhead County by maintaining and improving the efficiency of fire protection in the County.

1.4. Methodology

Fire Logistics, Inc. was contracted to provide a five-year update of Beaverhead County's Community Wildfire Protection Plan and to conduct risk ratings on homes and ranches in the Grasshopper Valley and the Centennial Valley. Specifically, the following changes were part of the CWPP's update:

- A revision to the Executive Summary.
- Major components were retained and updated.
- The 2005 Action Plan and Appendix 4 were deleted and replaced with Chapter 7 Mitigation Strategy – The Action Plan.
- The 2005 Appendix 5 – Living with Fire was deleted and replaced with the update Living with Fire in the Resources Section.

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- The 2005 Appendix 6 was deleted and incorporated into the body of the document in Chapter XX.
- The 2005 Appendix 7 was deleted.
- Maps 6,7,and 8 were modified into a new WUI map which is included in the Map Section
- The CWPP maintenance section was added with an emphasis on annual reviews.
- New appendices were added and extraneous information was removed.

The Beaverhead County Community Wildfire Protection Plan is a living, expandable document that will have new information added and changes made as needed. The plan's purpose is to improve wildland fire protection through projects and programs, and therefore, opportunities for changes and public involvement will exist as wildland fires occur and mitigation continues. Details on the plan's maintenance and continued public involvement are further outlined in Chapter 8.

1.5. Mitigation Strategy – The Action Plan

A summary of the specific action is provided, which were developed in the *mitigation plan* of Chapter 7 to include mitigation goals such as evaluate upgrade and maintain emergency wildfire protection responsibilities, decrease fuels, etc. The assumptions for planning priorities of the community fire plan are: protect human health and life, protect critical community infrastructure, protect private property, and protect natural resources. The existing mitigation efforts are described, which include asset protection zones, neighborhood preparedness and fire protection response, and the coordination of prevention programs, protection projects and response plans. Several recommended projects and programs are included as part of the mitigation effort for Beaverhead County.

2. Introduction

2.1. Background and History

The Beaverhead County Community Wildfire Protection Plan (CWPP) has been developed to assist Beaverhead County, Beaverhead County's Fire Departments and the federal and state wildland agencies in the identification of private and public lands at risk of severe wildland fires and to explore strategies for the prevention and suppression of such fires. The CWPP is intended to outline the Beaverhead County Fire's plans and activities targeted at reducing the risk of a catastrophic wildland or a wildland-urban interface (WUI) fire event in Beaverhead County. The intent of this planning document will ensure that the health, safety and welfare of Beaverhead County citizens remains secure from the threats of structural and wildland fires in the county.

The CWPP will improve planning tools for county and the fire departments alike, which will result in better building and development codes and regulations, as they relate to the development of the WUI and urban development. The CWPP fosters the preservation of the economy of Beaverhead County by maintaining and improving the fire protection capability of the County.

Beaverhead County retained the services of Fire Logistics, Inc. to:

1. Conduct a wildland fire risk assessment of homes and ranches in the Grasshopper Valley and the Centennial Valley and provide the data and GIS layers to the County Fire Warden.
2. Update the 2005 Beaverhead County Wildfire Protection Plan developed by Basic Biological Services, LLC.

2.2. Mission

The mission of the Beaverhead County Community Wildfire Protection Plan is:

"To preserve Beaverhead County's natural, agricultural and manmade resources by mobilizing all citizens of Beaverhead County to make their homes, neighborhoods and communities safe from fire."

2.3. Current Relevant Fire Policies

A brief discussion of the relevant fire policies is provided to educate the community.

2.3.1 Federal Policies "Homeland Security is Fire Safety"

We have briefly described the relevant policies at the national level, which affect fire planning on the local level.

2.3.1.1 National Fire Plan

"The National Fire Plan (NFP) is a long-term investment that will help protect communities and natural resources, and most importantly, the lives of fire fighters and the public. It is a long term commitment based on cooperation and communication among federal agencies, states, local governments, tribes and interested publics." It mandates community participation in its implementation.¹ The NFP also mandates that local governments develop and adopt local land use plans and ordinances that provide for the maintenance of defensible space and fuel management on municipal and private property.²

¹ See www.fireplan.gov.

² See www.westqov.org/wga/initiatives/fire/implem_plan.pdf

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2.3.1.2 Western Governor's Association, 10-Year Comprehensive Strategy for Reducing Wildland Fire Risks³ and A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment—Implementation Plan

The goals of the 10-Year Comprehensive Strategy are to:

- Improve Prevention and Suppression
- Reduce Hazardous Fuels
- Restore Fire Adapted Ecosystems
- Promote Community Assistance.

This is done through a “Framework for Collaboration... Local Level—Successful implementation will include stakeholder groups with broad representation including Federal, State, and local agencies, tribes and the public, collaborating with local line officers on decision making to ⁴establish priorities, cooperation on activities, and increase public awareness and participation to reduce the risks to communities and environments.”⁵

2.3.1.3 Healthy Forests Restoration Act

The Healthy Forests Restoration Act (HFRA) represents the legislative component of the Healthy Forests Initiative, introduced by President Bush in January 2003. Title I of the HFRA authorizes the Secretaries of Agriculture and Interior to expedite the development and implementation of hazardous fuel reduction projects on federal land managed by the US Forest Service or Bureau of Land Management when certain conditions are met.

Priority areas for use of expedited authorities include the wildland-urban interface, municipal watersheds, areas impacted by wind throw or insect and disease epidemics, and critical wildlife habitat that would be negatively impacted by catastrophic wildfire.

The HFRA emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by the communities themselves in a CWPP.

2.3.1.4 Disaster Mitigation Act 2000

Disaster Mitigation Act 2000 (DMA 2000) sets policies for “disaster mitigation plans”—plans designed to avoid disasters such as fires and floods. DMA 2000 requires 4 elements in these plans:

1. A planning process.
2. An assessment of risks.
3. A mitigation strategy (action plan) and,
4. A plan maintenance and updating process.

Disaster Mitigation Plans must be approved by 11/04 to receive HMGP funds after that date.⁶

³ www.westgov.org/wga/initiatives/fire/final_fire_rpt.pdf

⁴ The full text of the Act is available at <http://thomas.loc.gov/>. Type HR 1904 in the Bill Number box and then select the enrolled bill from the list of options.

⁵ www.westgov.org/wga/initiatives/fire/implem_plan.pdf

⁶ www.fema.gov/pdf/fima/howto1.pdf

2.3.1.5 Local Implementation of Federal Fire Policies

Fire protection objectives on the state and private lands in Beaverhead County are addressed indirectly in the Cooperative Fire Management Agreement between USDI's Bureau of Land Management, National Park Service – Intermountain Region, Bureau of Indian Affairs – Portland and Billings Area, US Fish and Wildlife Service – Rocky Mountain Region; USDA's Forest Service – Northern Region; and the State of Montana – Department of Natural Resources and Conservation. This agreement requires that Annual Operating Plans be developed and approved by May 1 of each year specifying how the terms of the agreement will be carried out between the cooperating agencies and the state. Cooperation with local county governments is encouraged and additional agreements are executed with Beaverhead County. These agreements are to validate the arrangements desired between the county and a federal agency or the state in respect to assistance with their fire management programs.

As a minimum, those procedures for obtaining state and federal assistance for large wildland fire needs to be included in any agreements prepared at the local level. They should include an articulation of the suppression standards that need to be employed by federal or state agencies working on a fire on state and private land. The reverse is also true for county resources working on federal or state lands. In the former case the objective will most likely be to suppress the fire at the smallest size possible utilizing the full range of suppression resources available. In the latter case, however, certain land management objectives may preclude this approach, i.e., mechanical equipment in an Area of Critical Environmental Concern.

2.3.2 State Policies

The Montana Legislature adopted the following state fire policy during the 2007 legislature. The legislature finds and declares that:

- (1) The safety of the public and of firefighters is paramount in all wildfire suppression activities;
- (2) It is a priority to minimize property and resource loss resulting from wildfire and to minimize expense to Montana taxpayers, which is generally accomplished through an aggressive and rapid initial attack effort;
- (3) Interagency cooperation and coordination among local, state, and federal agencies are intended and encouraged, including cooperation when restricting activity or closing areas to access becomes necessary;
- (4) Fire prevention, hazard reduction, and loss mitigation are fundamental components of this policy;
- (5) All property in Montana has wildfire protection from a recognized fire protection entity;
- (6) All private property owners and federal and state public land management agencies have a responsibility to manage resources, mitigate fire hazards, and otherwise prevent fires on their property;
- (7) Sound forest management activities to reduce fire risk, such as thinning, prescribed burning, and insect and disease treatments, improve the overall diversity and vigor of forested landscapes and improve the condition of related water, wildlife, recreation, and aesthetic resources; and
- (8) Development of fire protection guidelines for the wildland-urban interface is critical to improving public safety and for reducing risk and loss.

Currently there are no State policies that require a rural fire district or county fire organization to develop a community wildfire protection plan; however, it certainly is encouraged by the State Fire Policy. Indirectly, it is a requirement to access federal funds for fuel reduction.

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2.3.3 Local Policies

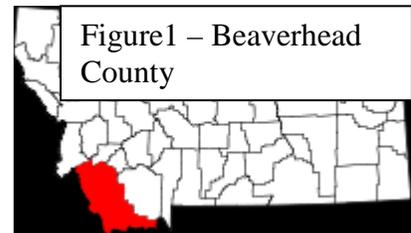
Subdivision regulations are normally developed after completion and adoption of the Growth Policy. The existing Subdivision Regulations have not been up-dated since the adoption of Beaverhead County's Growth Policy. In **Planning for Wildfires**, three strategies are offered for dealing with development in the wildland-urban interface, they include:

1. Conduct Wildfire Planning in a comprehensive planning context. This CWPP accomplishes this strategy.
2. Conduct a program of regulation and enforcement that stresses continuous individual responsibility by homeowners and property owners including:
 - a. Subdivision regulations.
 - b. Zoning regulations, such as a wildland-urban interface overlay.
 - c. Building and fire codes

Conduct an effective ongoing program of education and outreach to affected residents and property owners.⁷

2.4. Planning Area Boundaries

The Beaverhead County CWPP covers Beaverhead County in its entirety.



2.5. Community Legal Structure, Jurisdictional Boundaries

There is a mixture of fire protection organizations providing fire services to Beaverhead County. These include Dillon Fire Department (MCA 7-33-4101-4133), Fire District 1 – Lima, Fire District 2 – Dillon and Grant, Fire District 3 – Wisdom and Jackson; Grasshopper RFD (MCA 7-33-2101-2129), Wise River Volunteer Fire Companies (MCA 7-33-2311-2316), Beaverhead County Fire Department (MCA 7-33-2201-2211), MT Department of Natural Resources and Conservation – Central Land Office – Dillon Unit, US Fish & Wildlife Service, Beaverhead-Deerlodge National Forest and Bureau of Land Management.

There is a county-wide mutual aid agreement under which resources can be requested to provide assistance to another fire entity.

The Bureau of Land Management is the responsible land management agency for BLM lands and assists the local agencies as needed. The Beaverhead-Deerlodge NF is the land management agency responsible for the National Forest Lands in Beaverhead County and assists the County as needed. The US Fish & Wildlife Service provides fire protection to the Red Rock Lake National Wildlife Refuge lands and provides assistance to the County as requested. Beaverhead County assists the state and federal agencies with fire protection assistance as requested.

The Department of Natural Resources and Conservation – Central Land Office, Dillon Unit provides fire support to counties when the county's capability has been exceeded and assistance is requested.

2.6. Acknowledgements

Fire Logistics, Inc. would like to thank the Beaverhead County Fire Warden Scott Marsh; Beaverhead County DES, especially Larry Lakner; Dillon; Lima VFD; Grasshopper VFD; MT DNRC – Central Land Office, Dillon Unit, especially Don Cople; Bureau of Land Management; Beaverhead-Deerlodge

⁷ Planning for Wildfires; American Planning Association; 2005

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National Forest; The Nature Conservancy; US Fish and Wildlife Service; Basic Biological Services, LLC and Beaverhead County Board of County Commissioners for their contributions to this plan.

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3. Planning Process

3.1 Development of the Beaverhead County Wildfire Protection Plan

Development of the Beaverhead County Wildfire Protection Plan (BCWPP) requires substantial involvement from members of the small communities located throughout Beaverhead County. Basic Biological Services LLC (BBS) arranged and conducted eight community workshops to address local concerns and interests about wildfire issues. The workshops were held in the towns of Wisdom, Jackson, Melrose, Wise River, Grant, Polaris, Lima, and Dillon between January 11 and 19 of 2005. The workshops were scheduled at either 4:00 p.m. or 7:00 p.m. In addition to two printings of newspaper "Public Notices" within both the Dillon Tribune and the Montana Standard, all members signatory to the Wildfire Planning Task Force and all Beaverhead County Fire Chiefs were individually called and invited to the workshops. Public Notices also were posted at schools, stores, Post Offices, the ski lodge, restaurants, and other public buildings. Numerous unaffiliated individuals also were invited to the workshops.

The purpose of the Community Workshops was educational in nature. Each workshop was initiated with an introduction of the participants attending each meeting, and a brief discussion of current wildfire issues and wildfire history within Beaverhead County. The concept of a wildland/urban interface (WUI), and the opportunity to implement "FireWise" strategies in the WUI was an initial and primary topic. Cost-share opportunities to implement FireWise recommendations, alternative uses of wood by-products that may result during WUI projects, and future grant opportunities for fire-fuel reduction projects were discussed. Beaverhead County, State DNRC, and Federal Agency (USFS, BLM) representatives attended each meeting. Federal and State agency personnel described how the Healthy Forests Initiative (HFI), the Healthy Forests Restoration Act of 2003 (HFRA), the National Environmental Policy Act of 1969 (NEPA), the Montana Environmental Protection Act (MEPA), and other State and Federal laws could influence the BCWPP and future fire-fuel reduction projects.

A FireWise CD-ROM was shown at each community workshops to emphasize specific concepts of structural and landscape design-elements that reduce the probability of private property damages incurred during uncontrolled fire events. Numerous large maps that portrayed wildfire-related topics were presented at each meeting. Finally, at each workshop there was significant discussion about areas within or around each community that posed an increased risk of wildfire initiation, and the location of specific properties and structures that warranted special consideration. Participants were encouraged to depict the location of modern and historic structures, private timber reserves, prime agricultural values, power and utility stations, emergency travel corridors, forest insect and disease outbreaks, etc. on the Inter-Agency Travel Plans Maps (1996). The delineations of structures, properties, and other values resulted in patterns later used to define Wildland Urban Interface and High Wildfire Risk Areas.

As part of the 2010 update to the Beaverhead County Community Wildfire Protection Plan, additional public meetings were held in Dillon with interested parties to incorporate suggested changes to the document. Revisions to the Wildland Urban Interface were discussed, reviewed and incorporated, a mitigation chapter was developed, and a chapter on the risk assessments was added to the document.

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3.2 Description of Beaverhead County

Location, Ownership, and Topography

Beaverhead County is located in Southwestern Montana and has a land area of about 3.5 million acres or 5,572 square miles (Map 1 North and South). It is the largest county in Montana and is one of the largest counties in the United States. Beaverhead County, in comparison, is larger than Rhode Island and Connecticut combined. It is bordered by the state of Idaho on the south and west, Ravalli County, Montana, on the west; Madison County, Montana to the east and Silverbow and Deerlodge Counties, Montana, to the north. There are three major rivers that flow through Beaverhead County; the Red Rock River, the Beaverhead River, and the Big Hole River. Each river runs through a very large mountainous valley.

Beaverhead County has a landmass of 3,549,870 acres. Of this acreage, ownership is divided into 7 areas. According to a 1997 land inventory, land in Beaverhead County owned by the Fish, Wildlife and Parks accounts for approximately 13,000 acres, State land accounts for 332,000 acres and Federal lands makes up 2,033,394 acres. Under the Department of Agriculture, there are 1,370,000 acres of Forest Service land. The Department of Interior lands are composed of 640 acres at the Big Hole National Battlefield; 613,915 acres of BLM; 45,000 acres at the Red Rock Lakes National Wildlife Refuge; and approximately 3,839 acres are designated as Bureau of Reclamation. The remaining 1,171,476 acres are private land.

Elevation in Beaverhead County ranges from 4,770 feet above mean sea level along the Big Hole River near the northeast border of the county, to 11,154 feet at Tweedy Mountain in the East Pioneer Mountains, 21 miles northeast of Dillon. The Beaverhead County landscape is diverse and consists of glaciated peaks, desert-like foothills, and gently rolling to flat and extensive agricultural lands. Likewise, vegetation patterns also vary greatly, such as: barren rock and ice summits; open alpine meadows; whitebark, limber and lodgepole pine, aspen, and Douglas fir forests; mountain mahogany, alder, and sagebrush communities; perennial short grasses and wildflower rangelands; and irrigated hay, alfalfa, potato, and grain fields. Soils types are diverse, and the county boasts exceptionally complex geology.

Climate and Weather

Beaverhead County, Montana is located within the region generally classified as dry continental or Steppe with four distinct seasons. The weather in Beaverhead County is as diverse as the topography of the county. There are often large daily temperature variations, particularly from the fall through the spring.

Average high temperatures in January range from 31.6° F in Dillon to 22.5° F in Lake View. The average lows are from 9.8° F in Dillon to -0.1° F in Lake View. Temperatures often drop well below 0° F for several days. In winter in particular, temperatures often vary significantly from the averages. Temperatures near -50° F have been recorded, while typical extreme winter minimum temperatures are between -25° and -35° F. Extreme wind chill situations occur every winter when windy conditions coincide with very low temperatures. Extreme cold during the winter can cause ice jams and freezing of streams and rivers from the bottom up. This can cause severe flooding conditions. Rapid warm-ups during the winter and early spring can lead to significant snow melt and flooding of small streams and rivers and/or ice jam flood problems.

Average high temperatures in July range from 82.8° F in Dillon to 76.5° F in Lake View. The low averages are from 48.8° F in Dillon to 37.5° F in Wisdom. Brief spells with temperatures above 100° F can occur but are often short lived. Temperatures above 101° F have been reported on occasion. Extended periods with temperatures above 90° F occur every few years. Freezing temperatures can occur, but are rare in June and August, particularly at sheltered valley locations. Annual average

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precipitation ranges from 9.7 inches in Dillon to 19.6 inches in Lake View. In Dillon, 67% of the precipitation falls from May through September. In other reporting areas of the county the precipitation is fairly evenly distributed throughout the year. November through March, are on average quite dry with average monthly precipitation of 0.50 inches or less. The most intense precipitation often occurs with localized downpours associated with thunderstorms in June through August. Significant flash flooding can result from these downpours with over 3 inches of precipitation reported in a few events. Widespread heavy precipitation events of 1 to 2 inches can occur every few years, commonly from April through June and September through November.

Social and Economic

In recent history, Beaverhead County sustained a rich and diverse socio-economic character. Ranching, farming, logging, mining, recreation, and commerce supported a standard of living and income that exceeded the national average. Currently, agriculture is still a large sector of the Beaverhead County economy, and consists primarily of cattle and sheep production, and hay, alfalfa, potato, and other crops. Outdoor recreation consists mainly of fishing, hunting, hiking, camping, wildlife viewing, snowmobiling, and skiing.

Estimates of the population of Beaverhead County are approximately 9,000. The median age in Beaverhead County is 37.6 years old. The County has 26.0 percent of its working population in occupations related to education, health, and social services. The next highest occupations are related to some form of agriculture and constitute for 19.3 percent, while the third largest group of occupations in the county is related to recreation, entertainment, accommodations, and services. These make up 10.3 percent of the working population. The unemployment rate for the county is 2.4 percent. In 1999 Beaverhead County had 3,679 households, with a median income of 28,962 dollars. Of the 3,679 households, only 2,952 had earned income. The median income for these households was 34,149 dollars. The poverty status in Beaverhead County in 1999 was 302 families or 12.8 percent and 1,491 individuals, which represents 17.1 percent of the population (U.S. Census Bureau, Census 2000). Montana continues to rank among the very lowest of all states in the U.S. as indicated by average annual incomes and percent population below the national poverty level. Beaverhead County currently falls in the lower half of all Montana counties in terms of average annual income and numerous other economic indicators.

3.3 Assessment of Hazards

Drought

A drought is an extended period of unusually dry weather and directly affects the ignition and combustion of flammable materials. Vegetation and structural materials are rendered more flammable during dry weather and drought. The probability of wildfire initiation, intensity, and rate of spread is greatly increased during drought for all vegetation types located within Beaverhead County.

In periods of severe drought, forest and range fires can destroy the economic potential of the livestock, timber, and recreation industries, and diminish or eliminate wildlife habitat in and adjacent to the fire areas. Under extreme drought conditions, lakes, reservoirs, and rivers can be subject to severe water shortages, which greatly restrict the use of their water supplies. An additional hazard resulting from drought conditions to vegetation can be the increased incidence and rate of spread of insect and disease infestations.

The recorded history of drought in Beaverhead County is quite extensive and dates back to the 1930's during the Dust Bowl. According to precipitation records maintained at the weather station on the University of Montana Western Campus in Dillon, 17 of the past 20 years have experienced below average precipitation. The southeast quarter of the county, the Beaverhead River Basin and Red Rock

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River Basin, has experienced drastically lower precipitation than most of the other three quarters of the county.

The U.S. Department of Agriculture (USDA) issued Natural Disaster Determinations for drought for the State of Montana for the years 2000, 2001, and 2002. Drought conditions through 2010 resulted in all of Montana being declared a drought disaster area by the USDA Secretary of Agriculture. In 2004, record low stream flows and inflows to reservoirs were observed in Beaverhead County. Throughout much of southwest Montana, including Beaverhead County, drought conditions remained "slightly dry" as of April, 2010 (Figure 2).

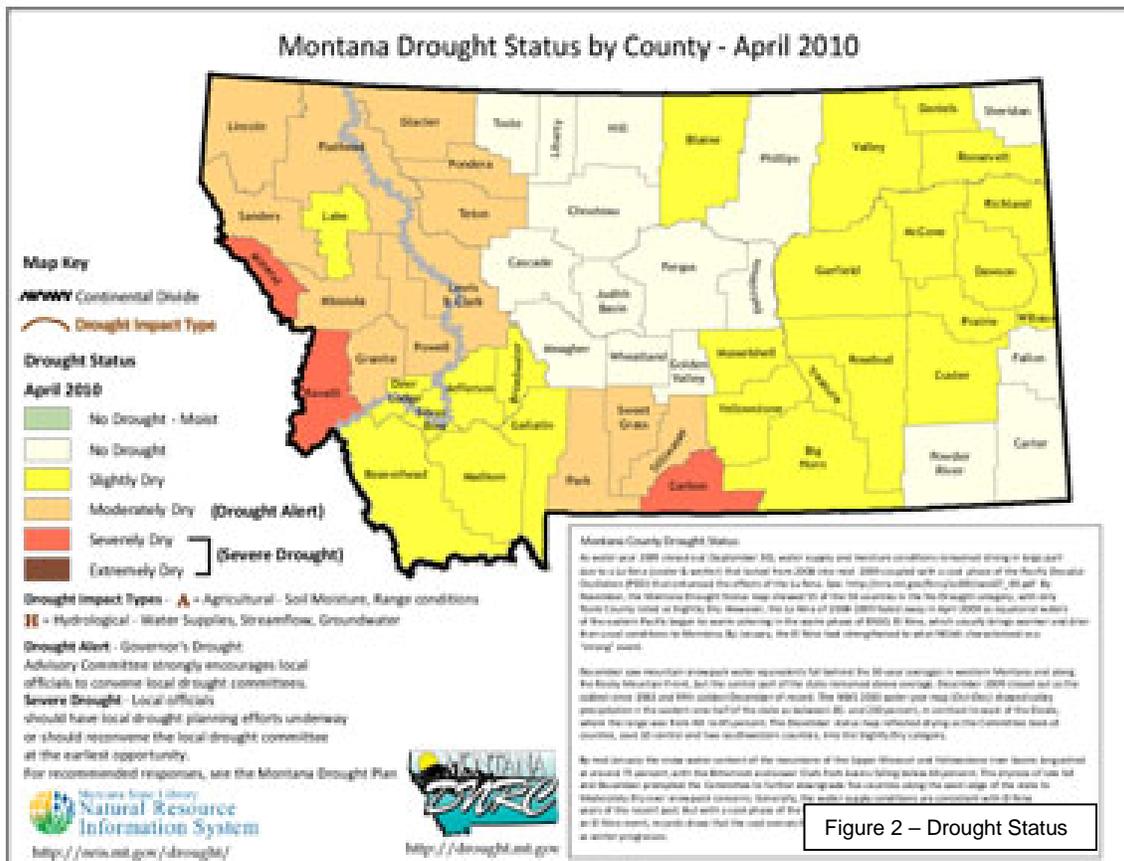
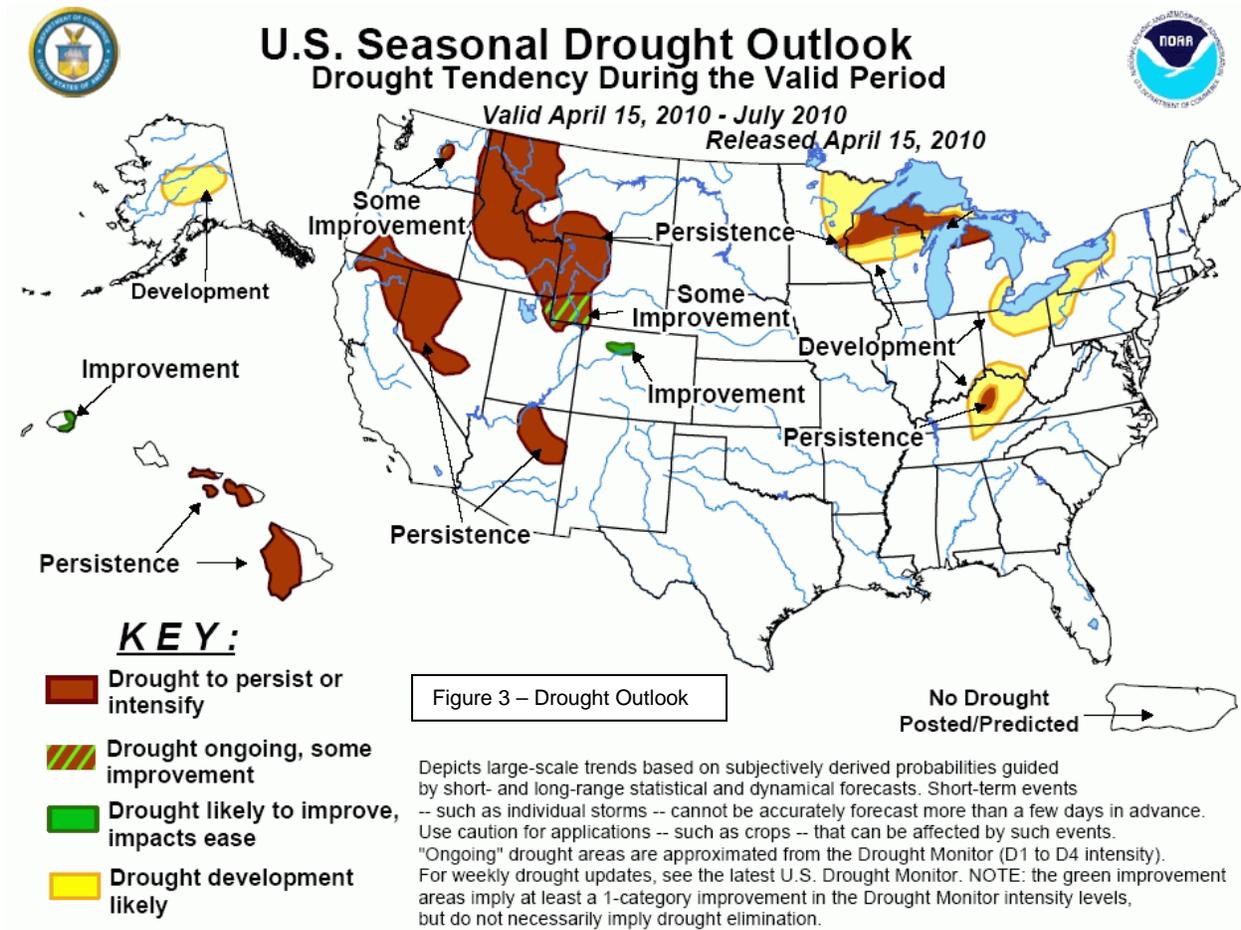


Figure 2 – Drought Status

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Based on the seasonal drought outlook for Apr-July, 2010, Beaverhead County can expect the drought to continue through the summer of 2010 (See Figure 3).



Fire Fuel Models

The existing vegetative communities within Beaverhead County have a significant influence on wildfire behavior. Fire fuel models developed by the USFS can be used as an aid for determining wildfire behavior (Anderson, 1982). A representation of the type and extent of fire fuel models within Beaverhead County is portrayed in Map 2 North and South. The unique fuel models can be used to interpret representative total fuel loads, dead fuel loads, live fuel loads, and fuel bed depths for specific mapped areas. Estimations of fuel loads have been derived from field sampling sites throughout USFS and BLM administered lands in the County. In addition, the individual fuel load models also allow for estimation of rate-of-spread and flame length that can be expected for each fuel model. In Beaverhead County, the fuel models that pose the greatest threat to life, property, and the environment are 2, 8, and 10.

Fire Regime Condition Classes

Another measure of wildfire hazard is the Fire Regime Condition Class (FRCC) (Schmidt and others, 2002). Fire regime condition class 1 represents any fire regime (vegetation type) where wildfire has occurred within an average and natural time period for that type of vegetation. This concept can be referred to as a wildfire frequency return interval. Fire regime condition classes 2 and 3 indicate that

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wildfire has not occurred within a given area and vegetation type for two or three consecutive frequency return intervals, and wildfire has been absent for a greater period than what is typical. The FRCC 2 and 3 represent increased risk of fire occurrence and the potential for fire intensity that is greater than would occur during more frequent fires. A discussion of historical fire regimes on the Beaverhead/Deerlodge National Forest best describes conditions found in Beaverhead County (Barrett, 1997). The distribution of FRCC 1, 2, and 3 in Beaverhead County is portrayed on Map 3 North and South.

Forest Insects and Diseases

Forest vegetation mortality, when concentrated in specific areas, does increase wildfire hazard. In Beaverhead County, a variety of causes have resulted in concentrated areas of tree mortality. A cause of extensive forest mortality is the infestation of insects and disease. The greatest impact on forest vegetation mortality in Beaverhead County is due to the effects of numerous types of bark beetles and their concentrated populations. Other common factors include wind throw, micro-burst blow-down, and avalanche events. The specific effects of insects and diseases on wildfire hazards are complex, but in general the hazards are greatly increased where tree mortality is concentrated and extensive. The distribution of a wide range of intensities of insect and disease infestations, and the infrequent incidence of other factors of tree mortality, are depicted in Map 4 North and South.

3.4 Assessment of Risks

In this document, the assessment of risk will address several factors where humans and their activities may affect wildfire initiation, or be influenced by the occurrence of wildfire. These factors include population density and distribution, travel corridors and destinations, wildfire patterns, structure ignitability, and fire protection infrastructure. A risk assessment summary defines the relative ranking of wildfire risk for eight planning zones within Beaverhead County.

Population Density and Distribution

The population distribution and density within Beaverhead County is a large factor in the risk of wildfire occurrence. The population of Beaverhead County is 9,202 people, most of whom live in or near one of the small communities (Map 5 North and South). A relatively small percent of the total population lives beyond the extent of the major mountain valleys. The distribution and total number of people within the County is difficult to describe, in part due to the agricultural lifestyles, and the large influx of seasonal residents and outdoor recreational users. Because of the size of the County, its diverse topography, and the distance between communities, response time to emergency situations can be long.

Travel Corridors and Destinations

Travel corridors have two primary affects on wildfire risk. First, they are often the source of wildfire ignition, either by the motorized vehicles or by the activities other than travel that occur along the corridors or at destinations. For example, highly concentrated use of specific locations in Beaverhead County occurs during hunting and fishing seasons. All destinations including campgrounds, boat ramps, and special interest areas are high risk areas. Second, the corridors function as access for fire protection services and as escape routes for residents and visitors. The road network within Beaverhead County is extensive and complex (Map 1 North and South) and some roads and or bridge structures need upgrading or improvements. Interstate 15, numerous State Highways and County roads, and countless primary and secondary access routes exist. Also, railroad lines, small airports, mining and logging roads, off road motor vehicle routes, trails, and overland travel add to the risks of ignition of wildfire. In general, the use of travel corridors greatly increases the risk of wildfire ignition.

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Wildfire Patterns

Wildfire is a naturally occurring phenomenon that exists with or without the presence of humans. The risk of wildfire is primarily perceived as it relates to threats to human life and health, valuable property, and the aesthetics qualities of the environment. Wildfire risk is directly related to the timing, extent, intensity, and duration of fire in proximity of the human environment.

According to the U.S. Forest Service (USFS), nationally, 25.7 percent of reported wildfires were caused by arson. Other ignition sources were debris burns (24 percent), lightning (13.3 percent), and other (16.7 percent). Statistics from the Montana office of the DNRC show that 60.6 percent of Montana fires are started by lightning. DNRC statistics also indicate that human caused fires are represented as follows: debris burns (28 percent); miscellaneous starts (25 percent); camp fires (22 percent); equipment (7 percent); railroads (7 percent); power lines (4 percent); smoking (4 percent); and arson (3 percent). According to the National Interagency Fire Center, wildfires have burned, on average in the last 10 years, 3,955,472 acres annually. A 5-year average shows Montana has 326,186 acres burned per year. Fires in 2003 in Montana burned 736,809 acres, 126 percent more than the 5-year average. The location of documented wildfire starts in Beaverhead County is shown on Map 5 North and South.

Statistics from the Dillon office of the Beaverhead/Deerlodge National Forest, Dillon office of the Bureau of Land Management, and the Dillon office of the Department of Natural Resources and Conservation, show that Beaverhead County has had approximately 408 wildland fires in the past ten years (1993 to 2003). These fires burned approximately 75,000 acres. In comparison, the years of 2000, 2002, and 2003 experienced 110 fires that burned over 73,400 acres. This has been attributed primarily to the drought Beaverhead County has been experiencing for several years.

For the past three of four years, wildfires have impacted Beaverhead County quite heavily. The fires of 2000, 2002, and 2003 were declared State and/or Federal disasters. Table 1 represents a partial list of wildland fires in Beaverhead County from the Beaverhead/Deerlodge National Forest database. A number of these wildland fires have been in wildland urban interface areas. According to the Beaverhead/Deerlodge National Forest, there have been no structures lost in Beaverhead County due to wildland fires. However, every year the potential for structure loss increases because of the number of new constructions in the wildland urban interface and the continued drought.

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TABLE 1
WILDLAND FIRES IN BEAVERHEAD COUNTY
FIRES ON FOREST, BLM, STATE AND PRIVATE LANDS

Date	Fire Name	Location	Size	Federal, State Land	Private Land
7-26-2000	Snowline	Sec22, T14S, R12W Lima Area	3500 Acres	Yes	Yes
7-31-2000	Mussigbrod	Sec23, T1N, R17W West Side Big Hole	50,000 Acres	Yes	Yes
8-19-2000	Circle S	Sec26, T5S, R13W Grasshopper Valley	200 Acres	No	Yes
8-17-2000	Junction Creek	Sec14, T14S, R8W Lima Area	400 Acres	Yes	Yes
8-26-2000	Jake Canyon	Sec16, T10S, R7W Blacktail Deer Creek	20 Acres	Yes	Yes
9-4-2001	Stone Lake	Sec6, T2S, R13W East Side Big Hole	5 Acres	Yes	No
11-2-2001	Garfield Mtn	Sec13, T15S, R9W Little Sheep Creek	6 Acres	Yes	No
7-12-2002	7 Medicine Lodge	Sec10, T11S, R12W Medicine Lodge Creek	56 Acres	Yes	Yes
7-13-2002	Goldstone	Sec16, T8S, R16W Bloody Dick Creek	200 Acres	Yes	No
8-15-2002	Sheep Creek	Sec12, T2S, R18W Chief Joseph Creek	2016 Acres	Yes	No
7-18-2003	Hidden Lake	Sec3, T5S, R12W Grasshopper Valley	3435 Acres	Yes	Yes
8-12-2003	Winslow	Sec36, T14S, R3W Centennial Valley	13,558 Acres	Yes	Yes

Other large and recent local fire incidents include: 1) A major fire on 4-17-87, called the Elliott Fire, burned a large portion of the Beaverhead River corridor North of Dillon, threatening homes and structures, and burned over firefighters; 2) A major fire in Madison and Jefferson County in the Jefferson River corridor near Whitehall burned some structures in the path of the fire; 3) A recent fire on the Red Rock River corridor above Clark Canyon Reservoir resulted from a test burn that escaped control and burned 83 acres of the river bottom. A fire history map is included in the Map Section of the report which shows the recent fire history in Beaverhead County as of 2009.

Wildland fire danger has continued to increase in Montana over the past 10 years. According to the Montana DNRC, long-term drought and unhealthy forests are the primary causes. Negative impacts of wildfire include loss of life, property, and resource damage or destruction, severe emotional crisis, widespread economic impact, disrupted and fiscally impacted government services, and environmental degradation.

Structure Ignitability

Structural fuel hazards are characterized by the combustibility of the materials used in structures, and are highly variable across the County. For example buildings constructed from whole logs or wood-derived products are more combustible than brick, tile, steel, etc. Roof material composition is a critical factor when assessing structure vulnerability to wildfire.

Of the estimated 600 structures evaluated during the risk assessment component to the update to the CWPP, 55% of the structures had fire resistant roof coverings. A wide range of variability existed

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throughout the structures that were evaluated during the risk assessment as to the incorporation of *Firewise* concepts in either building construction or landscape design.

Fire Protection Infrastructure

The preparedness and capability of fire protection organizations has a significant affect on the risks associated with wildfire. The responsibility for fire protection and suppression in Beaverhead County is divided between agencies and organizations within three separate levels of governments. The federal agencies are the United States Forest Service (USFS) - Dillon, Wise River, and Wisdom Ranger Districts, the Bureau of Land Management (BLM) - Butte District and Dillon Field Offices, and the US Fish and Wildlife Service (USFWS) – Lakeview Office. The state agency is the Montana Department of Natural Resources and Conservation (DNRC) - Dillon Unit. The county fire protection entities include Volunteer Fire Departments (VFD) and Volunteer Fire Companies (VFC) within Rural Fire Districts (RFD).

Under terms of an agreement entered into by the BLM Montana State Director and USFS Regional Forester, Northern Region on February 18, 1982, wildfire suppression agencies agreed to aid/cooperate in the suppression of wildfires. This agreement is referred to as the BLM/USFS Master Agreement. On December 1, 1986, the State Director and Regional Forester also agreed to implement Phase II of the BLM/USFS Protection Adjustment. At that time, the BLM Butte District Office was directed by Instruction Memorandum No. MT-87-68 to proceed with developing operating plans with adjoining National Forests to implement Phase II.

On February 3, 1987, an operating plan for fire protection exchange adjustments was agreed to by BLM District Managers for Butte and Lewistown. Also concurring with the fire protection exchange adjustments were the Forest Supervisors of the Beaverhead, Deerlodge, Gallatin, Helena, and Lolo National Forests. Effective that date, the BLM Butte Districts' public lands of approximately 1.4 million acres became the wildfire protection responsibility of the Forest Service. The Forest Service entered into an agreement with the Montana Department of Natural Resources and Conservation (MDNRC), to have the MDNRC assume protection responsibility on a portion of public lands. All parties to this agreement currently work under the Cooperative Fire Management Agreement (Six Party Agreement), dated March 1998.

The Bureau of Land Management (BLM), Butte District Office and Dillon Field Office, are the BLM management units within Beaverhead County. The Butte District Office manages BLM lands along the upper and middle reaches of the Big Hole River. The Dillon Field Office manages the remainder of BLM lands in Beaverhead County.

The purpose of the Dillon Field Office Fire Management Plan of 2004 (FMP) is to identify and integrate all wildland fire management guidance, direction, and activities required to implement national fire policy and fire management direction from the following: Federal Wildland Fire Management Policy and Program Review-1995 and 2001; The Interagency Fire Management Plan Template; and A Collaborative Approach for Reducing Wildfire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan.

In the event of a wildfire emergency, the agency having jurisdiction over the area affected may, through its delegated line of authority, request mutual aid assistance of any other agency of entity. Assistance provided by the cooperating agencies during the initial attack phase of a fire is non-reimbursable. Assisting resources may be recalled at any time, at the sole discretion of the entity furnishing the assistance.

The State/County Cooperative Fire Program is authorized under Montana State statutes 7-33-2210, 76-13-106, and 76-13-102, MCA. Specifically, the State of Montana and Beaverhead County have entered into a cooperative agreement which spells out certain responsibilities for each party, and allows for State support on County fires that are beyond the County's capability to control. Through this agreement, the

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State (along with its cooperators) and the County are enabled to work together to achieve comprehensive wildland fire protection in the County. One of the primary goals of the State/County Cooperative Fire Program is to establish a basic level of wildfire protection to all lands in the County that are not covered by a higher level of protection.

As set forth in Montana Statutes, Beaverhead County is responsible for protection of the county's resources from wildfire (7-33-2202 MCA). This applies to privately owned lands (or local government owned) whether forested or not. Lands within city limits of a county's incorporated cities are excluded from this mandate, since cities are required by other statutes to have their own municipal fire departments.

The County is allowed a number of methods it may adopt to provide this protection. In the mentioned areas of the County where there is no fire district and no other designated protection agency, the County governing body has the legal responsibility for wildfire suppression.

The Board of County Commissioners is the executive body of the County. In Beaverhead County, this Board is composed of 3 commissioners, one from each of 3 geographic districts in the County. The Commissioners have authority to:

- A. Establish Rural Fire Districts (RFDs) after the commissioners are presented with a petition for formation of a district, signed by a majority of the landowners owning 50 percent or more of the private land in the area. After holding a public hearing, the Commissioners can then create a new district, and either run the district themselves or appoint a board of trustees to run the district (7-33-2104 MCA).
- B. Establish Fire Service Areas (FSAs)
- C. Set mill levy sufficient to fund the RFD and FSA budgets.
- D. Provide for the formation of county volunteer fire companies.
- E. Provide fire protection services.
- F. Appoint a County Rural Fire Chief (Firewarden).
- G. Establish or extend burning seasons.
- H. Request State fire suppression services.

The Rural Fire Chief (Firewarden) and Deputy Firewarden are appointed by the Board of County Commissioners. These persons have the responsibilities to:

- A. Represent the Board of Commissioners in matters pertaining to wildland fire management in the county.
- B. Coordinate wildland fire protection for all lands on which the county is required to provide fire protection.
- C. Monitor the county fire situation, and assures that adequate county resources are mobilized to suppress its fires.
- D. Keep the Board of Commissioners apprised of the wildfire situation in the county, and brings wildfire related matters before the board for consideration.
- E. Serve as the primary contact between the county and the State (DNRC) with regards to wildland fire.
- F. Ensure that wildland fire equipment on loan to the county is maintained, fire-ready, and accounted for.
- G. Represent the county and its fire organization in the Northern Rockies Coordinating Group (NRCG), a regional/state-wide organization of wildland firefighting agencies.
- H. At the request of the County Commissioners, ensure that wildland fire concerns are addressed by land developers during the subdivision review process on major residential projects.

A Rural Fire District (RFD) is a political subdivision having geographical boundaries established by petition of the residents of an area. In accordance with State law, Rural Fire Districts are responsible for protection of all property within the district from fire. There is no distinction in the law regarding what type

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of fire, so all fires are included (structural, vehicle, and wildland). This applies regardless of the vegetative cover on the land, so forested lands are also included even if these lands are already protected by a Recognized Wildland Protection Agency. It is these forested lands, lying within established rural fire districts that are referred to as having “overlapping jurisdiction”.

Beaverhead County is made up of four Rural Fire Districts. There are four Volunteer Fire Departments (VFD) and three Volunteer Fire Companies (VFC) in the four RFD in Beaverhead County. Each of the following communities has its own VFD or VFC: Dillon, Lima, Polaris (Grasshopper), Wisdom, Grant, Jackson, and Wise River.

Fire District #1 includes the Lima VFD. Fire District #2 includes the Dillon VFD and the Grant VFC. Fire District #3 consists of the Wisdom VFD and the Jackson VFC. Fire District #4 is comprised of the Grasshopper Valley VFD, who serves the unprotected lands in northern Beaverhead County. Wise River VFC is a duly formed Fire Company in an unprotected area of Beaverhead county and responds to the area around Wise River. The following section gives a brief description of each of the Rural Fire Districts, the Volunteer Fire Departments, and the Volunteer Fire Companies in the county. The extent of jurisdiction for each RFD is portrayed in Map 5 North and South. The preparedness and capability of each Volunteer Fire Department and Company is represented in Appendix 3.

The Lima Rural Fire District # 1 covers the southern most portion of the county, having a common border with the Dillon Rural Fire District # 2. The entire fire district also is jointly protected from wildland fire by the Dillon District of the Beaverhead/Deerlodge National Forest (NF), and by an initial Attack Agreement with the Dillon Unit of the Montana Department of Natural Resources and Conservation.

The Dillon Rural Fire District # 2 covers the eastern most portion of the county, having a common border with the Lima and Wisdom-Jackson Rural Fire Districts, the Wise River Rural Fire Company, and Madison County. The entire fire district is jointly protected from wildland fire by the Dillon District of the Beaverhead/Deerlodge NF, and by an initial Attack Agreement with the Dillon Unit of the Montana Department of Natural Resources and Conservation.

The Wisdom-Jackson Rural Fire District # 3 covers the western most portion of the County having a common border with the Dillon Rural Fire District and the Wise River Volunteer Fire Company. The entire fire district is also protected from wildland fire by the Dillon, Wise River, and Wisdom Districts of the Beaverhead/Deerlodge NF, and by an initial Attack Agreement with the Dillon Unit of the Montana Department of Natural Resources and Conservation. The Wisdom-Jackson RFD also protects the southern portion of Deerlodge County directly adjacent to the Big Hole River.

The Grasshopper Valley Rural Fire District # 4 includes the Grasshopper Volunteer Fire Department. The Grasshopper VFD has its own area of protection within and around the Grasshopper Valley and has a common border with the Dillon RFD, Wisdom-Jackson RFD and the Wise River.

The Wise River Volunteer Fire Company is unlike the Rural Fire Districts. Under 7-33 part 23 MCA, Fire Companies are not created by petition, but instead a Certificate of Organization listing the Company Officers and a roster of members is filed with the Clerk of the County. These organizations have no real fire responsibilities, except when attached to the County under the County COOP Fire Program as a County Rural Fire Department under the authority of the County Fire Warden under 7-33 part 22 MCA. The Wise River Rural Volunteer Fire Company covers the northern most portion of the county having a common border with the Dillon and Wisdom-Jackson Rural Fire Districts. The entire fire company area is also jointly protected from wildland fire by a Mutual Aid Agreement with the Dillon and Wisdom-Jackson Districts of the Beaverhead/Deerlodge NF and the Melrose Rural Fire District of Butte-Silverbow County.

The Beaverhead County Sheriff's Office also has responsibilities in wildfire emergencies. The Sheriff and Deputies have the following responsibilities during wildfire suppression operations in the County: 1) Traffic Control; 2) Evacuation; 3) Enforcement of Fire Laws; and 4) Fire Investigation.

4. Risk Assessment

A fundamental part of any fire plan is identifying what you might lose in a wildland fire, known as assets or values at risk.

A critical element of the values at risk not incorporated in the 2005 Wildfire Protection Plan is Health and Safety!

4.1. Health and Safety

Fire fighter safety should never be compromised.

Beaverhead County needs to maintain the safety of their fire fighters. Thorough situational awareness on the part of the firefighter and strong incident management by the fire agency leadership is critical to the safety of personnel. Wildland fires are capable of moving over significant distances in a short period of time. It is possible that firefighting resources could become trapped during one of these events if they do not maintain a constant situational awareness.

Beaverhead County has the potential to have a series of multiple wildland fire incidents during any fire season. A fire season of this nature could conceivably last for several months. The county fire agencies should work toward expanding their leadership capability so they can deal with simultaneous complex ignitions.

In 1997, the "TriData Study: Wildland Firefighter Safety Awareness Study" was commissioned to find ways to improve firefighter safety. Of the 114 recommendations, the #1 recommendation was to "Implement a large-scale, long-range fuel management program." Fire protection agencies, county officials, and the public must insist on hazardous fuel reduction efforts on a landscape-basis if they are truly serious about improving safety of not only fire fighters but the public in general.

A significant portion of the input received during the proceedings of each 2005 Community Workshops, was the emphasis of values to be protected. The values to be protected represents of broad range of private and public properties, roads and destinations, utilities, and most aspects of the natural environment. The participants of each meeting, and other interested publics, all contributed to the identification of values that fall into one of four separate categories.

4.2. Communities and Their Surroundings

The first concern is to provide protection for private properties within and immediately outside of the communities. Communities can be defined as a group of homes and structure that share utilities and access. This includes but is not limited to the communities themselves, homes, utilities, structures, equipment, fences, animals, livestock, crops, and timber. The basic concept is to provide a defensible space around any large group of inhabited structures or densely populated areas.

4.3. Roads, Utilities, and Historic Sites

The second concern focuses on private and publicly owned and managed properties including but not limited to power and communication utilities, roads and access, destinations, and historical sites and structures, i.e., Bannack State Park, **Bender Center**. This all-inclusive description is intended to provide a defensible space around roads and utilities that sustain communities, and to protect areas where people frequently visit.

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Roads and bridges that provide essential one-way in, one-way out access to both public and private lands need to be protected and maintained for public and firefighter safety.

Beaverhead County has a number of such one-way in, one-way out access routes. These access routes need to be maintained so that all fire fighting apparatus can safely negotiate these main access roads. These roads will also serve as evacuation routes during a major wildfire or other significant public safety emergency. Many of these roads are in need of graveling, re-graveling, widening, bridge repair and bridge replacement.

Some of the most critical access roads in the county are:

- Argenta Road,
- Big Sheep Creek Road,
- Birch Creek Road,
- Bloody Dick Creek Road,
- Little Sheep Creek Road,
- Medicine Lodge Road,
- Miner Lake Road,
- Rock Creek Road, and
- Trapper Creek Road

4.4. Aesthetics and the Environment

The third concern is the value of aesthetic and natural amenities. The views, wildlife habitat, air and water quality, affects to property value, noxious weeds, recreation opportunities, and changes of lifestyle are all concerns. Finally, the negative affect of wildfire on local economies is emphasized. The challenge is to protect these countless and widely distributed amenities, even though some of them are not well defined or mappable. The values to be protected that lie within areas of high wildfire risk have been identified. Areas where the high values are associated with high wildfire risk and are located adjacent to public lands are referred to as “at-risk communities” within a “wildland urban interface”.

5. Goals for Mitigation

The concept of a wildland urban interface (WUI) has widespread applicability in Beaverhead County. Given the low total population density and highly dispersed nature of human occupancy, Beaverhead County has identified four specific categories to describe their WUI boundary and extent of the High Wildfire Risk Areas (HWRA). These individual categories have all been rated as all having High Risk based on the inherent and existing conditions of drought, vegetation, and terrain, the nature of wildfire itself, and the frequency and concentration of human activities. All areas, travel corridors, and sites identified in Categories I, II, III, and IV were identified and emphasized by the participants of the Beaverhead County Wildfire Protection Plan Community Workshops. Categories I, II, and III are delineated on the Beaverhead County Wildland Urban Interface and High Wildfire Risk Areas Map. Category IV is not portrayed on any map.

In southwest Montana, the wildland urban interface is widespread. Private land is readily dispersed throughout Beaverhead County adjacent to Federal and State Lands, including many tracts developed within Federal and State Land boundaries. Several sub-divisions have been developed next to Federal and State Lands that have vast amounts of timber. There are also resorts, dude ranches, private timbered lands, and other businesses developed within the wildland urban interface. Because of the location of private lands and rural developments in relationship to Federal and State lands, wildfires could prove to be disastrous for many Beaverhead County residents.

In general, goals of Beaverhead County for hazard mitigation as described herein will: 1) Address management opportunities to reduce wildfire fuel characteristics inherent to large areas; 2) Introduce fire as a natural ecosystem component and management tool; and 3) Describe means to prepare structures, landscapes, facilities, and roadways in such a manner as to enable them to withstand wildfire occurrence. These goals are intended to address typical conditions found in Category I, II, III, and IV High Risk areas.

Additionally, goals of the County are to: 1) Identify and prioritize the treatment of those specific locations where wood products with economic value exist within the Wildland Urban Interface and High Wildfire Risk Areas; for example woody materials used to sustain the Fuels for Schools Grant Program at the University of Montana, Western; 2) Improve the County's ability to compete for funding that enables the acquisition of firefighting equipment and water storage facilities; 3) Emphasize treatments in non-forested high wildfire risk areas where human uses are concentrated; for example riparian habitats such as Poindexter Slough, and sagebrush habitats near Lemhi Pass. The goals set fourth herein are intended to describe the overall needs and desired future conditions for typical scenarios, and are not intended to be applied literally to any one area or site.

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5.1. Category I

For small communities in Beaverhead County, hazard mitigation goals will address three issues. First, homeowners, community leaders, and local contractors must be informed and educated about methods that render both structures and surrounding landscapes most resistant to fire occurrence. A perimeter that delineates a sufficient extent of defensible space for each community must be defined. Actions that create a genuine defensible space should be implemented. FireWise strategies will continue to be encouraged for landscapes, fire retardant materials will be advocated for new and remodel constructions, and interior and exterior sprinkler and water storage systems will be promoted. Secondly, homeowners, community leaders, and local contractors must be informed about insurance incentives, County, State, and Federal programs, and cost-share opportunities that encourage safer, more fire-resistant communities. Third, response to fire occurrences will be met with greater preparedness. Improved communication and clearly defined roles and responsibilities must be defined. Individuals, neighborhoods, and communities will have a better understanding of how to respond in the event of a wildfire in their immediate area.

5.2. Category II

Goals for primary access and emergency escape routes will address two issues.

First, hazards associated with access and escape routes will be reduced through increased diligence in management of roadside vegetation. This will involve both removal of excess roadside fire fuels, and revegetation strategies that promote the establishment of less hazardous vegetation types. Secondly, communication between residents and community leaders will be improved. This will be accomplished with the use of more roadside information and direction signs, establishment of pre-determined escape routes, and more clearly defined roles and responsibilities for fire response authorities.

5.3. Category III

Specific Wildland Urban Interface (WUI) and High Wildfire Risk Areas (HWRA) have been defined, and hazard mitigation goals for each area will be unique. Goals include but are not limited to: 1) Measurable reduction of standing and fallen fire fuels within each WUI and HWRA; 2) Restore fire in a controlled manner to fire-prone WUI and HWRA areas where appropriate; 3) Promote active forms of forest and range management that allow for sustainable and suitable timber harvest and forage utilization within and around WUIs and HWRA; 4) Maintain secondary access routes to allow for active management of timber and forage resources, and provide emergency access for fire suppression response; 5) Increase communication with the general public to inform them of prevailing wildfire hazards and the most current fire conditions; 6) Employ active forest management strategies that will reduce the rate of spread of disease- and insects-caused mortality of forest resources; 7) Reduce high wildfire risks through timber removal from areas where high concentrations of dead and dying timber exists near communities, travel corridors, utilities, and destinations.

5.4. Category IV

The individual sites and natural amenities will require site specific goals. In general, where Category IV risks are localized, FireWise practices will be employed, improved housekeeping and grounds maintenance will be promoted, emergency fire suppression systems will be installed, and specific Category IV sites will be incorporation of into fuel reduction management practices of a surrounding WUI and/or HWRA. For large areas where values of viewsheds, wildlife habitat, watershed health, etc. are identified as having high risk, long term management strategies will be developed through cooperation between private landowners, citizens, and agency personnel.

6. Delineation of the Wildland Urban Interface

During the development of the 2005 Wildfire Protection Plan, the following process was utilized to determine the WUI and the high wildfire risk areas of Beaverhead County. For the 2010 update, the existing WUI for Beaverhead County was modified by the participants to be more realistic and useable in Beaverhead County

6.1 Wildland Urban Interface and High Wildfire Risk Areas

Category I

All of the communities and their immediate surrounding areas within Beaverhead County have been classified as being at High Risk to wildland wildfire and subsequent urban fire potential. The communities within the County previously listed on the Federal Register as being recognized as “At-Risk” are:

- Dell
- Dillon
- Jackson
- Lima
- Polaris
- Wisdom
- Wise River

Additional communities designated as “At-Risk” in this document are:

- Argenta
- Bannack
- Dewey
- Grant
- Lakeview
- Monida

For each community, except Dillon, the recommended WUI exists at the perimeter of a 1.5-mile radius extending outward from each community center. The WUI around Dillon exists at a 5.0-mile perimeter extending from the community center (Map 6 North and South). These perimeters represent the extent of a defensible space where actions and treatments should be employed to reduce the potential for wildfire initiation and spread. Map 7 North and South also defines WUIs around areas where population density is equal to or greater than ten people per square mile.

Category II

All potential emergency evacuation routes and concentrated travel routes have been identified as High Risk, and WUI boundaries have been assigned. For all primary access roads to public lands, County Roads, State Highways, and Interstate 15, a WUI shall extend 0.5 miles to each side of the roadway (Map 6 North and South).

Category III

Specific extensive areas have been identified as having High Wildfire Risk that may contain elements of Category I and II. Each said area has a HWRA that is uniquely defined. The specific HWRA include but are not limited to: 1) Elk Lake Lodge; 2) The Red Rock, Beaverhead, and Big Hole River riparian

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corridors; 3) Lemhi Pass to Bar TT Ranch; 4) Lower Grasshopper Creek; 5) Upper Rattlesnake, Trout, and Birch Creeks; 6) East Pioneer Mountains, eastern portion; 7) The Pioneer Mountains Scenic Byway and State Highway 43; 8) Steele Creek; 9) The southwest Big Hole Valley; 10) The Big Hole Battlefield National Monument; and 11) Poindexter Slough. These areas are depicted with a 1.5-mile radius of defensible space on Map 8 North and South.

Category IV

Individual sites of importance were specifically identified during the Community Workshops that were too numerous to account for or map. They include but are not limited to individual cabins, homes, groups of outbuildings, historic structures and sites, cemeteries, communication facilities, utility substations, power transmission lines, Snotel sites, patented land inholdings, and designated campgrounds. Many of these sites are portrayed on Map 8 North and South with a 1.5-mile radius of defensible space.

6.2 Risk Assessment of Planning Zones in Beaverhead County

Public input received during the Community Workshops formed the initial basis of the identification of values to be protected that lie in or near a Wildland Urban Interface or High Wildfire Risk Area. These values at risk are described in the discussion of Category I, II, III, and IV areas and specific sites. Category I, II, III, and IV values exist throughout Beaverhead County, but these values and the risks to uncontrolled wildfire are not evenly distributed across the County.

The Beaverhead County Wildfire Task Force, comprised of those citizens who consistently participated in the development of the Beaverhead County Wildfire Protection Plan, incorporated a strategy to evaluate and compare the hazards, risks, and values found within the County. This risk assessment process is advocated in *Preparing a Community Wildfire Protection Plan, A Handbook for Wildland-Urban Interface Communities* (2004). The process was adapted specifically to the geographic character of Beaverhead County.

Beaverhead County was divided into eight geographic planning zones. Each zone represents areas of similar landscape type and location. The planning zones are: 1) the West Big Hole Valley – Forested; 2) the Big Hole Valley Bottom; 3) the East and West Pioneer Mountains; 4) the Bannack-Grant Foothills; 5) the Tendoy Area; 6) the Red Rock-Beaverhead River Corridor; 7) the South Centennial Area; and 8) the Blacktail-Gravelly Area (Map 9).

A risk-rating checklist, incorporating eighteen rating criteria, was used to rank the planning zones in Beaverhead County. The eighteen rating criteria were grouped into five general rating categories. The five rating categories are: 1) Fuel Hazards; 2) Risk of Occurrence; 3) Homes, Businesses, and Essential Infrastructure; 4) Community Values; and 5) Protection Capability.

Each of the eighteen rating criteria received a rating score of High (3 points), Medium (2 points), or Low (1 point). The rating score for each of the eighteen criteria was agreed upon through consensus by the Task Force members, for each of the eight planning zones. The results, as portrayed in Table 3, rank the relative hazards, risks, and values as they are distributed across Beaverhead County. The results are: the Red Rock-Beaverhead River Corridor (47 points); the East and West Pioneer Mountains (46 points); the South Centennial Area (42 points); the Big Hole Valley Bottom (41 points); the West Big Hole-Forested (38 points); the Bannack-Grant Foothills (37 points); the Tendoy Area (33 points); the Blacktail-Gravelly Area (32 points). Planning zones with rating scores greater than 40 are considered as having a high concentration of hazards, risks, and values. Those planning zones with rating scores of 40 or less are considered as having a moderate concentration of hazards, risks, and values. All of the aforementioned Category I, II, III, and IV values have a high priority for mitigation regardless of where they are located within Beaverhead County.

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TABLE 3. BEAVERHEAD COUNTY WUI RISK ASSESSMENT SUMMARY

Risks and Planning Zones	1 West Big Hole Forested	2 BH Valley Bottom	3 East-West Pioneers	4 Bannack Grant-Foothills	5 Tendoy Area	6 RRBVHD River Corridor	7 South Centennial Area	8 Blacktail Gravelly Area
A. Fuel Hazard	3	2	3	2	2	3	3	2
B. Risk of Occurrence	7	5	10	6	7	12	8	7
C. Home, Business, Infrastructure	3	6	5	4	4	6	4	2
D. Community Values	10	13	11	13	7	15	10	8
E. Fire Protection	15	15	17	12	13	11	17	13
Total	38	41	46	37	33	47	42	32

6.3 2010 Update of the WUI

During the 2010 update to the Beaverhead County CWPP, Maps 6, 7, and 8 were modified into a new map which is included in the map section. Roads that had two ways to exit an area were eliminated from the WUI. Areas, such as Dillon, had the WUI buffer of 5 miles removed, additional buffers were extended along river or stream corridors where development has occurred (See WUI Map in Map Section).

Beaverhead County

7. Mitigation Strategy -- The Action Plan

This Chapter provides the steps that are being taken or should be taken in Beaverhead County to reduce the wildland and structure fire threats to public, fire fighters and other values at risk.

7.1. Mitigation Goals

An overarching principle of this Community Wildfire Protection Plan is that fire fighter and public safety is the highest priority!

The mitigation goals of this Community Wildfire Protection Plan are to:

- Identify, designate and map areas of wildland urban interface in the county.
- Evaluate, upgrade and/or maintain community wildland and structural fire preparation and response facilities, water supplies, and equipment to suppress and mitigate wildland fire risks with financial assistance through competitive grants.
- Prevent threats to and destruction of property from wildland fire by adopting subdivision regulations, which include access, water supply, asset protection zones, and fire stations.
- Reduce structural ignitability by developing and maintain regulations to ensure asset protection zones are created and maintained around structures and improvements in the county.
- Educate community members to prepare for and respond to wildland fire and to mitigate wildland fire damage.
- Improve training and qualifications of fire personnel to more efficiently manage incidents and to effectively interface with incoming Incident Management Teams deployed in the county.
- Work as a partner to identify, prioritize, coordinate and implement fuels reduction projects between private landowners, local fire departments, the DNRC, the US F&WS, the Beaverhead-Deerlodge NF, and the Bureau of Land Management.
- Position fire protection agencies, county leaders, rural communities, residents, and forest owners and managers to be better prepared to protect the County's residents and its natural resources from the potentially devastating impacts of wildland and wildland urban interface fires.
- To identify and promote local economic development opportunities for fuel reduction and biomass utilization enterprises.
- Decrease the chances of a wildland fire spreading from federal lands onto private lands while, correspondingly, decreasing the risk of a wildland fire spreading from private lands onto federal lands within the county through fuel management.
- Reduce wildland fuel loads in and around our neighborhoods and communities and promote healthy forest and rangeland ecosystems by reduction of hazardous fuels.
- Implement the Beaverhead County CWPP with ongoing monitoring and evaluation.
- Ensure that critical infrastructure located in wildland areas are provided with asset protection zones of adequate size to with stand direct impacts from a wildland fire.

Beaverhead County

Planning priorities of the CWPP in order of importance are:

- Protect human health and life
- Protect critical community infrastructure
- Protect private property
- Protect natural resources

7.2. Existing Mitigation Efforts

The following sections describe the existing mitigation measures that are being utilized in Beaverhead County to decrease the risks from wildland or wildland urban interface fires. Beaverhead County and Beaverhead County fire agencies should ensure that these efforts are supported and continued.

7.2.1. Fuel Reduction Program

Over the past five years many fuel reduction projects have been completed by Beaverhead County, MT DNRC, the USFS – BDNF, the Bureau of Land Management, and the Fish & Wildlife Service.

7.3. Coordinated Prevention, Protection Projects, and Response Plan

Future efforts in planning and implementation of prevention, mitigation and response projects should be closely coordinated between Beaverhead County and their cooperating partners, i.e., DNRC, USFS, and BLM, and FWS. It is likely that some projects would be more effective if implemented on the lands of two or more jurisdictions rather than by a single entity. Cooperation and coordination will also result in avoiding duplicating efforts or overlooking opportunities to protect values at risk.

In an effort to reduce new fire starts during periods of very high or extreme fire danger, there is a statewide process for instituting fire restrictions and closures by zone in the Northern Rockies Geographic area (See Figure 4). Beaverhead County and its cooperators are coordinated in this process through the Central Zone – Dillon Division, to ensure close communications and common actions occur during critical periods of fire danger.

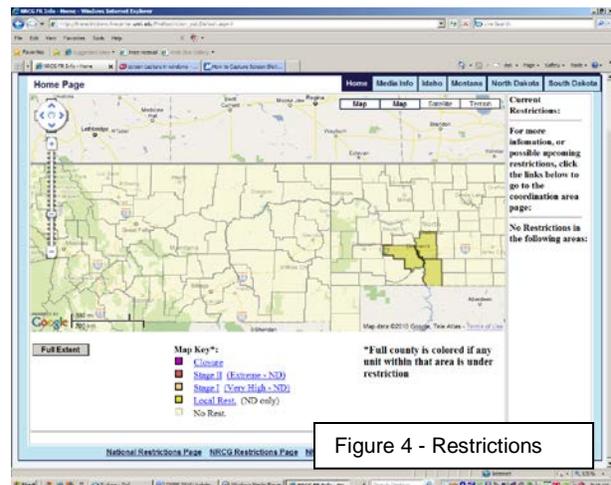


Figure 4 - Restrictions

7.4. Prioritization Process

Recommended projects have been prioritized See 7.6 Prioritized Actions.

7.5. Recommended Projects and Programs

This section describes recommended projects and actions that address the mitigation goals of the Beaverhead County CWPP. The funding mechanism for both the State of Montana and USFS grants is directed toward projects that show collaboration between private, counties, tribes, state and federal partners.

Beaverhead County

7.5.1 Wildland Urban Interface

Recommended Project 7.5.1.1 – The Beaverhead County Board of County Commissioners should adopt the wildland urban interface depicted in the WUI Map as the wildland urban interface in Beaverhead County as of 2010.

Project Coordinator – Beaverhead County Fire Warden & DES Director

7.5.2. Fuel Modification Projects

This section addresses specific actions to reduce fuel loads, whether in forests, brush, or grasslands.

Recommended Project 7.5.2.1 – Form a countywide collaborative planning group (Beaverhead County Fire Safe Council) with the USFS, BLM, USFWS, residents, DNRC, Beaverhead County fire agencies, Beaverhead County DES, Board of County Commissioners, power companies, Union Pacific and other cooperators to plan and prioritize fuel reduction projects on a landscape basis, coordinate fire prevention activities and manage the interagency burn permit process, etc. (See Fuels Projects Map in Map Section).

Project Coordinator – Beaverhead County Fire Warden

7.5.2.1. Vegetation Management

Sivilcultural treatment of fuels is a technique used to eliminate a portion of the fuels in forested areas. Some of the smaller trees are cut and removed to create more growing space between the larger trees. This basic forestry practice of thinning will usually increase timber values for the landowner by concentrating annual growth in a few larger trees rather than many small trees.

Limbing is another technique accomplished by removing the lower branches of trees and like thinning it reduces the ladder fuels that allow a fire to climb from the ground up into the forest canopy. General litter cleanup is the removal of dead and downed woody debris on the forest floor that can contribute significantly to fire behavior, as these fuels tend to be very dry and readily combustible.

Recommended Project 7.5.2.1.1 – Reduce the vegetation in those areas within the Beaverhead County WUI where the continued presence of the fuels represents a clear potential to generate high fire intensities. Wildland fires burning under high intensities will pose the greatest threat to structures, their inhabitants or fire fighters. The county should start in those areas where fuel modification projects would have the most potential to positively impact the greatest number of people or structures and are located in a high priority area for the local fire agency.

Project Coordinator – Beaverhead County Fire Warden, USFS, BLM, USFWS and DNRC

Recommended Project 7.5.2.1.2 – Once the fuels in an area have been reduced to an acceptable level it is critical that they not be allowed to return to the condition they were in prior to treatment. Treated areas should be inspected at 5-10 year intervals to determine if they would still be effective during a wildland fire. Most likely they will need some type of follow up maintenance, at that point in time, but this work should require less effort and at a reduced cost from the original treatment. If it is not accomplished periodically the full treatment costs will be required again in 20-30 years.

Project Coordinator – Beaverhead County Fire Warden, USFS, BLM, USFWS and DNRC

Recommended Project 7.5.2.1.3 – Involve the Rocky Mountain Elk Foundation, The Nature Conservancy and other interested conservation groups to implement stewardship fuels projects.

Project Coordinator – Beaverhead County Fuels Coordinator

Recommended Project 7.5.2.1.4 – Work with owners of cottonwood river bottoms where an early spring or late fall fire in the river bottoms will threaten residents and or communities to implement a fuel management prescription that would divide the cottonwood stands into 40 acres blocks separated by plowed lines that are at least 15 feet wide.

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.2.1.5 – Develop and fund a program to provide assistance to low income residents of Beaverhead County to conduct fuel mitigation activities on their property.

Project Coordinator – Beaverhead County DES Director

Recommended Project 7.5.2.1.6 – Encourage the USFS – BDNF to utilize stewardship contracting on USFS fuels projects where feasible.

Project Coordinator – Beaverhead County Board of County Commissioners

Recommended Project 7.5.2.1.7 – Continue and expand the fuel reduction projects on around Maverick Mountain Ski Area to ensure asset protection zones are created.

Project Coordinator – MT DNRC, Grasshopper RFD Fire Chief, USFS - BDNF

7.5.2.2. Prescribed Burning

Prescribed burning—or controlled burning—is a relatively quick and inexpensive way to reduce fuel loads. However, in many situations, especially where there are structures nearby, preparatory work needs to be done to reduce the overall flammability of the site.

The county may wish to explore the opportunities for using prescribed fire on private lands within the county. There are some tangible benefits to local ranchers and when they use low to moderate intensity prescribed fire to increase the quantity and palatability of grass on pastures. It will also set back the encroachment of ponderosa pine unto grasslands where this is a problem. Forage levels have been increased two to four times the pre-burn levels on many sites in Montana and sage has been reduced to about 10 percent of pre-burn levels. One drawback to prescribed fire is that the area to be burned should not be grazed for one season prior to burning and one season after burning. The reasons are to insure enough fine fuels are present on the site to adequately carry the fire during burning and to allow the new and/or rejuvenated grass plants adequate time to develop healthy root systems the following growing season. Several research publications completed by the Intermountain Research Station discuss the types of results that can be expected.

One of the greatest benefits to prescribed burning is the training opportunity it provides for the fire fighters. On a wildfire they are often forced to be reactive rather than to plan and execute actions in a more orderly fashion. When conducting a prescribed burn they will be able to observe fire behavior in a non-emergency setting. They will also learn how to effectively ignite the area to be burned and how to deploy the holding forces to make the best use of available skills and equipment. All of this can be accomplished while functioning in the serious but more controlled environment of a prescribed fire.

Recommended Project 7.5.2.2.1 – Opportunities may arise from planning efforts to jointly conduct prescribed fire projects. Beaverhead County fire agencies should participate in these burns when practical to improve their training, qualifications and experience in wildland fire management. Efforts such as these promote better interagency cooperation and working relationships.

Project Coordinator – Beaverhead County Fire Warden, USFS, BLM, USFWS and DNRC

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Recommended Project 7.5.2.2.2 – Work with the Beaverhead County Weed Department to establish a wash requirement for contractors, local, state and federal government apparatus that conduct prescribed burns within the county.

Project Coordinator – Beaverhead County Weed Department

7.5.2.3. Grazing

Beaverhead County can expect the continued encroachment of fires off of timbered grounds, such as State, BLM and USFS lands, onto private ownership.

Recommended Project 7.5.2.3.1 - Landowners should be encouraged to sustain grass ecosystems through grazing and to control tree encroachment in those areas, particularly where they are adjacent to heavily timbered federal lands.

Project Coordinator – Beaverhead County Conservation District and Beaverhead County Fire Warden

Recommended Project 7.5.2.3.2 - Promote active forms of forest and range management that allow for sustainable and suitable timber harvest and forage utilization on lands within Beaverhead County.

Project Coordinator – Beaverhead County Conservation District and Beaverhead County Fire Warden

7.5.3. Industrial Resource Management

Recommended Project 7.5.3.1 – Work with the Union Pacific Railroad to develop fuel reduction and fire protection measures to ensure that wildland fires do not impact railroad facilities.

Project Coordinator – Beaverhead County DES Director

Recommended Project 7.5.3.2 – Ensure that Union Pacific Railroad controls the fire hazard along their right-of-way according to Section 69-14-721 MCA. If a fire occurs as a result of an ignition along the railroad right-of-way, the Beaverhead County Fire Departments should ensure that a fire investigation occurs to document that the cause and origin of the fire was the railroad and then bill the railroad for suppression costs for all railroad fires.

Project Coordinator – Beaverhead County Fire Warden

7.5.4. Biomass Utilization

Recommended Project 7.5.4.1 – Explore any opportunities to dispose of biomass material on either a profit or break even basis. If there is no market for chips or hog fuel in the area and no possibility of utilization for posts or poles, look at designating a site or sites where material can be safely piled and burned during low fire danger periods.

Project Coordinator – Headwaters RC & D



Figure 5

Recommended Project 7.5.4.2 – Explore involving the local RC&D or other economic development agencies within Beaverhead County to develop companies which might utilize the biomass generated from the fuel reduction projects (See Figure 5).

Project Coordinator – Economic Development Groups in Beaverhead County

7.5.5. Safety Zones

Location of safety zones within some of the subdivisions is probably the best approach to protecting human life during a fast moving fire, especially when residents are faced with the alternative of trying to navigate narrow roads under smoky conditions. Any required clearance work on these identified areas should be accomplished prior to fire season as labor and equipment become available. One important point is to insure that the development of procedures, such as when to occupy them and what should and should not be taken into them, are clearly understood by anyone who may need to use them.

Recommended Project 7.5.5.1 – Develop safety zones, where appropriate, in lands dedicated for parks during the subdivision process.

Project Coordinator – Beaverhead County Fire Warden, Fire Agencies, RC & D

7.5.6. Infrastructure Improvements

Improvements to improve local infrastructure are discussed in this section.

7.5.6.1. Water Supply

Although water supply is not a direct function of the Beaverhead County fire agencies, water supply unquestionably impacts the structure fire suppression performance of the department. Water supply, or lack of water supply, indirectly affects the whole community through the insurance rates they pay.

Recommended Project 7.5.6.1.1 – Continue developing the strategic water source plan for the county (See Incident Management Map), which shows the sources of water needed to support wildland firefighting efforts. It may be necessary to develop new sources in some isolated dry locations in order to reduce refill times to an acceptable level. Explore opportunities to use dry hydrants and stored water facilities.

Project Coordinator – Beaverhead County Fire Warden and Fire District Fire Chiefs

Recommended Project 7.5.6.1.2 – Continue to encourage individuals to develop water sources that can be used by fire protection personnel.

Project Coordinator – Beaverhead County Fire Warden

7.5.6.2. Utilities

Recommended Project 7.5.6.2.1 – The Beaverhead County fire agencies should work with the Vigilante Electric Coop and Northwest Energy to ensure that the required clearances are maintained for all electrical transmission lines in the Beaverhead County.

Project Coordinator – Beaverhead County Fire Warden

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Recommended Project 7.5.6.2.2 – Northwestern Energy and Vigilante Electric Cooperative should provide power line safety demonstrations to the Beaverhead County fire agencies on a biannual basis.

Project Coordinator – Beaverhead County Rural Fire Council and Power Company Managers

7.5.6.3. Emergency Response

Emergency response to wildland, wildland urban interface and structure fires includes the placement of stations, apparatus and personnel to meet the needs of the community.

Recommended Project 7.5.6.3.1 – All the fire departments should develop a capital improvement plans to up-grade fire apparatus and equipment, within their fire agencies.

Project Coordinators – Beaverhead County Fire Warden, Fire Chiefs with assistance of the Board of County Commissioners.

Recommended Project 7.5.6.3.2 – The Beaverhead County fire agencies should continue to maintain and enhance the interagency cooperation between the fire departments and MT Department of Natural Resources and Conservation, Bureau of Land Management, United States Forest Service and the Fish and Wildlife Service.

Project Coordinator – Beaverhead County Fire Warden, DNRC Fire Program Manager, Beaverhead National Forest Fire Management Officer, USFWS Fire Management Officer and BLM Fire Management Officer

Recommended Project 7.5.6.3.3 – Develop and provide an educational program that communicates information about the levels of service of the county's fire protection agencies to the public.

Project Coordinator – Beaverhead County DES Coordinator and Fire District Fire Chiefs

Recommended Project 7.5.6.3.4 – Continue to develop the Incident Management Map that captures ICS points throughout the county for ICP's, staging areas, etc.

Project Coordinator – Beaverhead County Fire Warden, DNRC Fire Program Manager, Beaverhead National Forest Fire Management Officer, USFWS Fire Management Officer and BLM Fire Management Officer

7.5.6.3.1. Fire Stations

Recommended Project 7.5.6.3.1.1 – All fire stations should have a well maintained asset protection zone constructed around the fire stations.

Project Coordinator – Fire Department Fire Chiefs

7.5.6.3.2. Training, Certification, and Qualification

Recommended Project 7.5.3.3.2.1 – Develop a training program which encompasses County Fire Wardens, County Sheriff's, Disaster and Emergency Service officials, Mayors, City Councils and Fire Chiefs, and other government officials, to maintain currency with their fire program to include their roles and responsibilities as government officials. This training would provide the skill level to determine the appropriate level of Incident Management Team (IMT) and the ability to write a delegation of authority to the IMT, which would include the management objectives of the local government for the emergency incident.

Project Coordinator – Beaverhead County Fire Warden in association with MT County Fire Wardens Association

Recommended Project 7.5.3.3.2.2 – Consider adopting the National Wildfire Coordinating Group's 310-1 or National Fire Protection Association Standard 1051 as the minimum training standard for Beaverhead County Fire personnel as a tool to mitigate liability issues.

Project Coordinator – Beaverhead County Fire Warden, Beaverhead County Fire Chiefs, Boards of Trustees, and Beaverhead County Board of County Commissioners.

7.5.6.3.3. Operational Procedures & Programs

Recommended Project 7.5.6.3.3.1 – GPS the perimeters of all fires that are 100 acres or larger and develop a fire history database and maps for the county utilizing GIS. Upgrade GPS units so that they are capable of tracks allowing Beaverhead County Fire personnel to map the perimeter of fires larger than 100 acres so that they interface with the county's GIS program at the Beaverhead County. Capture a point for fires that are under a 100 acres.

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.6.3.3.2 – The Beaverhead County Weed Plan should be amended to require that fire suppression equipment be washed down prior to fire suppression activities to eliminate weed seeds and other noxious species moving into Beaverhead County.

Project Coordinator – Beaverhead County Weed Department with support from the Beaverhead County Fire Warden

7.5.6.3.4. Staffing

Recommended Project 7.5.6.3.4.1 – Develop a recruiting and retention program for the Beaverhead County Fire agencies.

Project Coordinator – Beaverhead County Fire Chiefs

7.5.6.4. Access

Recommended Project 7.5.6.4.1 – As road signs are replaced throughout the county, they should be non-combustible reflective road signs that would withstand a wildland fire.

Project Coordinator – Beaverhead County Road Department and Beaverhead County Commissioners

Recommended Project 7.5.6.4.2 – Install road name signs that are non-combustible and reflective on all roads that currently do not have signs.

Project Coordinator – Beaverhead County Road Department

Recommended Project 7.5.6.4.3 – Maintain secondary access routes to allow for active management of timber and forage resources, and provide emergency access for fire suppression response.

Project Coordinator – Beaverhead County Road Department and Beaverhead County Commissioners

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Recommended Project 7.5.6.4.4 – Critical access roads are in need of graveling, re-graveling, widening, bridge repair and/or bridge replacement.

Project Coordinator – Beaverhead Board of County Commissioners and Beaverhead County Road Department.

7.5.7. Asset Protection Zone (Defensible Space)

One of the single most important mitigating factors to increase the chances for the home's survival during a wildland urban interface fire is the creation and maintenance of an asset protection zone (defensible space). An asset protection zone refers to an area around the home where the native vegetation has been modified to reduce the wildland urban interface fire's threat to the home and provides a safe area for fire fighters to work effectively (See Figure 6).

Slope and fuels affect the size of the asset protection zone. Homes near steep slopes and in heavy fuels will need to clear additional vegetation to mitigate the effects of the radiant and convective heat currents and flame lengths. The slopes should be planted to native vegetation that is fire resistant.



Recommended Project 7.5.7.1 - The National Fire Plan mandates that local governments develop and adopt local land use plans and ordinances that provide for the maintenance of defensible space and fuel management on municipal and private property.⁸ The Beaverhead County Commissioners have adopted the Beaverhead County Subdivision Regulations, which should be amended to include requirements for asset protection zones (defensible space) and fuel management in designate wildland urban interface areas (See Guidelines for Development in the Wildland Urban Interface).⁹

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.7.2 –Work with the Beaverhead County Conservation District to develop an informational brochure to send to the members of the districts about implementing and maintaining asset protection zones (defensible space) around their homes and improvements.

Project Coordinator – Beaverhead County Fire Warden

7.5.8. Recommended Building Materials/Firewise Construction

A home may be vulnerable to a wildland urban interface fire because of its design, construction and/or location. There are steps a homeowner or developer can take to reduce the chance of home catching fire, or resist further damage if it does catch fire.

Recommended Project 7.5.8.1 – Recommend the use of *Firewise* Construction, Design and Materials¹⁰

⁸ See www.westgov.org/wga/initiatives/fire/implem_plan.pdf

⁹ See <http://dnrc.mt.gov/forestry/Fire/Prevention/Documents/GuidelinesFINAL.pdf>

¹⁰ *Firewise Construction, Design and Materials, Stack, Colorado Forest Service*

and *Firewise* Construction Checklist¹¹ to developers and homebuilders (See Resources Section).

Project Coordinator – Beaverhead County Fire Warden

7.5.9. Fire-Resistant Landscaping

The landscaping plan of the homeowner is an integral component of the defensible space developed by the homeowner. Each lot should be thought of in terms of four zones, with each zone having a different purpose and emphasis in the overall defensible space concept for the property.

Zone A consists of the area from immediately next to the home to a distance of approximately five feet. The primary purpose of this zone is to have the least flammable type of landscaping immediately adjacent to the home to prevent ignition from firebrands and direct flame contact.

Zone B lies between five feet and at least 30 feet from the home. This zone provides the critical area where fire fighters can defend the home and where the fuels have been substantially reduced in height and volume.

Zone C represents the lot from 30 feet to approximately 60 feet from the structure. This area lies outside the formal landscape area and should be modified as described in the asset zone guidelines, which are attached (See Asset Protection Zone Guidelines in Resources Section 9.4 of CWPP).

Zone D is the property perimeter buffer which is 60 feet to the property line for lots 2 ½ acres or less or 60 feet to 200 feet around the perimeter of lots larger than 2.5 acres. This serves as a transition zone where you want to reduce the wildfire rate of spread and intensity, begin bringing the fire from a crown fire into a ground fire so that fire department resources can safely respond.

Provisions should be made as each phase is submitted for review to ensure the landscaping plans are reviewed for their appropriateness as a component of the defensible space requirement for the property. Provisions also need to be made by the developer to ensure long-term continuing maintenance for the defensible space surrounding the homes and businesses in the project (See Asset Protection Zone Guidelines in Resources Section 9.4 of the CWPP).

Recommended Project 7.5.9.1 – Utilize the *Firewise* Landscaping Checklist¹² and *Fire and Your Landscape, Fire Scaping Resources for Montana Homeowners*¹³ (See Resources Section 9.4).

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.9.2 – Develop a demonstration *Firewise* landscaping garden in cooperation with the MT DNRC, USFS, BLM, USFWS, landscaping companies and Beaverhead County Fire Departments.

Project Coordinator – Beaverhead County Fire Warden, MT DNRC Fire, BLM Fire, USFWS Fire, USFS Fire Management and Fire Chiefs.

7.5.10. Evacuation Plans

Getting people out of harms way in a fire is critical. This section addresses specific projects designed to move people quickly, safely, and effectively.

¹¹ www.firewise.org.

¹² www.firewise.org

¹³ *Montana Nursery & Landscape Assoc. 2003*

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Recommended Project 7.5.10.1 – Annually update evacuation plans for high risk wildfire areas and conduct a tabletop exercise biannually.

Project Coordinator – Beaverhead County Sheriff & Beaverhead County DES Director

7.5.11. Public Education

Educating residents about wildland fire issues is one of the most effective ways to reduce fire hazards and ensuring the public's safety, whether that be in K-12 schools, or programs designed for adults.

Recommended Project 7.5.11.1 – Sponsor a *Firewise* Community Program locally within the county for the public and conduct it biannually. Integrate weed and fire management into any public education that is conducted during the *Firewise* Community Program.

Project Coordinator – Beaverhead County DES Director

Recommended Project 7.5.11.2 – Utilize a program such as the “Living with Fire in Montana” developed by Missoula County Fire Protection Association to educate residents, realtors, fire and government officials about living in a wildland fire environment.

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.11.3 – Implement the “Ready, Set, Go!” program developed by the International Association of Fire Chiefs through out Beaverhead County.

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.11.4 – Install additional fire danger rating signs along major highways and at entrances to major subdivisions or residential areas in high risk wildfire areas.

Project Coordinator – Beaverhead Interagency Fire Prevention Advisory Committee (Beaverhead County FireSafe Council)

Recommended Project 7.5.11.5 – Increase communication with the general public to inform them of prevailing wildfire hazards covering open burning, fire prevention messages, interagency fire operations, holiday fire safety, fireworks safety, campfire safety, CWPP process, and the most current fire conditions.

Project Coordinator – Beaverhead County FireSafe Council

7.5.12. Legal Requirements

7.5.12.1. Subdivision Regulations

Recommended Project 7.5.12.1.1 – Adopt appropriate subdivision regulations which address the wildland urban interface (See Guidelines for Development in the Wildland Urban Interface).¹⁴

Project Coordinator – Beaverhead County Board of County Commissioners

¹⁴ See <http://dnrc.mt.gov/forestry/Fire/Prevention/Documents/GuidelinesFINAL.pdf>

Recommended Project 7.5.12.1.2 – The county fire warden, fire chiefs, USFS, BLM, USF&WS, and MT DNRC need to ensure that wildland fire concerns are addressed in the subdivision review process for any future planned subdivision. The purpose for this input is to avoid creation or perpetuation of any untenable situations, from a fire protection standpoint. Issues such as road systems, water supply, building materials, asset protection zone and covenants covering vegetation management are all of concern to the fire warden and the fire chiefs and they can directly affect his ability to be effective.

Project Coordinator – Beaverhead County Fire Chiefs, USFS, BLM, MT DNRC and Beaverhead County Board of County Commissioners

Recommended Project 7.5.12.1.3 – Develop a mechanism to track new development and structures, which are in the wildland urban interface areas of the county to enable fire agencies to pre-plan evacuations and response activities.

Project Coordinator – Beaverhead County Fire Warden and Planning Board

Recommended Project 7.5.12.1.4 – Ensure that dedicated park lands in subdivisions are required to be maintained in a fire resistive state with on-going fuel management actions. If appropriated utilize dedicated park lands as a “safety zone” during a wildland fire.

Project Coordinator – Beaverhead County Fire Warden, MT DNRC and Beaverhead County Fire Chiefs' Association

7.5.12.2. Agreements, MOU's & Operating Plans

Recommended Project 7.5.12.2.1 – Review all agreements and memorandums of understanding with cooperators. Follow up on those that have not yet been up-dated and insure annual operating plans are completed when specified.

Project Coordinator – Beaverhead County Fire Warden

Recommended Project 7.5.12.2.2 – Develop materials and training programs to ensure that a delegation of authority is properly executed between the appropriate “Authority Having Jurisdiction” and the Type III, II, or I Incident Commanders.

Project Coordinator – Beaverhead County Fire Warden

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7.6. Prioritized Actions, Implementation Timeline

Recommended Project	Short Term (< 1 Year)	Medium Term (1-3 Years)	Long Term (3+ Years)
7.5.1.1	X		
7.5.2.1	X		
7.5.2.1.1		X	
7.5.2.1.2			X
7.5.2.1.3		X	
7.5.2.1.4		X	
7.5.2.1.5			X
7.5.2.1.6	X		
7.5.2.1.7		X	
7.5.2.2.1	X		
7.5.2.2.2		X	
7.5.2.3.1		X	
7.5.2.3.2	X		
7.5.3.1		X	
7.5.3.2	X		
7.5.4.1		X	
7.5.4.2		X	
7.5.5.1		X	
7.5.6.1.1		X	
7.5.6.1.2	X		
7.5.6.2.1		X	
7.5.6.2.2		X	
7.5.6.3.1		X	
7.5.6.3.2	X		
7.5.6.3.3			X
7.5.6.3.4	X		
7.5.6.3.1.1	X		
7.5.6.3.2.1		X	
7.5.6.3.2.2			X

Recommended Project Table (continued)

Recommended Project	Short Term (< 1 Year)	Medium Term (1-3 Years)	Long Term (3+ Years)
7.5.6.3.3.1		X	
7.5.6.3.3.2		X	
7.5.6.3.4.1		X	
7.5.6.4.1		X	
7.5.6.4.2		X	
7.5.6.4.3			X
7.5.6.4.4	X		
7.5.7.1		X	
7.5.7.2		X	
7.5.8.1	X		
7.5.9.1	X		
7.5.9.2		X	
7.5.10.1		X	
7.5.11.1		X	
7.5.11.2			X
7.5.11.3		X	
7.5.11.4		X	
7.5.11.5			X
7.5.12.1.1		X	
7.5.12.1.2		X	
7.5.12.1.3		X	
7.5.12.1.4			X
7.5.12.2.1	X		
7.5.12.2.2			X

8. Plan Monitoring and Review: How to Keep this Plan Active and Up-to-Date

8.1. Timeline (5 years)

DMA 2000 requires that similar plans be updated every five years. This does not mean you have to rewrite it or redo this entire process. Rather, you are required to review your mitigation plan.

Recommended projects should be updated as the keeper of the plan becomes aware of new projects that might be implemented to mitigate a wildland fire problem. The prioritized project list should be revised every year based on new data and available dollars. The entire plan should be updated or reviewed on the same cycle as the pre-disaster mitigation plan.

8.2. Incorporation into Local Jurisdictional Plans

This plan should be adopted by local Beaverhead County and the recommendations be coordinated with planning mechanisms, such as a County Growth Policy and Pre-Disaster Mitigation Plan.

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APPENDIX 1 - Beaverhead County Wildfire Fire Resource List

TRUCK NUMBER	TYPE	NUMBER OF PERSONNEL	GALLONS & GPM	<u>Location</u>
<i>DILLON FIRE</i>				
<i>DEPARTMENT</i>				
18-32	STRUCTURE	5	1000 gal. TANK / 1500 GPM	Dillon Fire Hall
18-37	STRUCTURE/CRASH	4	500 gal. Tank	Dillon Fire Hall
18-36	Type 6 WILDLAND	3	300 gal. Tank	Dillon Fire Hall
18-35	Type 6 WILDLAND	3	200 gal. Tank	Dillon Fire Hall
18-34	WATER TENDER	2	3000 gal. Tank	Dillon Fire Hall
18-33	WATER TENDER	2	1500 gal. Tank	Dillon Fire Hall
VAN 1	HAZ-MAT VAN	2		Dillon Fire Hall
18-38	ADMINISTRATIVE TRUCK (4X4)			
Dillon Fire Chief	Dillon Assistant Chief			
Tom Barnes 18-30	Mike McGinley 18-31			
406-683-2791(h)	406-683-4632(h)			
406-660-5051 (cell)	406-660-03914 (cell)			
32 Fire Personnel				
<i>LIMA FIRE</i>				
<i>DEPARTMENT</i>				
2004 Ford 4x4 18-444	mini pumper / Crash Truck / Extracation	4	300 Tank / 500gpm	Lima
1975 Ford 4x4 18-445	Type 6 Wildland / Foam	3	250 Tank / 125 gpm	Lima
1981 Ford 18-446	1 Structure	3	1000 Tank / 1000 gpm	Lima
1991 Ford 18-447	2 Water Tender / Honda Pump	2	3000 Tank	Lima
1986 GMC 4x4 18-448	Wildland/Heavy / Foam	3	500 Tank / 200 gpm	Lima

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1985 Dodge 4x4 18-449	Type 6 Wildland	3	250 Tank / 125 gpm	Big Sheep
1983 Chevy 4x4 DSL 961	Type 6 Wildland / Foam	3	250 Tank / 125 gpm	Centennial
1994 Ford 4x4 DSL 499	Type 6 Wildland / Foam	3	300 Tank / 125 gpm	Lima
1991 Chevy 18-280	Ambulance			Lima
1982 Ford Van 18-281	Ambulance			Lima
ALL LIMA TRUCKS HAVE THESE FREQUENCIES				
1	KLV-872	DILLON SHERIFF LOCAL		
2	WCC-966	DILLON SHERIFF REPEATER		
3	RED	FIRE MUTUAL AID		
Lima Fire Chief	Lima Assistant Chief			
Randy Bernard 18-440	Travis Wilson 18-441			
406-925-1228 (C)	406-276-3489 (h)			
	406-925-0594 (c)			
24 active fire personnel				
6 active ambulance personal				
<i>Grasshopper Valley</i>				
<i>Fire Department</i>				
18-484	TYPE 2 / EXTRICATION	3	1000 gal.Tank, 1250 G.P.M.	GVFD HALL
18-485	TYPE 2	3	1000 gal.Tank, 1000 G.P.M.	CIRCLE S RANCH
1976 18-483	TYPE 6	3	250 gal. Tank	GVFD HALL
1976 4X4	TYPE 6	2	200 gal.Tank	GVFD HALL
1984 FORD AMBULANCE	BLS	3		GVFD HALL
1989 DODGE AMBULANCE	BLS	3		CIRCLE S RANCH

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GVFD Fire Chief	GVFD Assistant Chief			
Shelly Boyd 18-480	Steve Porter 18-481			
406-834-3497 (h)	406-834-3520 (h)			
24 fire personnel				
(of those)				
3 EMT B				
1 EMT FRA				
5 EMT FR				
<u>GRANT FIRE</u>				
<u>DEPARTMENT</u>				
FREIGHTLINER 18-464	WATER TENDER	2	2500 gal. Tank	GRANT FIRE HALL
18-463	WILDLAND Type 6	3	250 gal. Tank	GRANT FIRE HALL
CHEVROLET VAN	QUICK RESPONSE UNIT			GRANT FIRE HALL
Grant Fire Chief	Grant Assistant Chief			
Will Staudenmeyer 18-460	Graeme McDougal 18-461			
406-681-3182 (h)	406-681-3131 (h)			
10 fire personnel				
(of those)				
3 EMT's				
also 1 W.E.C.				

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<u>JACKSON FIRE</u>				
<u>DEPARTMENT</u>				
Portable slip-in unit 18-470	Wildland		150 gal. Tank	JACKSON FIRE HALL
1985 Ford 18-473	STRUCTURE TRUCK	3	750 gal. Tank	JACKSON FIRE HALL
1972 White 18-474	Water Tender	2	3000 gal. Tank	JACKSON FIRE HALL
1994 Chev. 1 ton 18-475	Wildland Type 6	3	210 gal/ Tank / 220 gpm	JACKSON FIRE HALL
Jackson Fire Chief	Jackson Assistant Chief			
Kyle Malkovich 18-470	M.D. Peterson 18-471			
406-834-3210 (h)	406-834-3104 (h)			
406-925-2518(c)				
16 fire personnel				
<u>WISDOM FIRE</u>				
<u>DEPARTMENT</u>				
18-403	PUMPER	3		WISDOM FIRE HALL
18-404	PUMPER	3		WISDOM FIRE HALL
18-405 INTERNATIONAL	DNRC TYPE 6	3	200 gal. Tank	WISDOM FIRE HALL
18-406	DNRC TYPE 6	3		WISDOM FIRE HALL
	AMBULANCE			
Wisdom Fire Chief				
Jimmer Stevenson 18-401				
406-689-3440 (h)				

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<u>WISE RIVER FIRE</u>				
<u>DEPARTMENT</u>				
18-412	PUMPER	3	750 gal. Tank, 500 G.P.M.	WISE RIVER FIRE HALL
18-413	WATER TENDER	2	1250 gal. Tank , 300 G.P.M.	WISE RIVER FIRE HALL
DNRC 18-414	TYPE 6	3	350 gal. Tank, 300G.P.M.	WISE RIVER FIRE HALL
	AMBULANCE	3		WISE RIVER FIRE HALL
Wise River Fire Chief				
Sean Larson 18-410				
406-832-3288 (h)				
14 Fire personnel				
8 E.M.T's				
1 first responder				
<u>BEAVERHEAD EMERGENCY</u>				
<u>MEDICAL SERVICES</u>				
18-251	2 WD AMBULANCE	3	MAXIMUM TRANSPORT - 4	BEMS BARN
18-252	2 WD AMBULANCE	3	MAXIMUM TRANSPOR - 2	BEMS BARN
18-253	4WD EXTRICATION TRUCK	2	0	BEMS BARN
18-254	4WD FORD EXCURSION	3	MAXIMUM TRANSPORT - 1	BEMS BARN
18-255	4WD AMBULANCE	3	MAXIMUM TRANSPORT - 3	BEMS BARN
BEMS President				
BEMS Vice President		BEMS MEDICAL DIRECTOR		
Russ Sigman		Tom Wagenknecht		
406-683-3709 (w)		406-683-1251 (w)		
406-683-4494 (h)		406-683-3051 (w)		
		406-683-9481 (h)		

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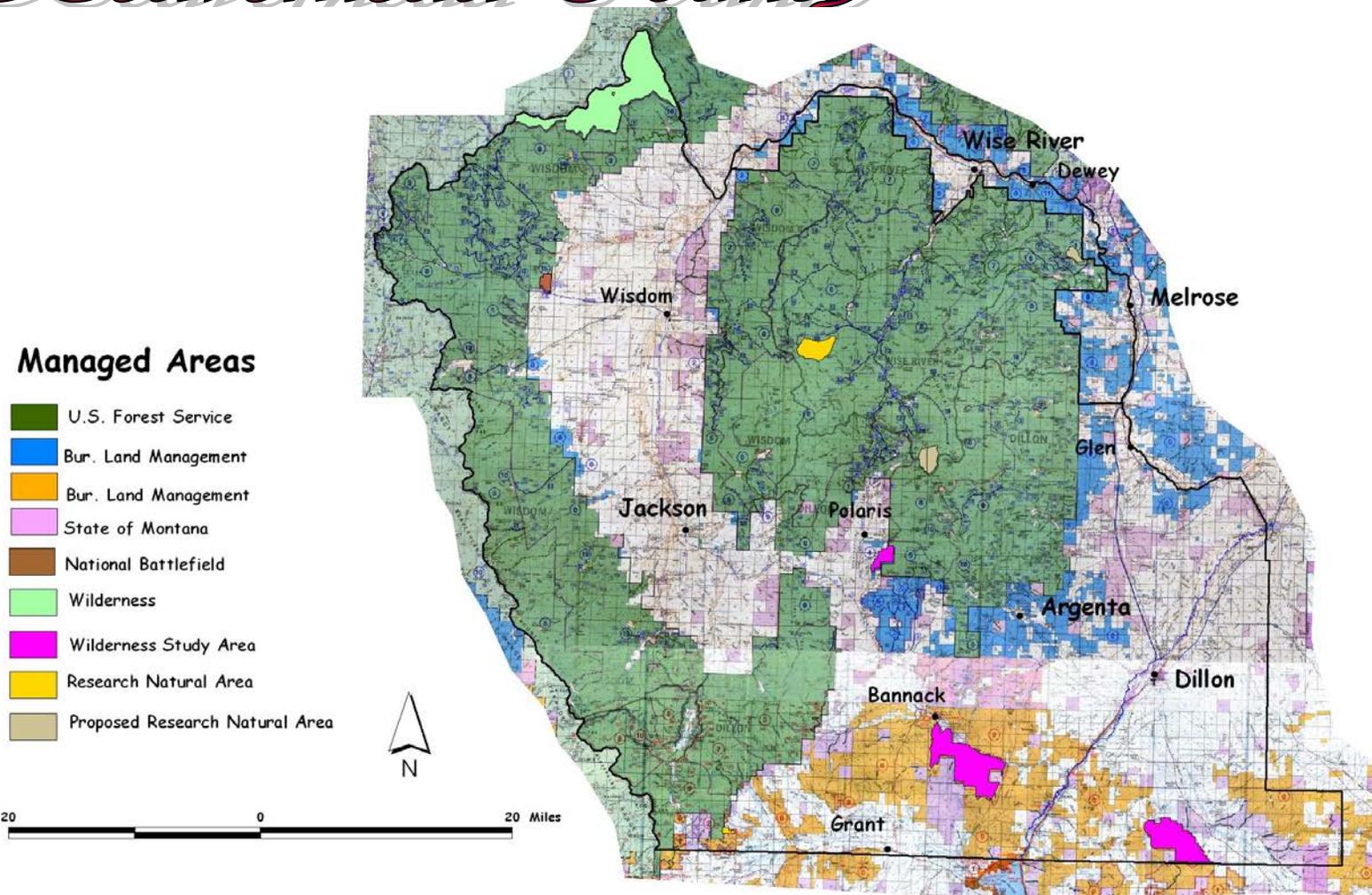
406-925-0557 (cell)	406-596-1251 (cell)	406-660-0234 (cell)		
35 EMS Personnel				
31 EMT-Basics				
4 EMT-Intermediates				
<u><i>Beaverhead County</i></u>			<u><i>Lewis & Clark</i></u>	
<u><i>Search & Rescue</i></u>			<u><i>Radio Cache</i></u>	
60 personnel			includes	
Command Post			20 Portables	
2 Mobile Command Posts			4 Satellite Telephones	
Mobile Cook Trailer			2 Aircraft / Ham portables	
Equipment Trailers				
Rescue Equipment				
				Deputy DES Coordinator
				also Search & Rescue
County Sheriff	County Fire Warden	County DES Coordinator	Deputy DES Coordinator	Commander
Jay Hanson 18-1	Scott Marsh 18-30	Larry Laknar DES 18	Bob McWilliams 18-230	Travis Sigman 18-101
406-683-3707 (w)	406-683-3757 (w)	406-683-3771 (w)	406-683-3754 (w)	
406-683-2039 (h)	406-683-5326 (h)	406-683-6394 (h)	406-683-4709 (h)	
406-924-1467 (cell)	406-925-1660 (cell)	406-660-1510 (cell)	406-660-0191 (cell)	406-925-0832 (cell)
County Commission	County Commissioner	County Commissioner		Search & Rescue
Chairman				Vice - Commander
Mike McGinley 18-202	Garth Haugland 18-201	Tom Rice 18-203		Tyler Barnes 18-R2
406-683-3751 (w)	406-683-3762 (w)	406-683-3752 (w)		406-683-6291 (h)
406-683-4632 (h)	406-683-3657 (h)	406-683-4831 (h)		406-865-0133 (c)
406-660-0391 (cell)	406-925-1353 (cell)	406-925-0961 (c)		

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LIST OF MAPS FOR THE 2005 WILDFIRE PROTECTION PLAN

- Map 1 North. Land Ownership and Special Management Areas in North Beaverhead County
- Map 1 South. Land Ownership and Special Management Areas in South Beaverhead County
- Map 2 North. Fuel Models for North Beaverhead County
- Map 2 South. Fuel Models for South Beaverhead County
- Map 3 North. Fire Regime Condition Class for North Beaverhead County
- Map 3 South. Fire Regime Condition Class for South Beaverhead County
- Map 4 North. Insect and Disease Infestation Areas (1999-2004) for North Beaverhead County
- Map 4 South. Insect and Disease Infestation Areas (1999-2004) for South Beaverhead County
- Map 5 North. Fire Starts (1957-2001), Fire Districts, Beaverhead County Fire Protection Area, and 2000 Population Density in North Beaverhead County
- Map 5 South. Fire Starts (1957-2001), Fire Districts, Beaverhead County Fire Protection Area, and 2000 Population Density in South Beaverhead County
- Map 6 North. Wildland Urban Interface (WUI) and Buffers Around Communities and Major Roads in North Beaverhead County
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- Map 7 South. Wildland Urban Interface (WUI) and Buffers Around Populated Areas in South Beaverhead County
- Map 8 North. Wildland Urban Interface (WUI) and High Wildfire Risk Areas in North Beaverhead County
- Map 8 South. Wildland Urban Interface (WUI) and High Wildfire Risk Areas in South Beaverhead County
- Map 9. Beaverhead County Planning Zones

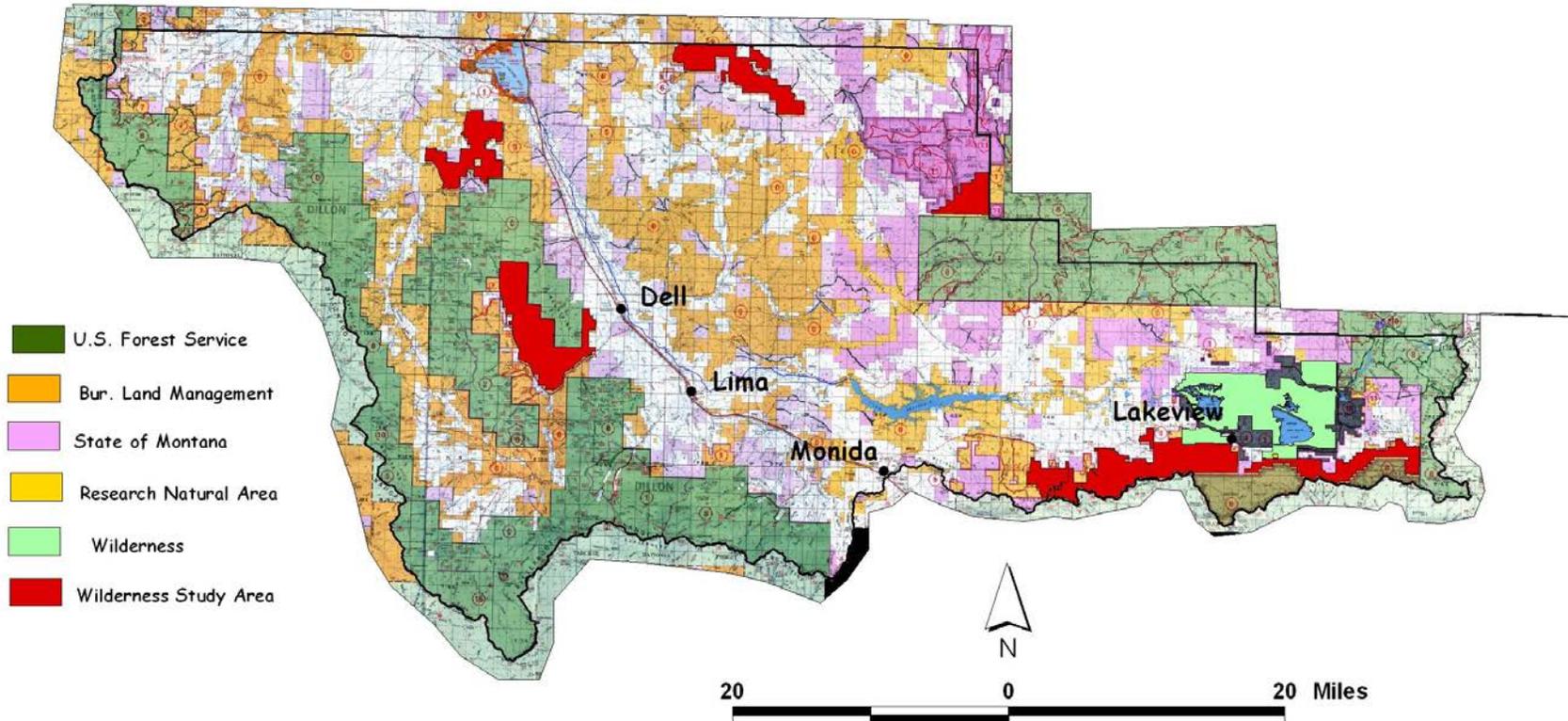
Beaverhead County



Map 1 North. Land Ownership and Special Management Areas in North Beaverhead County

Data Source: USFS and Beaverhead County
 Map by Ranch Maps and Aerials
 September 2005

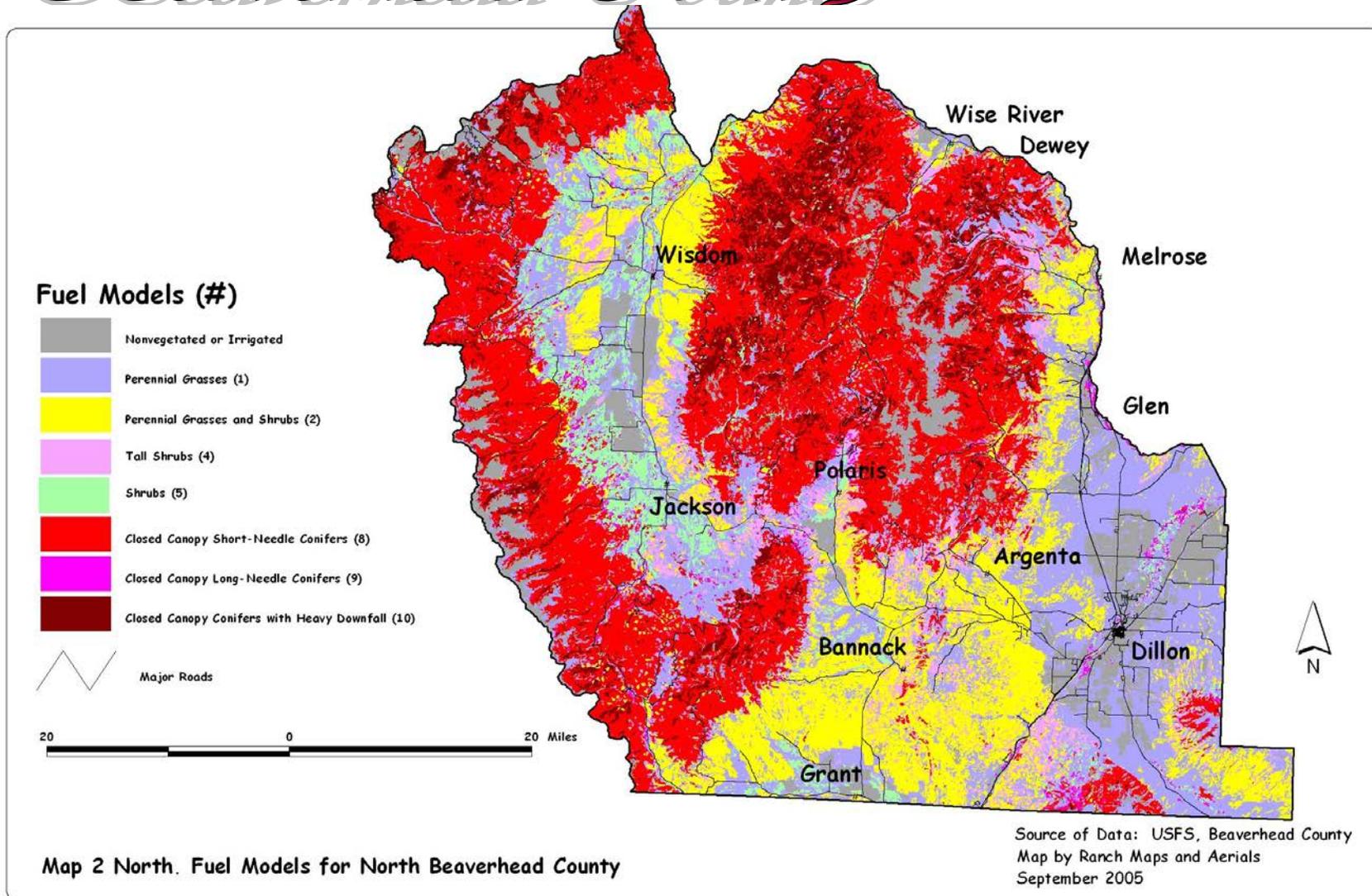
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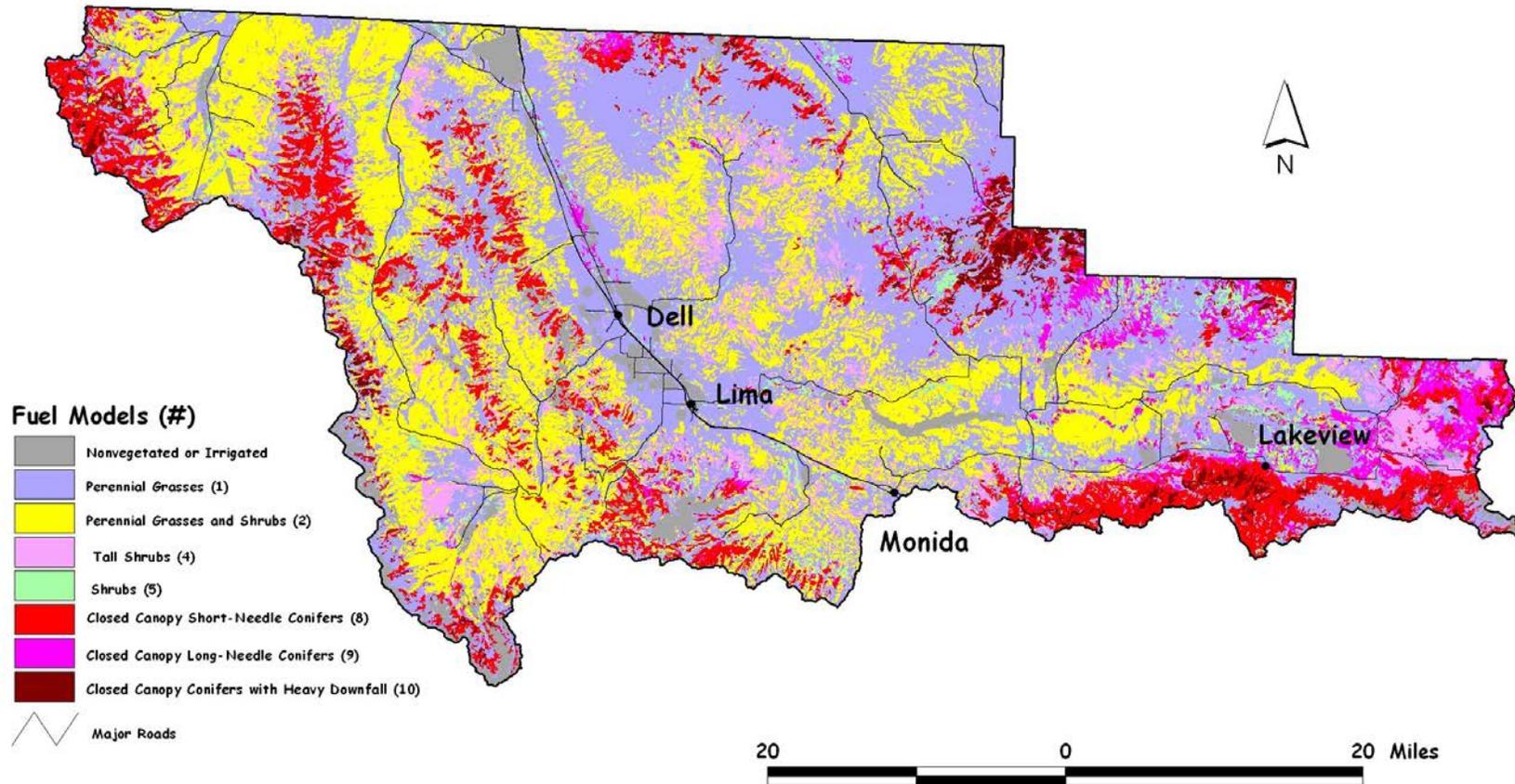
Map 1 South. Land Ownership and Special Management Areas in South Beaverhead County

Data Source: USFS and Beaverhead County
Map by Ranch Maps and Aerials
September 2005

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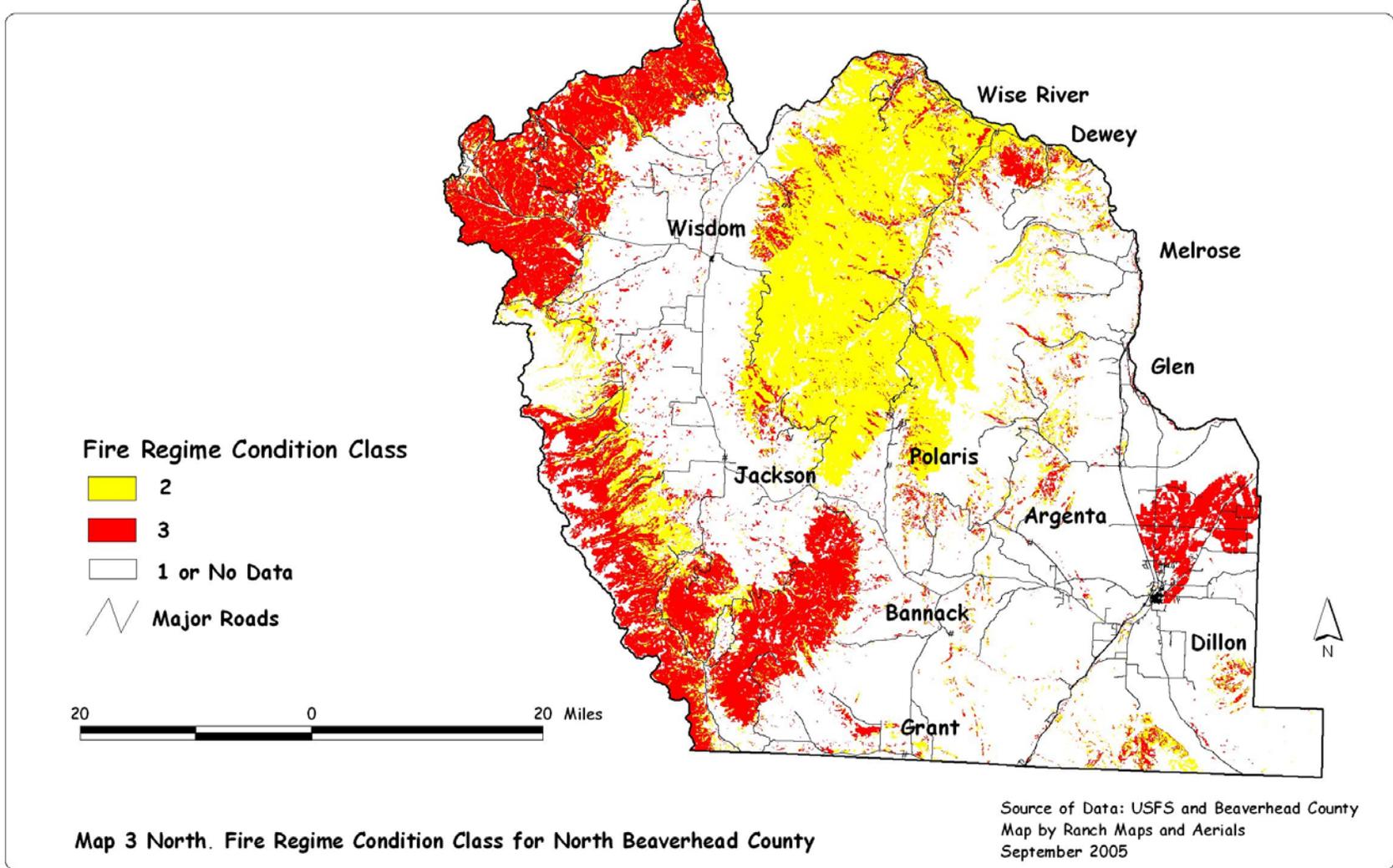
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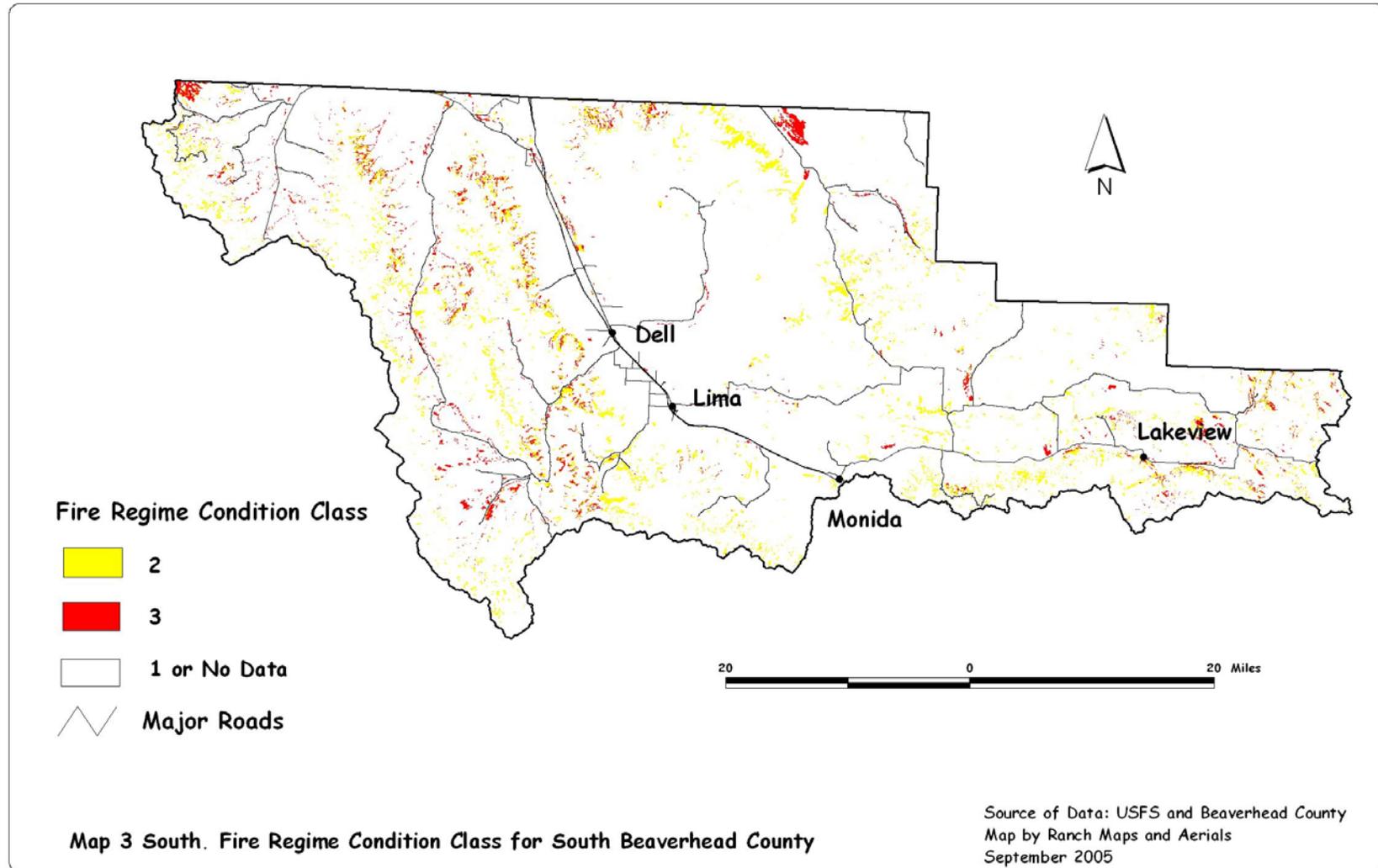
Map 2 South. Fuel Models for South Beaverhead County

Source of Data: USFS and Beaverhead County
 Map by Ranch Maps and Aerials
 September 2005

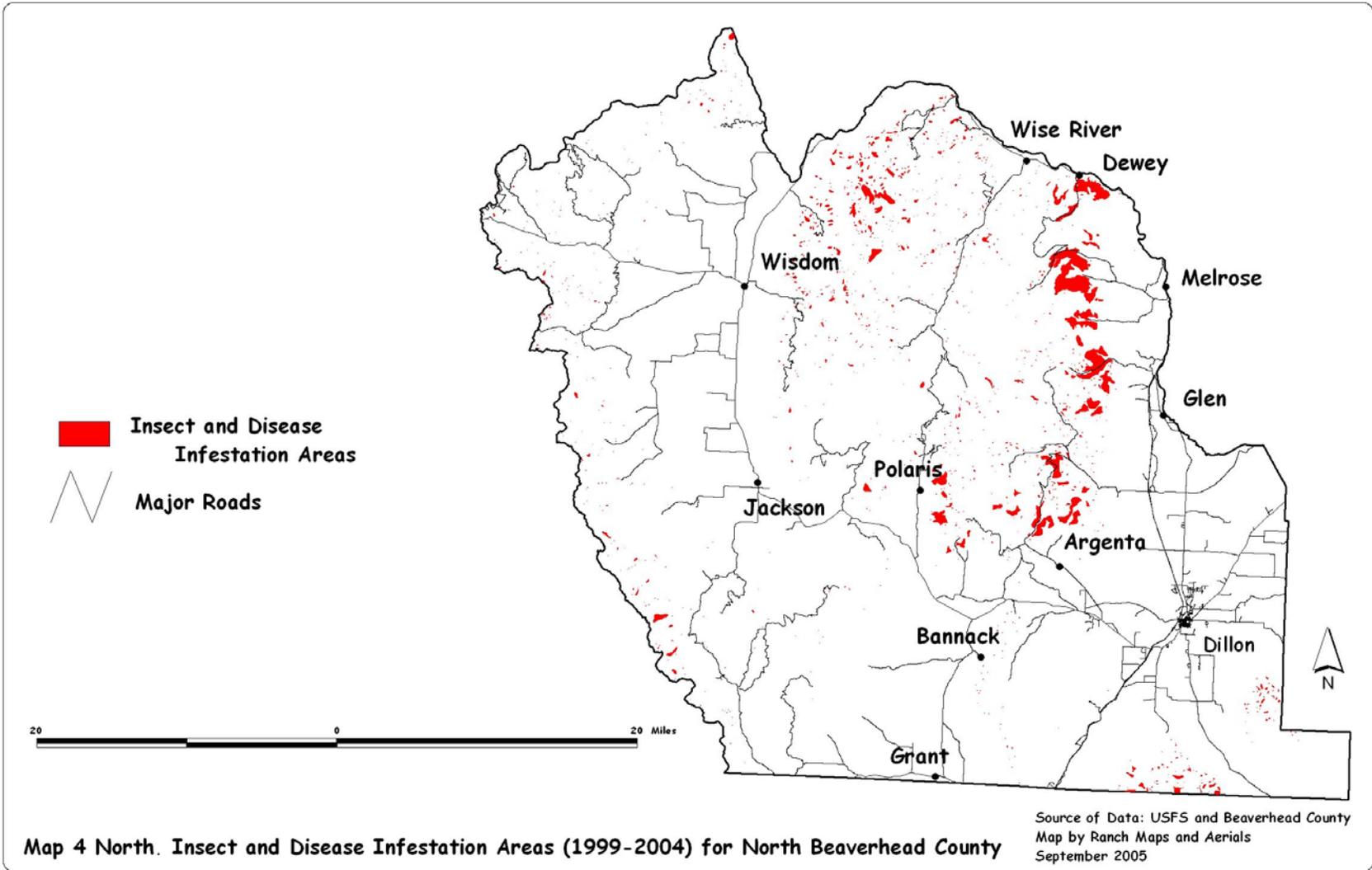
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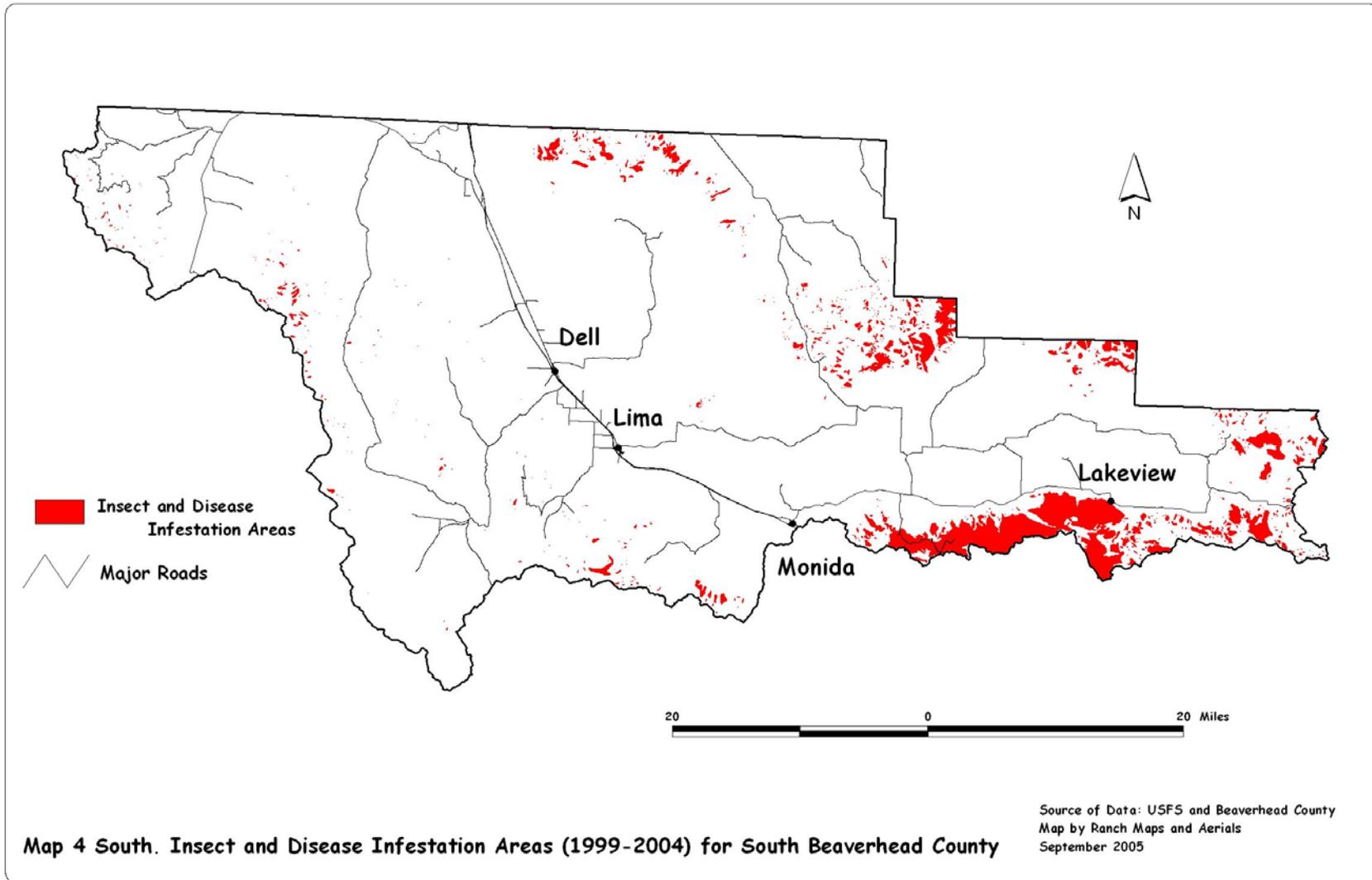
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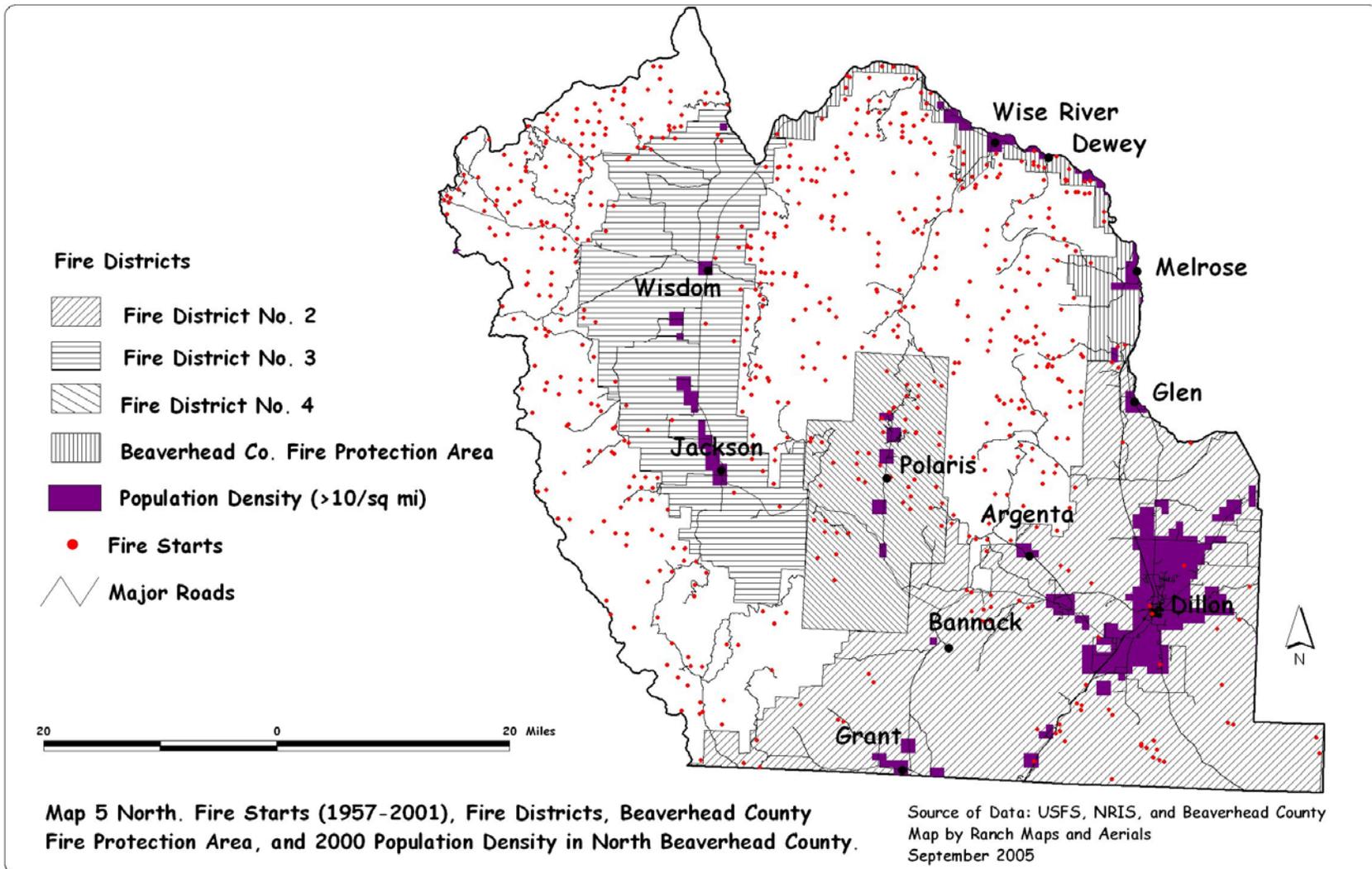
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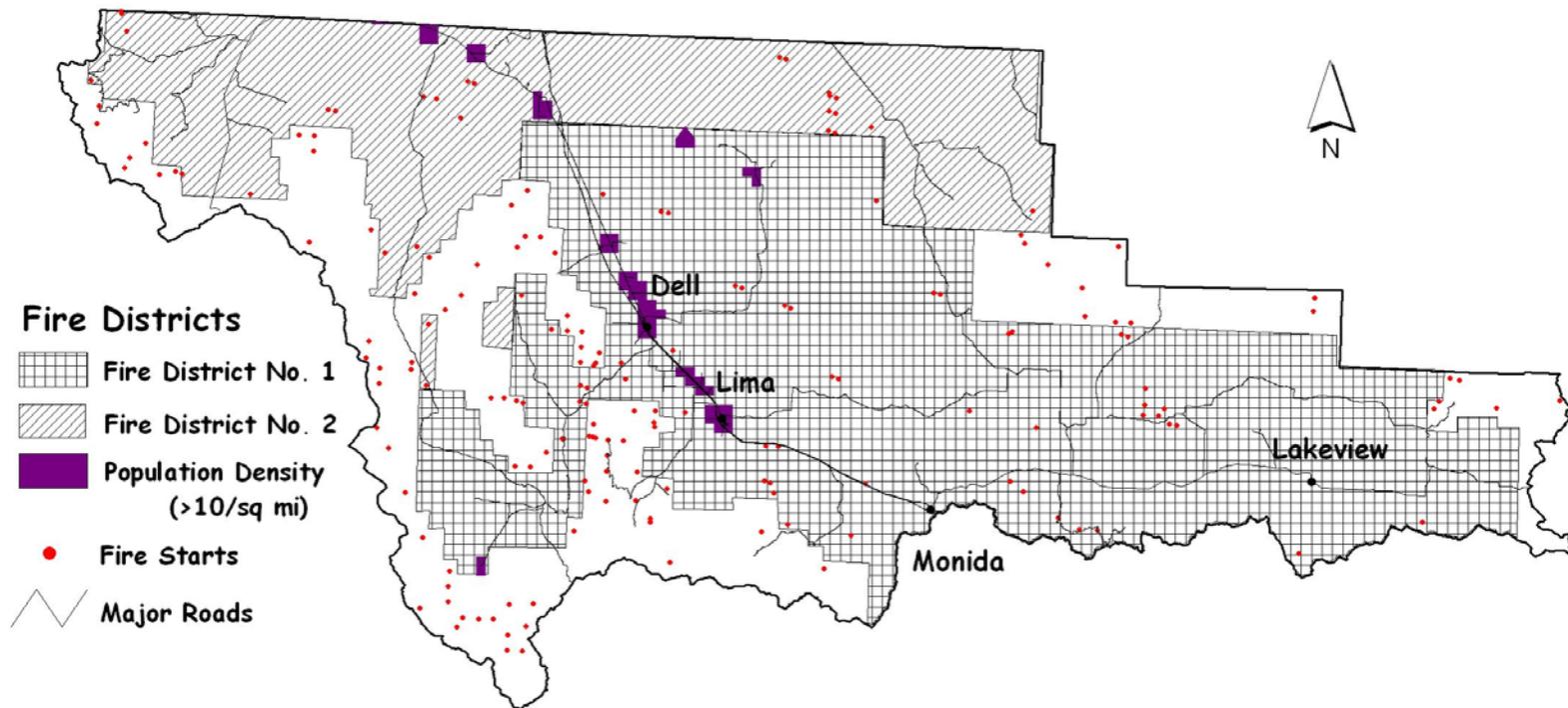
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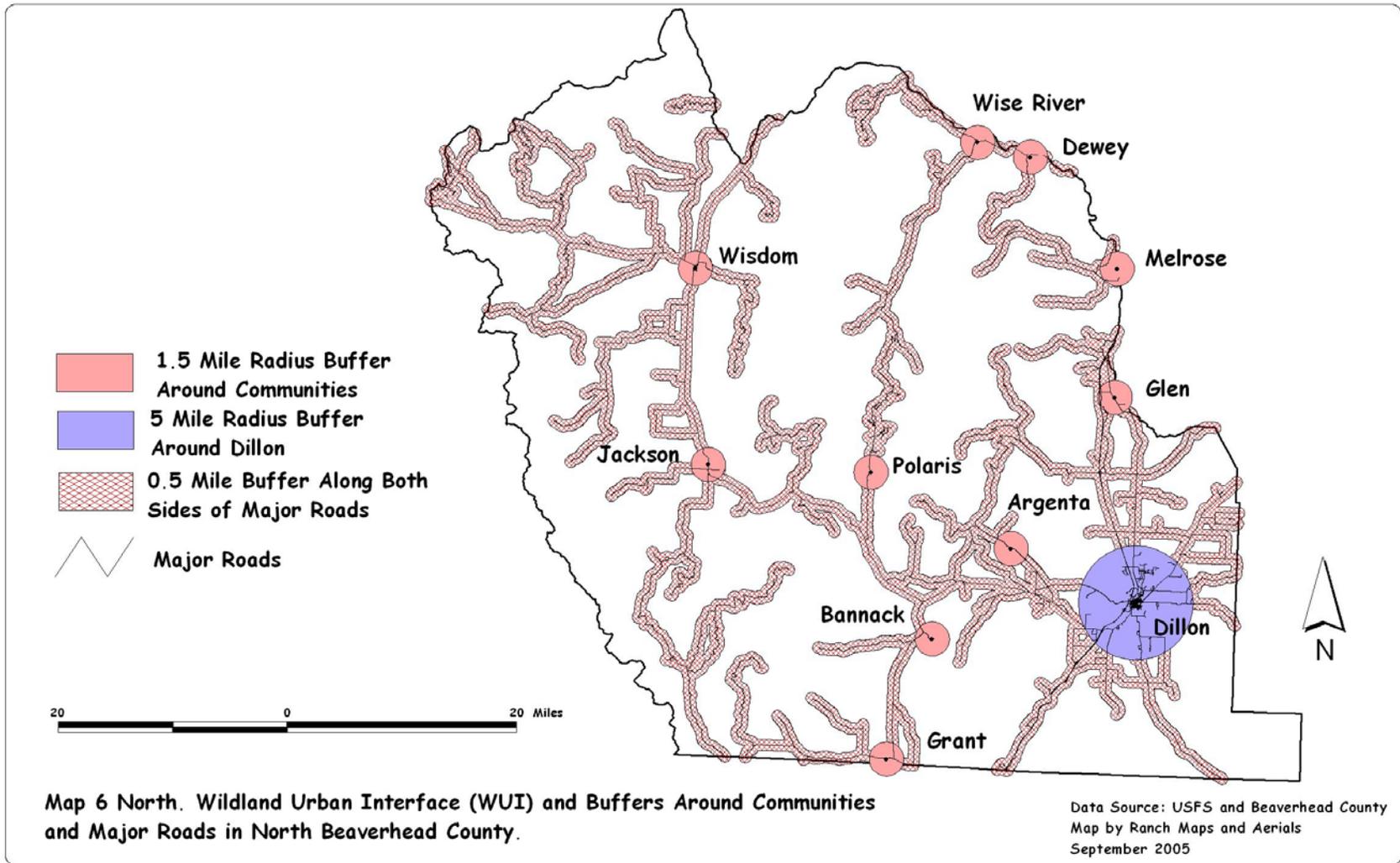
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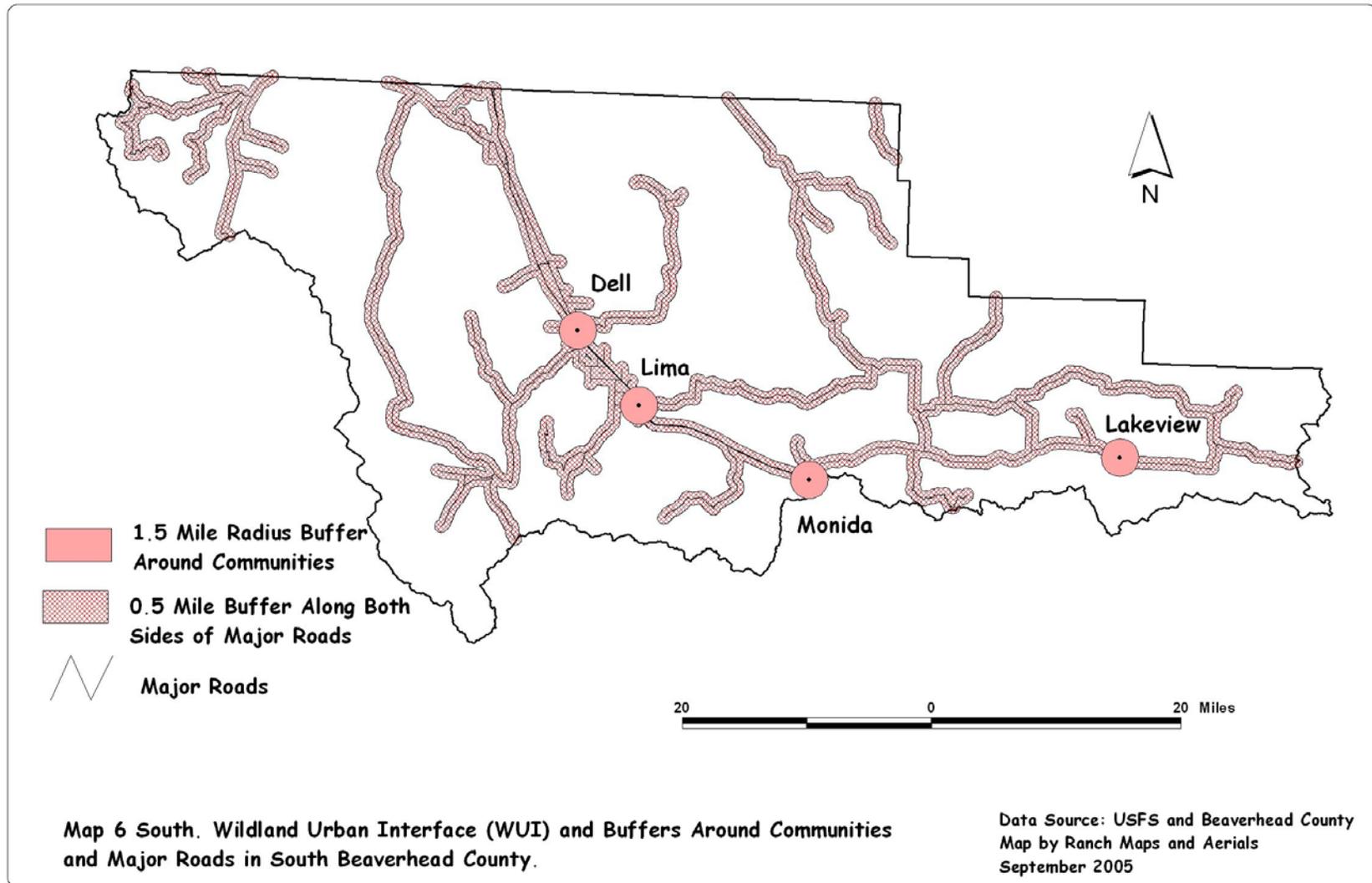
Map 5 South. Fire Starts (1957-2001), Fire Districts and 2000 Population Density in South Beaverhead County.

Source of Data: USFS, NRIS, and Beaverhead County
Map by Ranch Maps and Aerials
September 2005

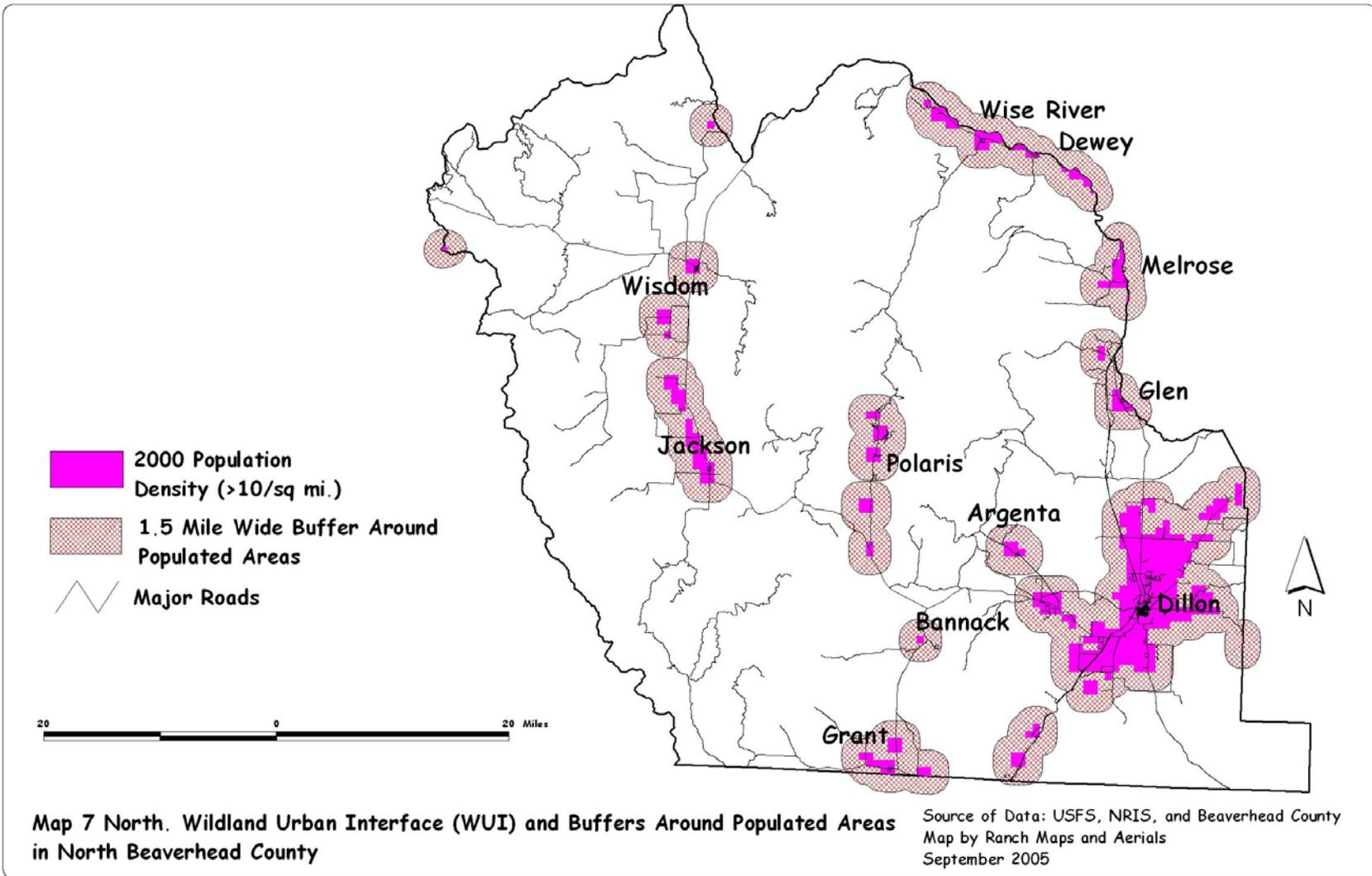
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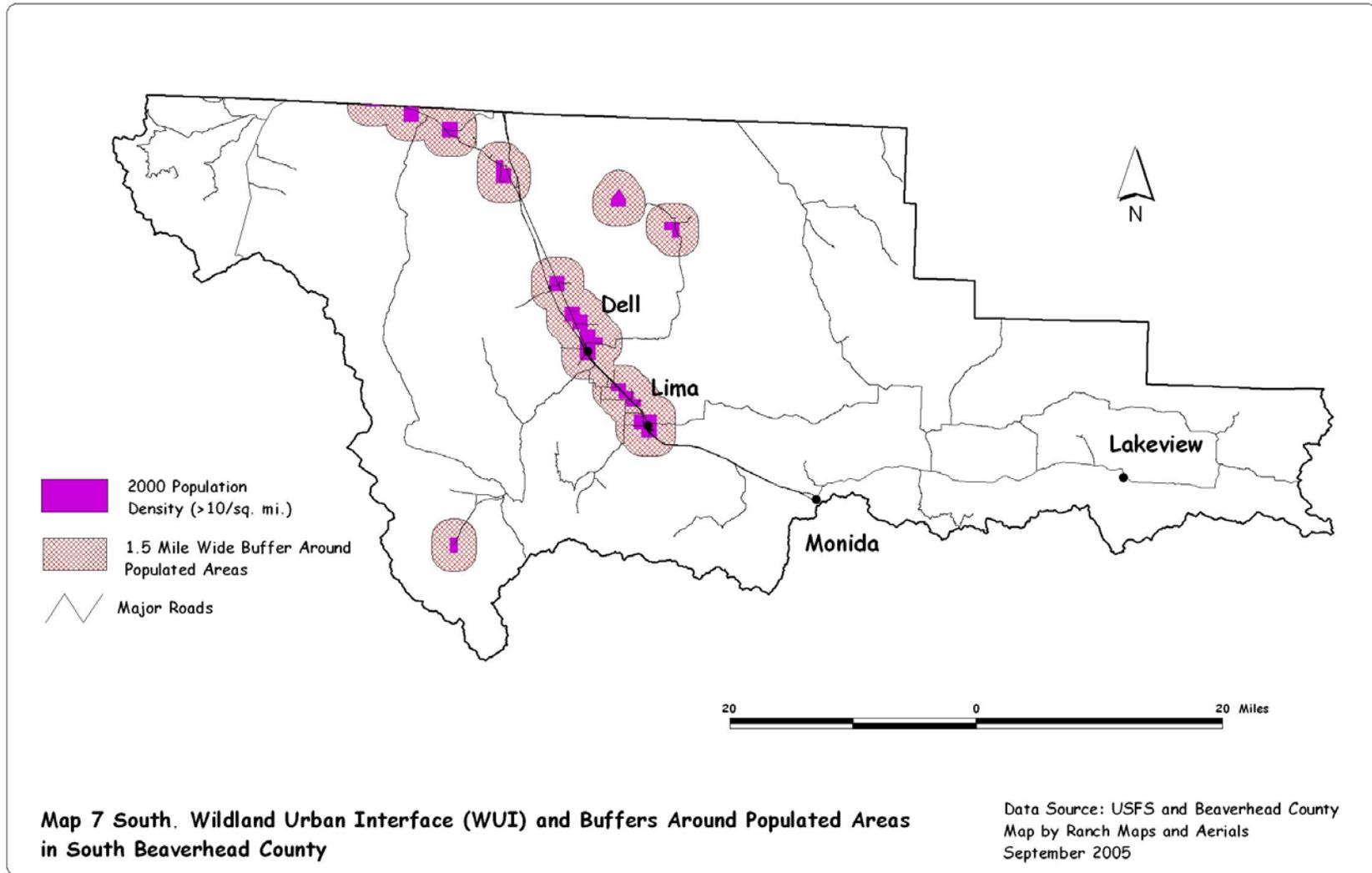
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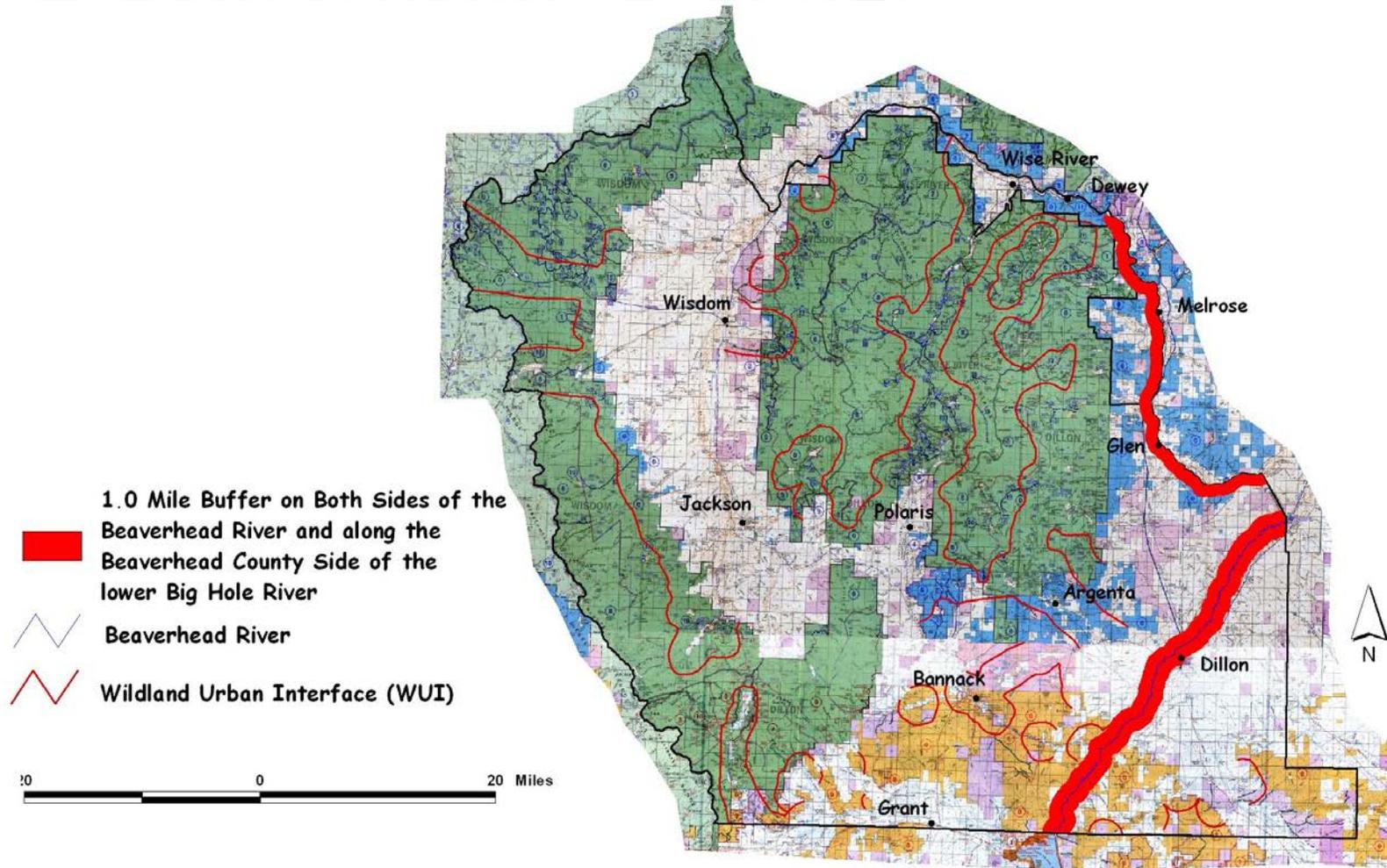
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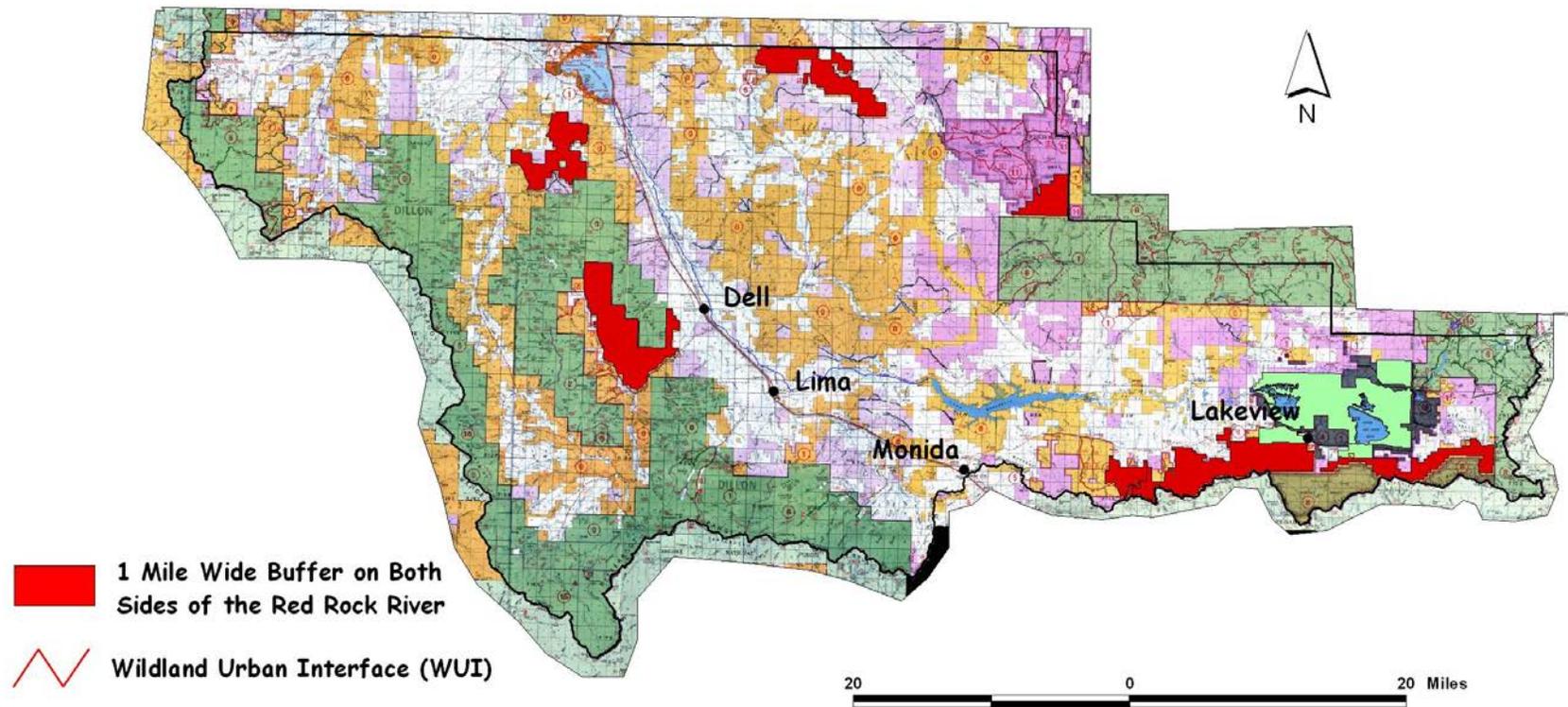
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Map 8 North. Wildland Urban Interface (WUI) and High Wildfire Risk Areas in North Beaverhead County.

Data Source: USFS and Beaverhead County
 Map by Ranch Maps and Aerials
 September 2005

Beaverhead County



Map 8 South. Wildland Urban Interface (WUI) and High Wildfire Risk Areas in South Beaverhead County.

Data Source: USFS and Beaverhead County
Map by Ranch Maps and Aerials
September 2005

Beaverhead County

