Idaho County, Idaho,

Revised Wildland-Urban Interface

Wildfire Mitigation Plan

Revised October 6, 2009

Volume I of II

Vision: *Institutionalize and promote a countywide hazard mitigation ethic through leadership, professionalism, and excellence, leading the way to a safe, sustainable Idaho County.*

Acknowledgments

This Wildfire Mitigation Plan represents the efforts and cooperation of a number of organizations and agencies; through the commitment of people working together to improve the preparedness for hazard events while reducing factors of risk.

Idaho County Commissioners
and the employees of Idaho County

Clearwater Resource Conservation and Development Council, Inc.

USDI Bureau of Land Management

USDA Forest Service

Idaho Bureau of Homeland Security

Federal Emergency Management Agency

Idaho County Soil and Water Conservation District

Idaho Department of Lands

Syringa General Hospital
St. Mary's Hospital
White Bird Volunteer Fire Department
Ferdinand Volunteer Fire Department
Grangeville Rural Fire District
Grangeville City Fire Department
Idaho County Highway Districts
Carrot Ridge Volunteer Fire Department
Ridge Runner Rural Volunteer Fire Department
Stites Volunteer Fire Department
Kooskia Volunteer Fire Department
City of Stites
City of Ferdinand
City of Riggins
City of White Bird
City of Cottonwood
City of Grangeville
City of Kamiah
City of Kooskia
Community of Pollock
Community of Powell
Community of Lowell
Community of Fenn
Community of Mount Idaho

Elk City Volunteer Fire Department
Kamiah Rural Fire Department
Riggins City Fire Department
Cottonwood Volunteer Rural Fire Department
Cottonwood City Fire Department
Harpster Volunteer Fire Department
Salmon River Volunteer Fire Department
Dixie Volunteer Fire Department
Idaho County Disaster Management
BPC Volunteer Rural Fire Department
Local Businesses and Citizens of Idaho County
Community of Burgdorf
Community of Greencreek
Community of Dixie
Community of Elk City
Community of Clearwater
Community of Harpster
Community of Warren
Community of Keuterville
Community of Lucile
Community of Slate Creek
Community of Woodland
Community of Syringa

To obtain copies of this plan contact:

Idaho County Commissioners Office
Idaho County Courthouse
320 West Main Street
Grangeville, Idaho 83530

Phone: 208-983-2742
Fax: 208-983-0667
Website: www.idahocounty.org

Resolution of Adoption and Signature Pages

Resolution of Adoption

Resolution of the Commissioners of Idaho County, Idaho

109

A resolution of the Idaho County Board of Commissioners declaring county support and adoption of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***.

Whereas, the Idaho County Board of Commissioners supports the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***, and

Whereas, the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** will be used as a guide for planning as related to the National Fire Plan, the Healthy Forest Restoration Act, and other purposes as deemed appropriate.

Therefore be it resolved, that the Idaho County Board of Commissioners do hereby adopt, support, and will facilitate the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan's*** implementation.

Passed and approved this 6th Day of Oct. 2009.

Board of County Commissioners

Idaho County, Idaho

By: Skip Brandt
Chairperson, Idaho County Commissioner — Date: 10-06-09

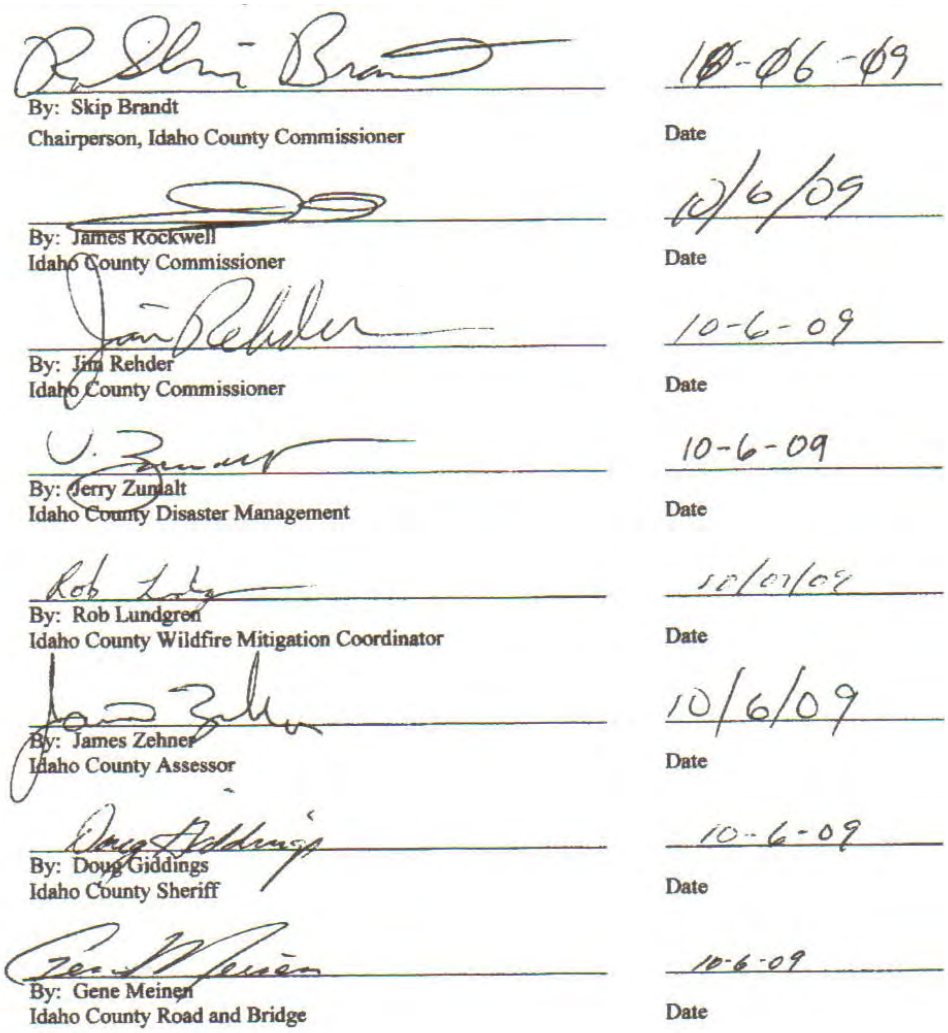
By: James Rockwell
Idaho County Commissioner — Date: 10/6/09

By: Jim Rehder
Idaho County Commissioner — Date: 10-6-09

Attested by:
Clerk — Date: 10-6-09

Representatives of Idaho County Government

This ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** and all of its components identified herein were adopted formally through a resolution of the Board of County Commissioners as of 6 October 2009, resolution number _____109_____, recorded in the official record of the Idaho County Commissioners.



By: Skip Brandt
Chairperson, Idaho County Commissioner — Date: 10-06-09

By: James Rockwell
Idaho County Commissioner — Date: 10/6/09

By: Jim Rehder
Idaho County Commissioner — Date: 10-6-09

By: Jerry Zumalt
Idaho County Disaster Management — Date: 10-6-09

By: Rob Lundgren
Idaho County Wildfire Mitigation Coordinator — Date: 10/07/09

By: James Zehner
Idaho County Assessor — Date: 10/6/09

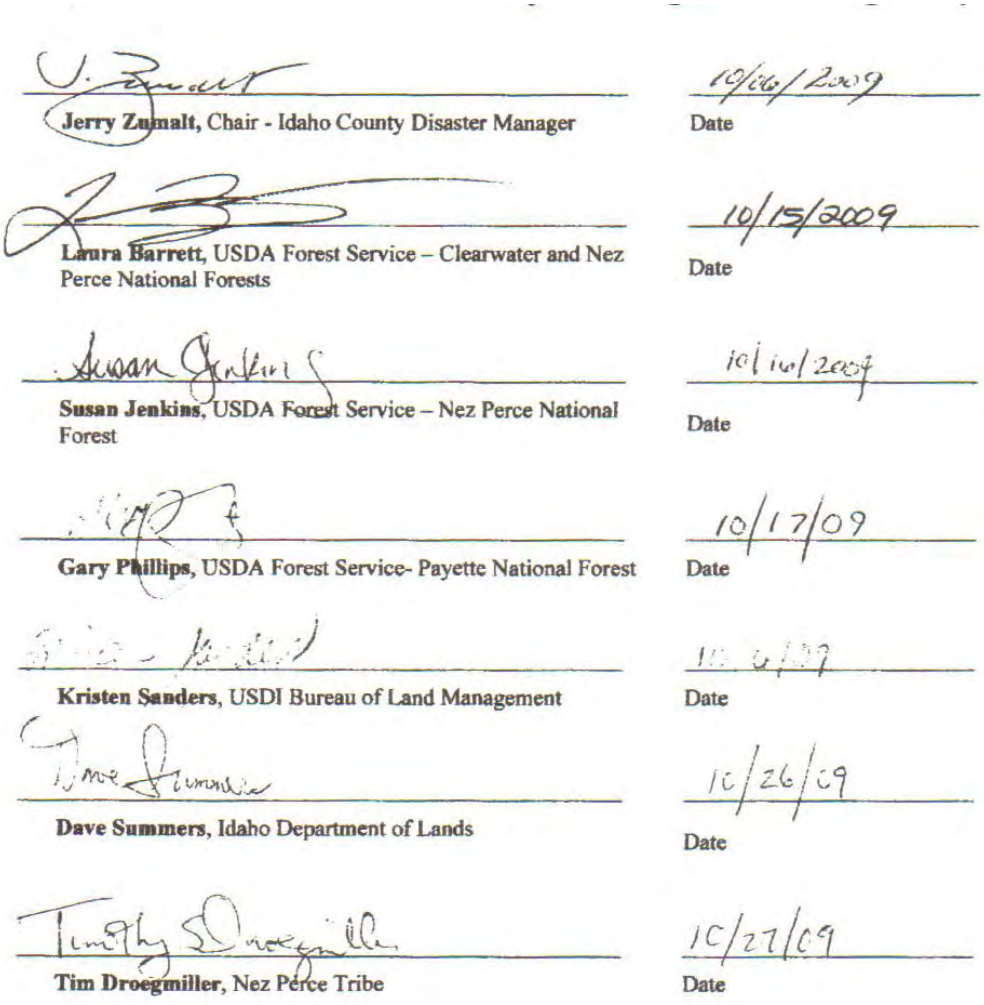
By: Doug Giddings
Idaho County Sheriff — Date: 10-6-09

By: Gene Meinen
Idaho County Road and Bridge — Date: 10-6-09

Idaho County Fire Mitigation Working Group

The ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** has been developed in cooperation and collaboration with the organizations, agencies, and individuals of the Idaho County Fire Mitigation Working Group, listed in Chapter 1, as represented by the individuals below.

Representatives of the Idaho County Fire Mitigation Working Group



Jerry Zumalt, Chair - Idaho County Disaster Manager — Date 10/06/2009

Laura Barrett, USDA Forest Service – Clearwater and Nez Perce National Forests — Date 10/15/2009

Susan Jenkins, USDA Forest Service – Nez Perce National Forest — Date 10/16/2009

Gary Phillips, USDA Forest Service- Payette National Forest — Date 10/17/09

Kristen Sanders, USDI Bureau of Land Management — Date

Dave Summers, Idaho Department of Lands — Date 10/26/09

Tim Droegmiller, Nez Perce Tribe — Date 10/27/09

Kevin Kehoe, Idaho County Fire Chief's Association, Harpster Fire Protection District — Date: 6 OCTOBER 2009

Bob Johnson, Idaho County Fire Chief's Association, White Bird Volunteer Fire Department — Date: 14 OCTOBER 2009

Dennis McCollum, Idaho County Fire Chief's Association — Date: 21 - October 2009

Cris Bent, Secesh/Warren/Burgdorf Volunteer Fire Department (Payette National Forest Fire Chief Representative) — Date: Oct 15 2009

ORGANIZATION OF THE IDAHO COUNTY REVISED WILDLAND-URBAN INTERFACE WILDFIRE MITIGATION PLAN

VOLUME I

Resolution of Adoption and Signature Pages

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CHAPTER 1 ***Overview of This Plan and Its Development:*** This chapter includes information on the history and the goals of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***. This chapter also describes the federal and state regulations and guidelines used to develop this plan.

CHAPTER 2 ***Documenting the Planning Process:*** This chapter provides a description of the planning process, the planning committee, and the manner in which the public was involved in the planning process.

CHAPTER 3 ***Idaho County Characteristics:*** This chapter provides descriptions of Idaho County characteristics, including demographics, socioeconomics, cultural resources, transportation and infrastructure, vegetation and climate, ecosystems, soils, hydrology, air quality, and the wildland urban interface

CHAPTER 4 ***Risk and Preparedness Assessments:*** This chapter provides countywide risk evaluations, by first introducing wildland fire characteristics and wildfire hazards, summarizing the hazard in Idaho County, and then discussing Communities at Risk. Following this general overview, risk evaluations for each rangeland and forestland community in Idaho County are presented. Then, an overview of firefighting resources and capabilities for the County's fire departments, and wildland fire districts are discussed (actual data is contained in Appendix 2009). In conclusion, the issues facing Idaho County fire protection, success stories, and lessons learned are presented.

CHAPTER 5 ***Treatment Recommendations:*** This chapter discusses Idaho County's administration, implementation strategy, and prioritization method for proposed treatments. An overview of high-risk areas and potential projects, and wildfire mitigation activities applicable to all communities is then provided. Subsequently, an introduction to WUI safety and policy improvement, people and structure protection, and resource and capability enhancement activities, and regional land management recommendations is also provided (actual data is contained in Appendix 2009).

CHAPTER 6 ***Supporting Information:*** This chapter provides a list of people who prepared the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***, the glossary, and the literature cited.

APPENDIX 2009**:** Appendix 2009 is a new section of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***. The purpose of this appendix is to contain the information that periodically changes in an appendix, so to facilitate updating the Mitigation Plan with relative ease. In this appendix, you will find firefighting resources and capabilities for fire departments and wildland fire districts, and treatment recommendations. The Idaho County Working Group anticipates updates for subsequent years to be contained in subsequent appendices numbered by year.

VOLUME II

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Chapter I: Overview of this Plan and its Development

1 Overview

In this Chapter, you will find an overview, and the goals and guiding principles of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***.

1.1.1 Overview

This **Revised Wildland-Urban Interface Wildland Fire Mitigation Plan** for Idaho County, Idaho, is an update of the **October 11, 2005 Wildland Urban Interface Fire Mitigation Plan for Idaho County,** and incorporates the **2007 Update Addendum** (August 1st, 2007) and recent information provided by agencies and organizations involved in the original development of this plan.

This **Revised Wildland-Urban Interface Wildland Fire Mitigation Plan** is the result of analyses, professional cooperation and collaboration, assessments of wildfire risks and other factors considered with the intent to reduce the potential for wildfires to threaten people, structures, infrastructure, and unique ecosystems in Idaho County, Idaho. The Idaho County Commissioners led the Idaho County *Fire Mitigation Working Group*, also known as the planning committee, responsible for implementing this project. Agencies and organizations that participated in the planning process included:

- Idaho County Commissioners and County Departments
- City of Cottonwood
- City of Grangeville
- City of Kamiah
- City of Kooskia
- City of Stites
- City of Riggins
- City of Ferdinand
- City of White Bird
- Community of Lowell
- Community of Clearwater
- Community of Mount Idaho
- Community of Syringa
- Community of Pollock
- Community of Warren
- Community of Woodland
- Community of Powell
- Community of Fenn
- Community of Greencreek
- Community of Burgdorf
- Community of Dixie
- Community of Elk City
- Community of Harpster
- Community of Keuterville
- Community of Lucile
- Community of Slate Creek
- Idaho Department of Lands
- Nez Perce Tribe
- USDI Bureau of Land Management, (also providing funding through the National Fire Plan)
- Idaho Bureau of Homeland Security
- Clearwater Resource Conservation and Development Council, Inc.
- Idaho County Soil and Water Conservation District
- USDA Forest Service
- Syringa General Hospital
- Idaho County Highway Districts
- Idaho County Disaster Management

- Ridge Runner Fire Department
- Kooskia Volunteer Fire Department
- Elk City Volunteer Fire Department
- Riggins City Fire Department
- BPC Volunteer Rural Fire Department
- Carrot Ridge Volunteer Fire Department
- Cottonwood Volunteer Fire Department
- Dixie Volunteer Fire Department
- Ferdinand Rural Fire Department
- Grangeville Rural Fire District
- Harpster Fire Protection District
- Salmon River Volunteer Fire Department
- White Bird Volunteer Fire Department
- Secesh Volunteer Fire Department
- Stites Volunteer Fire Department
- Kamiah Rural Fire Department
- Northwest Management, Inc.

This preceding list represents groups and individuals that actively participated in the planning committee. The planning committee contacted other groups and individuals to participate, but they chose not to actively participate.

All committee meetings were conducted under the Idaho Open Public Meeting Laws. The planning committee announced meetings through local media outlets and the public was encouraged to participate.

1.1.2 2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan

The ***2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan*** (October 2005) was the initial plan developed to address the National Fire Plan, consistent with Federal Emergency Management Agency (FEMA) requirements, at the County level, and it describes the risks and potential treatments within the wildland-urban interface of Idaho County. The Clearwater Resource Conservation and Development Council, Inc. selected Northwest Management, Inc. of Moscow, Idaho to provide the service of leading the assessment and the writing of the ***October 11, 2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan***.

1.1.3 2007 Update Addendum

In August of 2007, an update planning committee, the *Fire Mitigation Working Group*, reviewed recommended action items, fire department information, and completed projects to complete the ***2007 Update Addendum.*** Only a subset of the agencies and organizations that participated in the original planning process participated in preparing the addendum, although all the original members of the WUI Wildfire Mitigation Planning committee were contacted to participate. Again, Northwest Management, Inc. of Moscow, Idaho provided this service.

1.1.4 2009 Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan

In 2009, after reviewing recent project updates, the Idaho County Commissioners decided to revise the ***2005 Plan***, and incorporate the ***2007 Update Addendum*** and other recent information into this ***2009 Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***. The update planning committee consisted of a subset of the original planning committee, and they decided not to review the original risk analysis and statistical data, but rather to focus revision efforts on reviewing and updating the recommended action items, fire department information, and completed projects. The County contracted Elkhorn Environmental of Grangeville, Idaho to complete this task.

1.2 Goals

This section describes the planning effort and philosophy, mission and vision statements, and goals of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan.***

1.2.1 Idaho County Fire Mitigation Planning Effort and Philosophy

This planning process includes the integration of the National Fire Plan, the Idaho Statewide Implementation Strategy, the Healthy Forests Restoration Act, and the requirements of the Federal Emergency Management Agency (FEMA) for a countywide Wildfire Mitigation Plan, a component of the County's Wildland-Urban Interface Wildfire Mitigation Plan. This effort utilizes the best and most appropriate science from all partners, and integrates local and regional knowledge about wildfire risks and fire behavior, while meeting the needs of local citizens, the regional economy, and acknowledging the significance of this region to the rest of Idaho and the Inland West.

1.2.2 Mission Statement

The mission of the ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** is to make Idaho County residents, communities, state agencies, local governments, and businesses less vulnerable to the negative effects of wildland fires through the effective administration of wildfire hazard mitigation grant programs, hazard risk assessments, wise and efficient fuels treatments, and a coordinated approach to mitigation policy through federal, state, regional, and local planning efforts. Our prioritization is the protection of people, structures, infrastructure, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy.

1.2.3 Vision Statement

The vision of the ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** is to institutionalize and promote a countywide wildfire hazard mitigation concept through leadership, professionalism, and excellence, leading the way to a safe, sustainable Idaho County.

1.2.4 Goals

The goals of the ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** are to:

- Reduce the area of wildland-urban interface (WUI) land burned and losses experienced because of wildfires where these fires threaten communities in the wildland-urban interface;
- Prioritize the protection of people, structures, infrastructure, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy;
- Provide a revised Wildland-Urban Interface Wildfire Mitigation Plan that will not diminish the private property rights of landowners in Idaho County;
- Educate communities about the unique challenges of wildfire in the wildland-urban interface (WUI);
- Establish mitigation priorities and develop mitigation strategies in Idaho County;
- Strategically locate and plan fuel reduction projects;
- Provide recommendations for alternative treatment methods, such as brush density, herbicide treatments, fuel reduction techniques, and disposal or removal of treated fuels; and
- Meet or exceed the requirements of the National Fire Plan and FEMA for a County level Fire Mitigation Plan.

1.3 Guiding Principles

This section describes the underlying guiding principles found in federal and state regulations and guidelines used to develop the ***Revised Wildland-Urban Interface Wildfire Mitigation Plan.***

The ***Revised Wildland-Urban Interface Wildfire Mitigation Plan*** adheres to the guidelines proposed in the National Fire Plan, the Idaho Statewide Implementation Plan, and the Healthy Forests Restoration Act (2004), and is compatible with FEMA requirements, as described below. This Wildland-Urban Interface Wildland Fire Mitigation Plan has been prepared in compliance with:

- The National Fire Plan; A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan–May 2002;
- The Idaho Statewide Implementation Strategy for the National Fire Plan–July 2002;
- Healthy Forests Restoration Act (2004); and
- The Federal Emergency Management Agency's Region 10 guidelines for a Local Wildfire Mitigation Plan as defined in 44 CFR parts 201 and 206, and as related to a fire mitigation plan chapter of a Natural Hazards Mitigation Plan.

"When implemented, the 10-Year Comprehensive Strategy will contribute to reducing the risks of wildfire to communities and the environment by building collaboration at all levels of government."
- The National Fire Plan 10-Year Comprehensive Strategy August 2001

The objective of combining these four complimentary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts to achieve the protection of people, structures, the environment, and significant infrastructure in Idaho County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

1.3.1 National Fire Plan

During the last few decades, wildfires have increased in size and intensity within the United States. In 2000, in response to a direction from President Clinton, the Secretaries of the United States Departments of Agriculture and the Interior developed an interagency approach to respond to severe wildland fires, reduce their impacts on rural communities, and assure sufficient firefighting capacity in the future (USDA Forest Service and USDI Bureau of Land Management 2000). This report outlined a strategy to reduce wildland fire threats and restore forest ecosystem health in the interior West.

The National Fire Plan (NFP) was developed in August 2000, following a landmark wildland fire season, with the intent of actively responding to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future. The NFP addresses five key points: Firefighting, Rehabilitation, Hazardous Fuels Reduction, Community Assistance, and Accountability.

In 2001, the U.S. Congress funded the National Fire Plan to reduce hazardous fuel and restore forests and rangeland. In response, the Secretaries of Agriculture and the Interior, along with Western Governors and other interested parties, developed in May of 2002 ***A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Strategy*** (10-Year Strategy, updated in 2006), and the subsequent ***Implementation Plan for the 10-Year Strategy*** as a framework to guide completion of collaborative, community-based plans to address wildland fire issues. Each county would bring together all groups and agencies responsible for wildland fire suppression to develop a community-based wildland fire mitigation plan.

The National Fire Plan identified a three-tiered organization structure including 1) the local level, 2) state/regional and tribal level, and 3) the national level. This plan adheres to the collaboration and outcomes consistent with a local level plan as defined by the National Association of Counties in the "***Preparing a Community Wildfire Protection Plan***" (NACO 2004) and its supplement ***Community Guide to Preparing and Implementing a Community Wildfire Protection Plan*** (NACO 2008). Local level collaboration involves participants with direct responsibility for management decisions affecting public and private land and resources, fire protection responsibilities, or good working knowledge and interest in local resources. Participants in this planning process include Tribal representatives, local representatives from Federal and State agencies, local governments, landowners and other stakeholders, and community-based groups with a demonstrated commitment to achieving the strategy's four goals. Existing resource advisory committees, watershed councils, or other collaborative entities may serve to achieve coordination at this level. Local involvement, expected to be broadly representative, is a primary source of planning, project prioritization, and resource allocation and coordination at the local level. The role of the private citizen is not to be under estimated, as their input and contribution to all phases of risk assessments, mitigation activities, and project implementation is highly valuable.

This ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** fulfills the National Fire Plan's 10-Year Comprehensive Strategy and the Idaho Statewide Implementation Strategy for the National Fire Plan, and will guide implementation in Idaho County. The ***2005 Wildland-Urban Interface Wildland Fire Mitigation Plan*** was completed in April of 2005 through a collaborative effort with a diverse group of interested parties. This ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** is an adaptive document; one that will continue to be updated annually or as needed to reflect accomplishments and newly emerging needs, issues, and opportunities surrounding wildland fire management in Idaho County. This revised plan reflects consensus among those who participated in its development and supported the approaches outlined within.

The projects and activities recommended under this plan are in addition to other Federal, state, and private/corporate forest and rangeland management activities. The ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** does not alter, diminish, or expand the existing jurisdiction, statutory and regulatory responsibilities and authorities or budget processes of participating Federal, State, and tribal agencies.

By endorsing this ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan***, all signed parties agree that reducing the threat of wildland fire to people, communities, and ecosystems will require:

- Firefighter and public safety continuing as the highest priority.
- A sustained, long-term and cost-effective investment of resources by all public and private parties, recognizing overall budget parameters affecting Federal, State, Tribal, and local governments.
- A unified effort to implement the collaborative framework called for in the Strategy in a manner that ensures timely decisions at each level.
- Accountability for measuring and monitoring performance and outcomes, and a commitment to factoring findings into future decision making activities.
- The achievement of national goals through action at the local level with particular attention on the unique needs of cross-boundary efforts and the importance of funding on-the-ground activities.
- Communities and individuals in the wildland-urban interface to initiate personal stewardship and volunteer actions that will reduce wildland fire risks.
- Management activities, both in the wildland-urban interface and in at-risk areas across the broader landscape.

- Active forestland and rangeland management, including thinning that produces commercial or pre-commercial products, biomass removal and utilization, prescribed fire and other fuels reduction tools to simultaneously meet long-term ecological, economic, and community objectives.

1.3.2 Healthy Forests Restoration Act

In December of 2003, Congress passed the ***Healthy Forests Restoration Act*** (HFRA) (PL 108-148). This legislation addresses many issues relevant and complementary to the National Fire Plan including expediting projects designed to reduce hazardous fuels in the wildland urban interface (WUI). The Healthy Forests Restoration Act also allows local entities to create Community Wildfire Protection Plans (CWPPs) if they so choose. CWPPs are documents created by local entities (usually communities, cities, or counties) that compel federal agencies to give consideration to community priorities when developing fire management plans or when conducting hazardous fuels treatments. The State of Idaho has chosen to use the term County Wildfire Protection Plan (CWPP) to emphasize that these plans are developed and implemented at the county level rather than at the community level.

The ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** was developed to adhere to the principles of the HFRA while providing recommendations consistent with the policy documents which should assist the federal land management agencies (USDA Forest Service and USDI Bureau of Land Management) with implementing wildfire mitigation projects in Idaho County that incorporate public involvement and input from a wide spectrum of fire and emergency services providers in the region.

1.3.3 Federal Emergency Management Agency Mitigation Planning (44 CFR 201 & 206)

As required by the Stafford Act (42 USC 5165 Section 322), the Federal Emergency Management Agency (FEMA) developed policies and procedures for mitigation planning (44 CFR 201). The purpose of mitigation planning is for State, local, and Indian tribal governments to identify the natural hazards that impact them, to identify actions and activities to reduce any losses from those hazards, and to establish a coordinated process to implement the plan, taking advantage of a wide range of resources.

Effective November 1, 2004, the Federal Emergency Management Agency (FEMA) requires a Local Wildfire Mitigation Plan approved by the FEMA for Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM) eligibility (44 CFR 201 & 206). The HMGP and PDM program provide funding, through state emergency management agencies, to support local mitigation planning and projects to reduce potential disaster damages.

The local Wildfire Mitigation Plan requirements for HMGP and PDM eligibility are based on the Disaster Mitigation Act of 2000, which amended the Stafford Disaster Relief Act to promote and integrated, cost effective approach to mitigation. Local Wildfire Mitigation Plans must meet the minimum requirements of the Stafford Act-Section 322, as outlined in the criteria contained in 44 CFR 201.6. The plan criteria cover the planning process, risk assessment, mitigation strategy, plan maintenance, and adoption requirements.

FEMA will only review a local Wildfire Mitigation Plan submitted through the appropriate State Hazard Mitigation Officer (SHMO). Draft versions of local Wildfire Mitigation Plans will not be reviewed by FEMA. FEMA will review the final version of a plan prior to local adoption to determine if the plan meets the criteria, but FEMA will be unable to approve it prior to adoption. In Idaho the SHMO is:

Mr. David Jackson
Idaho Bureau of Homeland Security
4040 Guard Street, Bldg 600
Boise, ID 83705
djackson@bhs.idaho.gov

A FEMA designed plan will be evaluated on its adherence to a variety of criteria.

- Adoption by the Local Governing Body
- Multi-jurisdictional Plan Adoption
- Multi-jurisdictional Planning Participation
- Documentation of Planning Process
- Identifying Hazards
- Profiling Hazard Events
- Assessing Vulnerability: Identifying Assets
- Assessing Vulnerability: Estimating Potential Losses
- Assessing Vulnerability: Analyzing Development Trends
- Multi-jurisdictional Risk Assessment
- Local Hazard Mitigation Goals
- Identification and Analysis of Mitigation Measures
- Implementation of Mitigation Measures
- Multi-jurisdictional Mitigation Strategy
- Monitoring, Evaluating, and Updating the Plan
- Implementation Through Existing Programs
- Continued Public Involvement

The ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** is consistent with 44 CFR Sections 201 and 206, and follows the requirements therein, including incorporation of the plan criteria which cover the planning process, risk assessment, mitigation strategy, plan maintenance, and adoption requirements.

1.3.4 Idaho Statewide Implementation Strategy for the National Fire Plan

In 2006, the State of Idaho adopted the ***Idaho Statewide Implementation Strategy for the National Fire Plan*** to provide an updated collaborative framework for the organized and coordinated approach to the implementation of the National Fire Plan in Idaho. This strategy accomplishes these goals through the maintenance of viable working groups at both state and county levels that meet the intent of the National Fire Plan, the Disaster Mitigation Act of 2000, and the Healthy Forests Restoration Act of 2003.

As described in the ***Idaho Statewide Implementation Strategy,*** the relationship between county and state levels is that of a partnership. While it is necessary for the Idaho State Fire Plan Working Group to conduct certain administrative functions, County Wildland Fire Interagency Groups (County Working Groups) will act autonomously within their designated areas of impact, pursuant to State and Federal laws. The respective collaborative responsibilities at the county level described in the ***Idaho Statewide Implementation Strategy*** include:

1. Counties are responsible for implementation and maintenance of their County Wildfire Protection Plans through their County Working Groups (with leadership provided by County Commissioners and assistance provided by state, federal, and tribal agencies and local expert advice), including:
    a. Maintenance of a diverse membership of stakeholders striving to achieve collaborative program delivery which, at a minimum, includes local, state, and federal officials.

b. Regularly scheduled meetings of County Working Groups, with proper public notification.

2. County Working Groups will maintain correspondence with a representative of the Idaho State Fire Plan Working Group through their County Contact.
3. It is requested that County Working Groups annually submit a list of priority needs for hazardous fuels treatments (on both federal and non federal lands) and firefighting assistance funds to the Idaho State Fire Plan Working Group in order to receive highest priority for assistance funding.
4. County Working Groups are encouraged to take the steps necessary to ensure that their CWPPs meet the standards set forth by the Healthy Forests Restoration Act.
5. Counties will be responsible for providing updates made to their CWPPs to the Idaho Department of Lands.

Additionally, the ***Idaho Statewide Implementation Strategy*** addresses the description and role of the County Wildland Fire Interagency Groups. These groups are collaborative, countywide working groups tasked with the responsibility of implementing their County Wildfire Protection Plans. They are autonomous bodies that may provide recommendations to state and federal land management agencies regarding management of lands in order to reduce wildland fire risks to communities and the environment. The minimum composition includes representatives from each of the following interests:

(a). County Commissioner, Emergency Management Coordinator, Planning and Zoning representative, or other county employee (lead convener);

(b). Local Fire Chief (preferably a member of a Local Emergency Planning Committee);

(c). Idaho Department of Lands representative, as appropriate;

(d). Appropriate Federal Fire Management Representatives—includes the dominant federal land managers in a particular county. This may include individuals from one or several federal agencies; and

(e). Tribal Representative, as appropriate (NOTE: Several areas may not have state or tribal representation.)

In addition, County Working Groups are encouraged to include individuals who are committed to the goals of the National Fire Plan in order to ensure that a number of stakeholder interests are represented.

With respect to the County Wildfire Protection Plans (CWPPs), the ***Idaho Statewide Implementation Strategy*** identifies the County Working Group as the entity responsible for ensuring that their CWPP meets the following minimum standards as outlined in the Healthy Forests Restoration Act:

1. Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
2. Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuels reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
3. Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.
4. Additionally, County Working Groups are encouraged to define and geographically delineate wildland urban interface (WUI) areas within their county. If County Working Groups do not choose to define and geographically delineate their WUI areas, the WUI will be defined as ".5

miles from structures on flat ground and 1.5 miles from structures on hillsides or slopes" as set forth in §101(16) of the Healthy Forests Restoration Act.

The ***Idaho Statewide Implementation Strategy*** also provides guidance regarding CWPP Updates, as follows:

1. It is the responsibility of the County Commissioners and/or the County Working Group to ensure that a current copy of a County's CWPP is on file with Idaho Department of Lands.
2. It is also the responsibility of the County Commissioners/County Working Group to ensure that appropriate signature pages (for CWPPs) have been sent to Idaho Department of Lands.

The ***Idaho Statewide Implementation Strategy*** also provides guidance regarding project prioritization, and requests that each County Working Group annually submit the following prioritized project lists to the State Working Group:

1. Hazardous fuels projects to be conducted on non federal lands.
2. Hazardous fuels projects/restoration projects to be conducted by federal agencies on federal lands.
3. Firefighting equipment or other firefighting resources.
4. Other prioritization needs.

Each list will be considered an addendum to a county's CWPP.

This ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** fulfills the ***Idaho Statewide Implementation Strategy*** requirements, and is consistent with the above recommendations.

1.3.5 National Association of State Foresters' Field Guidance: Identifying and Prioritizing Communities at Risk 2003

The National Association of State Foresters (NASF) led an interagency effort to develop consistent guidelines for collaboratively identifying and prioritizing communities at risk from wildland fire resulting in ***Field Guidance: Identifying and Prioritizing Communities at Risk*** (June 27, 2003). This Field Guidance satisfies requirement Goal Four of the 10-Year Comprehensive Strategy Implementation Plan. The Field Guidance also provides a process for meeting the requirements of the Memorandum of Understanding for the Development of a Collaborative Fuels Treatment Program, agreed to by the Wildland Fire Leadership Council, State Foresters and the National Association of Counties in January 2003.

The Field Guidance defined "communities at risk" and a process for prioritizing them, and stated:

1. NASF fully supports the definition of the Wildland Urban Interface (WUI) previously published in the Federal Register. Further, proximity to federal lands should not be a consideration. The WUI is a set of conditions that exists on, or near, areas of wildland fuels nation-wide, regardless of land ownership.
2. Communities at risk (or, alternately, landscapes of similar risk) should be identified on a state-by-state basis with the involvement of all agencies with wildland fire protection responsibilities: state, local, tribal, and federal.
3. It is neither reasonable nor feasible to attempt to prioritize communities on a rank order basis. Rather, communities (or landscapes) should be sorted into three, broad categories or zones of risk: high, medium, and low. Each state, in collaboration with its local partners, will develop the specific criteria it will use to sort communities or landscapes into the three categories. NASF recommends using the publication "Wildland/Urban Interface Fire Hazard Assessment

Methodology" developed by the National Wildland/Urban Interface Fire Protection Program (circa 1998) as a reference guide. (This program, which has since evolved into the Firewise Program, is under the oversight of the National Wildfire Coordinating Group (NWCG)). At minimum, states should consider the following factors when assessing the relative degree of exposure each community (landscape) faces.

- **Risk:** Using historic fire occurrence records and other factors, assess the anticipated probability of a wildfire ignition.
- **Hazard:** Assess the fuel conditions surrounding the community using a methodology such as fire condition class, or [other] process.
- **Values Protected:** Evaluate the human values associated with the community or landscape, such as homes, businesses, and community infrastructure (e.g. water systems, utilities, transportation systems, critical care facilities, schools, manufacturing and industrial sites, and high value commercial timber lands).
- **Protection Capabilities:** Assess the wildland fire protection capabilities of the agencies and local fire departments with jurisdiction.

4. Prioritize by project not by community. Annually prioritize projects within each state using the collaborative process defined in the national, interagency Memorandum of Understanding (MOU) "For the Development of a Collaborative Fuels Treatment Program". Assign the highest priorities to projects that will provide the greatest benefits either on the landscape or to communities. Attempt to properly sequence treatments on the landscape by working first around and within communities, and then moving further out into the surrounding landscape. This will require:
   - First, focus on the zone of highest overall risk but consider projects in all zones. Identify a set of projects that will effectively reduce the level of risk to communities within the zone.
   - Second, determining the community's willingness and readiness to actively participate in an identified project.
   - Third, determining the willingness and ability of the owner of the surrounding land to undertake, and maintain, a complementary project.
   - Last, set priorities by looking for projects that best meet the three criteria above. It is important to note that projects with the greatest potential to reduce risk to communities and the landscape may not be those in the highest risk zone, particularly if either the community or the surrounding landowner is not willing or able to actively participate.
5. It is important, and necessary, that we be able to demonstrate a level of accomplishment that justifies to Congress the value of continuing the current level of appropriations for the National Fire Plan. Although appealing to appropriators and others, it is not likely that many communities (if any) will ever be removed from the list of communities at risk. Even after treatment, all communities will remain at some, albeit reduced, level of risk. However, by using a science-based system for measuring relative risk, we can likely show that, after treatment (or a series of treatments) communities are at "*reduced risk*".

Similarly, scattered, individual homes that complete projects to create defensible space could be "counted" as "households at reduced risk". This would be a way to report progress in reducing risk to scattered homes in areas of low priority for large-scale fuels treatment projects.

Using the concept described above, the NASF believes it is possible to accurately assess the relative risk that communities face from wildland fire. Recognizing that the condition of the vegetation (fuel) on the landscape is dynamic, assessments and re-assessments must be done on a state-by-state basis, using a

process that allows for the integration of local knowledge, conditions, and circumstances, with science-based national guidelines. We must remember that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk.

Further, it is essential that both the assessment process and the prioritization of projects be done collaboratively, with all local agencies with fire protection jurisdiction – federal, state, local, and tribal – taking an active role.

The ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** was developed consistent with the ***Field Guidance: Identifying and Prioritizing Communities at Risk.***

1.3.6 United States Government Accounting Office's "Protecting Structures and Improving Communications during Wildland Fires"

In April of 2005, the United States Government Accounting Office (GAO) prepared the ***Technology Assessment - "Protecting Structures and Improving Communications during Wildland Fires"*** to assess (1) measures that can help protect structures from wildland fires, (2) factors affecting use of protective measures, and (3) the role technology plays in improving firefighting agencies' ability to communicate during wildland fires.

Since 1984, wildland fires have burned an average of more than 850 homes each year in the United States, and because more people are moving into fire-prone areas bordering wildlands, the number of homes at risk is likely to grow. The primary responsibility for ensuring that preventative steps are taken to protect homes lies with homeowners and state and local governments, not the federal government. Although losses from wildland fires made up only two percent of all insured catastrophic losses from 1983 to 2002, fires can result in billions of dollars in damages.

Once a wildland fire starts, various parties can be mobilized to fight it, including federal, state, local, and tribal firefighting agencies and, in a few cases, the military. The ability to communicate among all parties - known as interoperability - is essential but, as GAO reported previously, is hampered because different public safety agencies operate on different radio frequencies or use incompatible communications equipment.

Through this assessment, the GAO found the two most effective measures for protecting structures from wildland fires are: (1) creating and maintaining a buffer, called defensible space, from 30 to 100 feet wide around a structure, where vegetation and other flammable objects are reduced or eliminated; and (2) using fire-resistant roofs and vents. In addition to roofs and vents, other technologies, such as fire-resistant windows and building materials, chemical agents, sprinklers, and geographic information systems mapping, can help in protecting structures and communities, but they play a secondary role.

Although protective measures are available, many property owners have not adopted them because of the time or expense involved, competing concerns such as aesthetics or privacy, misperceptions about wildland fire risks, and lack of awareness of their shared responsibility for fire protection. Federal, state, and local governments, as well as other organizations, are attempting to increase property owners' use of protective measures through education, direct monetary assistance, and laws requiring such measures. In addition, several insurance companies have begun to direct property owners in high risk areas to take protective steps.

Existing technologies, such as audio switches, can help link incompatible communication systems, and new technologies, such as software-defined radios, are being developed to overcome incompatibility barriers. Technology alone, however, cannot solve communications problems for those responding to wildland fires. Rather, planning and coordination among federal, state, and local public safety agencies is needed to resolve issues such as which technologies to adopt, cost sharing, operating procedures, training, and maintenance. The Department of Homeland Security is leading federal efforts to improve

communications interoperability across all levels of government. In addition to federal efforts, several states and local jurisdictions are pursuing initiatives to improve communications interoperability.

The ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** addresses the GAO's ***Technology Assessment*** by assessing current and desired conditions and identifying potential projects to address needs within Idaho County related to the Wildland-Urban Interface, including defensible space, structure protection, communications, and coordination.

Chapter 2: Documenting the Planning Process

2 Overview

Documentation of the planning process, including public involvement, is required to meet the policies and procedures for mitigation planning (44 CFR 201.4(c)(1) and 201.6(c)(1)). This section includes a description of the planning process used to develop this plan, including how it was prepared, who was involved in the process, and how all of the involved agencies participated.

2.1 Description of the Planning Process

The development of the Idaho County ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan*** occurred through the collaborative process detailed in Chapter 1 of this document. The County Commissioner's Office contacted those organizations and agencies listed to invite their participation and schedule meetings of the County Working Group, hereafter referred to as the planning committee. The planning committee then consolidated and updated the previous versions of the mitigation plan and the addendum to create the revision.

The ***2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan*** (October 2005) was the initial plan developed to address the National Fire Plan, consistent with Federal Emergency Management Agency (FEMA) requirements, at the County level, and it describes the risks and potential treatments within the wildland-urban interface of Idaho County.

In August of 2007, an update planning committee reviewed recommended action items, fire department information, and completed projects to complete the ***2007 Update Addendum.*** Only a subset of the agencies and organizations that participated in the original planning process participated in preparing the addendum, although all the original members of the WUI Wildfire Mitigation planning committee were contacted to participate.

In 2009, after reviewing recent project updates, the Idaho County Commissioners decided to revise the ***2005 Plan***, and incorporate the ***2007 Update Addendum*** and other recent information into this ***2009 Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***. This update planning committee consisted of a subset of the original planning committee, and they decided not to review the original risk analysis and statistical data, but rather to focus revision efforts on reviewing and updating the guiding principles, the recommended action items, fire department information, and completed projects.

The planning process throughout these three iterations of the mitigation plan included five distinct phases, which were in several cases sequential (Step 1 then Step 2) and in other cases intermixed (Step 4 completed throughout the process):

1. **Collection of Data** for the extent and periodicity of hazards in and around Idaho County. This data included information for an area encompassing Nez Perce, Lewis, Clearwater, Valley, Adams, and Lemhi Counties to ensure a robust dataset for making inferences about hazards in Idaho County specifically.
2. **Field Observations and Estimations** about risks, juxtaposition of structures and infrastructure to risk areas, access, and potential treatments.
3. **Mapping** of data relevant to pre-disaster mitigation control and treatments, structures, resource values, infrastructure, risk assessments, and related data.
4. **Facilitation of Public Involvement** from the formation of the planning committee, to a public mail survey, news releases, public meetings, public review of draft documents, and acknowledgement of the final plan by the signatory representatives.

5. **Analysis and Drafting of the Report** to integrate the results of the planning process, providing ample review and integration of committee and public input, followed by signature of the final document.

2.2 The Planning Committee

Originally, Northwest Management, Inc and Jerry Zumalt, Idaho County Disaster Management Coordinator, led planning efforts for the ***2005 Wildland-Urban Interface Wildland Fire Mitigation Plan***. These entities organized meetings, facilitated information management, and coordinated many activities associated with the development of the plan.

They led a team of resource professionals, the planning committee, which included Idaho County government, incorporated cities, city and rural fire protection, law enforcement, State of Idaho Bureau of Homeland Security, Idaho Department of Lands, the USDA Forest Service, the USDI Bureau of Land Management, fire mitigation specialists, resource management professionals, and hazard mitigation experts.

A subset of the agencies and organizations that participated in the original planning process participated in preparing the ***2007 Update Addendum***, and this ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan***. Northwest Management, Inc., Jerry Zumalt, Idaho County Disaster Management Coordinator, and Jim Davis, Idaho County Wildfire Mitigation Director, led planning efforts for the 2007 Update Addendum. Jerry Zumalt and Kevin Kehoe, Idaho County Fire Chief's Association, Harpster Fire Protection District led the efforts for this ***Revised Wildland-Urban Interface Wildland Fire Mitigation Plan***.

Idaho County organized this update planning committee, which is responsible for the annual and five-year updates of the Idaho County Wildland Urban Interface Wildfire Mitigation Plan. The following is the list of designees of this committee, also known as the *Fire Mitigation Working Group,* in 2009:

- **Jerry Zumalt,** Chair - Idaho County Disaster Manager
- **Laura Barrett**, USDA Forest Service –Clearwater and Nez Perce National Forests
- **Susan Jenkins**, USDA Forest Service – Nez Perce National Forest
- **Gary Phillips**, USDA Forest Service- Payette National Forest
- **Kristen Sanders**, USDI Bureau of Land Management
- **Dave Summers**, Idaho Department of Lands
- **Tim Droegmiller**, Nez Perce Tribe
- **Kevin Kehoe**, Idaho County Fire Chief's Association, Harpster Fire Protection District
- **Bob Johnson**, Idaho County Fire Chief's Association, White Bird Volunteer Fire Department
- **Dennis McCullum**, Idaho County Fire Chief's Association
- **Cris Bent**, Secesh/Warren/Burgdorf Volunteer Fire Department (Payette National Forest Fire Chief Representative)

The planning committee met with many residents of the county during the inspections of communities, infrastructure, and hazard abatement assessments. This methodology, when coupled with the other approaches in this process, worked adequately to integrate a wide spectrum of observations and interpretations about the project.

Throughout the planning process, the philosophy employed in this project included the open and free sharing of information with interested parties. The planning committee integrated information from

federal and state agencies into the database of knowledge used in this project. Meetings with the planning committee were held throughout the planning process to facilitate a sharing of information between cooperators.

When the public meetings were held, many of the committee members attended and shared their support and experiences with the planning process and their interpretations of the results.

2.2.1 Committee Meetings

The following list of people who participated in the planning committee meetings, volunteered time, or responded to elements of the ***Idaho County Wildland-Urban Interface Wildfire Mitigation Plan's*** preparation.

NAME	ORGANIZATION
Cocoa Anderson	Elk City Volunteer Fire Department
Loren Anderson	Elk City Volunteer Fire Department
Mark Anderson	Kooskia & Stites Volunteer Fire Departments
Dale Anderson	USDI Bureau of Land Management
Laura Barrett	USDA Forest Service
David Bearman	Ridge Runner Fire Department
Rod Behler	Cottonwood Fire Department
Kevin Benton	Idaho Department of Lands
Vaiden Bloch	Northwest Management, Inc.
Troy Bouchard	Harpster
Toby Brown	Northwest Management, Inc.
Susie Borowicz	North Central Idaho Resource Advisory Committee
Kevin Chafee	USDA Forest Service
Chuck Cohen	Idaho County Mapping Department
Jim Colla	Northwest Management, Inc.
Vincent Corrao	Northwest Management, Inc.
Holly Cotton	Idaho Soil & Water Conservation District
Mark Craig	USDI Bureau of Land Management
Jim Davis	Idaho County Fire Mitigation
Larry Dawson	USDA Forest Service
Randy Doman	Idaho County Commissioner
Chuck Doty	Kamiah Rural Fire Department
Denis Duman	Mayor, City of Cottonwood
Mardell Edwards	Self
Jake Eimers	Idaho County Light and Power
Rose Gehring	Idaho County Clerk

Jim Gray.....USDA Forest Service

Liza Hammond .....USDA Forest Service

Clyde Hanson.....Clearwater RC&D

Brett Ingles.....Boise State University

Keith Jepson.....BPC Rural Fire Department

Tera King .....Northwest Management, Inc.

Pete Lane.....Idaho Soil & Water Conservation District

Jill Marolf .....USDA Forest Service

Alice Mattson.....Idaho County Commissioner

Cliff McCulley .....Idaho County Light and Power

Dennis McCollum.....Salmon River Rural Fire Department

Ihor Mereszczak.....USDA Forest Service

Jim Meyer .....Ridge Runner Fire Department

Danyel Morrow.....Harpster Fire Protection District

Robert Olive.....Mayor, City of Kamiah

Gene Pennington.....Salmon River Rural Fire Department

Ed Perrine .....Grangeville Rural Fire District

Dan Pierce.....Clearwater RC&D

Phil Puckett.....Carrot Ridge Volunteer Fire Department

Keith Ray .....Mayor, City of White Bird

Jim Rehder .....Idaho County Commissioner

Barry Ruklic.....USDA Forest Service

Kristen Sanders .....USDI Bureau of Land Management

William E. Schlosser.....Northwest Management, Inc., Project Manager

Paul Schmidt .....Mayor, City of Ferdinand

John Schurbon.....City of Kooskia

Laura Smith.....USDA Forest Service

Bill Spencer.....Grangeville Rural Fire District

Wyatt Strahm .....Ridge Runner Fire Department

Dave Summers.....Idaho Department of Lands

Dennis Thomas .....Northwest Management, Inc.

Mike Vanderpass .....USDI Bureau of Land Management

Terry Vanderwall.....Mayor, City of Grangeville

Debra Vopat.....Mayor, City of Stites

Ann Wilson.....Riggins Emergency Medical Service

Jill Wilson.....Red River R.D. USFS

Dave Woods.....Glenwood Rural Fire Department

Greg Yuncevich.....USDI Bureau of Land Management

James Zehner.....Idaho County Mapping Department

Bob Zimmerman.....Mayor, City of Riggins

Jerry Zumalt.....Idaho County Disaster Management

2.2.1.1 Committee Meeting Minutes

The Committee scheduled and conducted meetings from March 2005 through September 2009. These meetings led to the developments and changes found in this ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***. Minutes of these meetings are on file at the Idaho County Courthouse.

2.2.2 Multi-Jurisdictional Participation

CFR requirement 44 CFR 201.6(a)(4) states that multi-jurisdictional mitigation plans may be accepted as long as each jurisdiction has participated in the process and has officially adopted the plan. This Wildfire Mitigation Plan is applicable to the following jurisdictions:

- Idaho County, Idaho
- City of Grangeville
- City of Kooskia
- City of Kamiah
- City of Cottonwood
- City of Ferdinand
- City of Riggins
- City of Stites
- City of White Bird

All of these jurisdictions were represented on the planning committee, in public meetings, and participated in the development of hazard profiles, risk assessments, and mitigation measures. The monthly planning committee meetings were the primary venue for authenticating the planning record. However, additional input was gathered from each jurisdiction in a combination of the following ways:

- Planning committee leadership visits to municipality public meetings (e.g., County Commission meetings, City Hall meetings) where planning updates were provided and information was exchanged.
- One-on-one visits between the planning committee leadership and the representatives of the municipality (e.g., meetings with County Commissioners, or City Councils in chambers).
- Special meetings at each jurisdiction by the planning committee leadership requested by the municipality involving elected officials (mayors and County Commissioners), appointed officials (e.g., County Assessor, Sheriff, City Police), municipality employees, local volunteers (e.g., fire district volunteers), business community representatives, and local citizenry.

- Monthly written correspondence between the planning committee leadership and each municipality updating the cooperators in the planning process, making requests for information, and facilitating feedback.

Planning committee leadership (referenced above) included: Jerry Zumalt, Idaho County Disaster Management Coordinator, Dr. William E. Schlosser, Vincent P. Corrao, Toby Brown, Tera King, Dennis Thomas, Vaiden Bloch, and Jim Colla all of Northwest Management, Inc., and Dan Pierce, Clearwater Resource Conservation and Development Council, Inc., Coordinator.

Like other rural areas of Idaho and the USA, Idaho County's human resources have many demands put on them in terms of time and availability. None of the elected officials (County Commissioners and City Mayors) serves in a full-time capacity; and all of them generally have other employment and serve the community through a convention of community service. Recognizing this fact, many of the jurisdictions decided to identify a representative from the jurisdiction to cooperate on the planning committee and then report back to the remainder of their organization on the process and serve as a conduit between the planning committee and the jurisdiction. In the case of the Idaho County Commissioners, all of the Commissioners attended the planning committee meetings as regular attendees.

At the city level, all of the City Mayor offices were represented in a variety of ways. In a few instances the Mayor personally attended the meetings (e.g., City of Cottonwood). More commonly, the Mayor of a municipality appointed a representative from the municipality to provide this representation on the committee meetings. For example, the Chief of the Kooskia Fire Department represented the Mayor of the City of Kooskia. When the Mayors were unable to attend, the planning committee leadership provided communications and feedback with the municipality directly to ensure the multi-jurisdictional planning necessitated by this process.

2.3 Public Involvement

The planning committee prioritized public involvement in this plan from the inception of the project. There were a number of ways that the planning committee sought and facilitated public involvement. In a few cases, this led to members of the public providing information and seeking an active role in protecting their own homes and businesses. In other cases, it led to the public becoming more aware of the process without becoming directly involved in the planning process.

2.3.1 News Releases

Under the auspices of the Idaho County *Fire Mitigation Working Group*, the planning committee submitted news releases to numerous local newspapers including the Idaho County Free Press, Clearwater Progress, Lewiston Tribune, Moscow Daily News, Central Idaho Post, Salmon River Current, Clearwater Tribune, and the Latah Eagle. The planning committee also distributed informative flyers around town and to local offices through the committee. Copies of these news releases are on file at the Idaho County Courthouse.

2.3.2 Press Coverage

Committee and public meeting announcements were published in the local newspapers prior to each meeting. During the development of the Wildfire Mitigation Plan, the planning committee submitted editorials to local newspapers. There was also local press coverage of the public meetings. Copies of the press coverage are on file at the Idaho County Courthouse.

2.3.3 Public Mail Survey

In order to collect a broad base of perceptions about wildland fire and individual risk factors of homeowners in Idaho County, the planning committee conducted a mail survey. Approximately 246 residents of Idaho County were randomly selected to receive this mail survey.

The public mail survey developed for this project has been used in the past by Northwest Management, Inc., during the development of other Wildfire Mitigation Plans. The survey used *The Total Design Method* (Dillman 1978) as a model to schedule the timing and content of letters sent to the selected recipients. Copies of each cover letter, mail survey, and communication are included in Appendix III.

The first in the series of mailings was sent May 17, 2005, and included a cover letter, a survey, and an offer of receiving a custom GIS map of the area of their selection in Idaho County if they would complete and return the survey. The free map incentive was tied into assisting their community and helping their interests by participating in this process. Each letter also informed residents about the planning process. A return self-addressed envelope was included in each packet. A postcard reminder was sent to the non-respondents on May 26, 2005, encouraging their response. A final mailing, with a revised cover letter entreating them to participate, was sent to non-respondents on June 3, 2005.

Surveys were returned during the months of May, June, and July. 116 residents responded to the survey as of July 11, 2005. The effective response rate for this survey was 47%. Statistically, this response rate allows the interpretation of all of the response variables significantly at the 99% confidence level.

SURVEY RESULTS

A summary of the survey's results will be presented here and referred to during the ensuing discussions on the need for various treatments, education, and other information.

Of the 116 respondents in the survey, approximately 34% were from the Grangeville area, 13% from Cottonwood, 13% were from Kamiah, 10% from Kooskia, 7% from Riggins, with the remaining respondents from other areas in the county.

The vast majority of the respondents (96%) correctly identified that they have emergency telephone 911 services in their area. 62% of residents indicated that their address was clearly visible from the nearest public road, and 74% responded that their homes were within a taxing fire district. 19% said that their home was within a non-taxing or voluntary payment type fire district.

Respondents were asked to indicate the type of roofing material covering the main structure of their home. Approximately 45% of respondents living in a rural area indicated their homes were covered with a composite material (asphalt shingles). About 48% of these residents indicated their homes were covered with a metal (e.g., aluminum, tin) roofing material. Roughly 6% of the rural respondents indicated they have a wooden roofing material such as shakes or shingles.

When asked how many trees were within 75 feet of their homes, 59% indicated less than 10, 26% said between 10 and 20, and 8% said more than 25. When asked how many were within 250 feet, 46% responded less than 10, 30% said between 10 and 20, and 21% said more than 25.

The average driveway length of respondents to the survey was 676 feet long (0.12 miles). The longest reported was 11,616 feet (2.2 miles). Of those respondents (18%) with a driveway over ¼ mile long, approximately 54% do not have turnouts allowing two vehicles to pass. 69% of all respondents indicated that a 25 foot long vehicle could turn around in their driveway. Survey recipients were also asked how wide the running surface was and what type of material it was covered with. Average driveway width of respondents is 26.5 feet, with 69% saying their drive was a gravel or rock surface, 22% saying it was paved, and 9% saying it was dirt. Approximately 72% of the respondents indicated an alternate escape route was available in an emergency which cuts off their primary driveway access.

Survey recipients were asked to report emergency services training received by members of the household. Their responses are summarized in Table 2-1.

Table 2-1. Emergency Services Training Received by Household.

Type of Training	Percent of Households (%)	If yes, was it within the last 5 years? (%)
Wildland Firefighting	31	52
City or Rural Firefighting	24	50
EMT (Emergency Medical Technician)	18	50
Basic First Aid/CPR	73	52
Search and Rescue	20	38

Nearly all respondents (99%) indicated they have some type of tools to use against a wildfire that threatens their home. Table 2-2 summarizes these responses.

Table 2-2. Percent of Homes with Indicated Firefighting Tools in Idaho County.

Firefighting Tool	Percent of Homes Indicating Ownership (%)
Hand tools (shovel, Pulaski, etc.)	96
Portable water tank	16
Stationery water tank	23
Pond, lake, or stream water supply close	34
Water pump and fire hose	22
Equipment suitable for creating fuel breaks (bulldozer, cat, skidder, etc.)	25

Respondents were asked to complete a hazard rating worksheet to assess their home's fire risk rating. Results are summarized in the following table showing the percent of respondents circling each rating.

Table 2-3. Hazard Rating Worksheet Results.

Hazard	Rating	Results (%)
Fuel Hazard		
Small, light fuels (grasses, forbs, weeds, shrubs)	1	60
Medium size fuels (brush, large shrubs, small trees)	2	27
Heavy, large fuels (woodlands, timber, heavy brush)	3	13
Slope Hazard		
Mild slopes (0-5%)	1	57
Moderate slope (6-20%)	2	33
Steep Slopes (21-40%)	3	7
Extreme slopes (41% and greater)	4	2
Structure Hazard		
Noncombustible roof and noncombustible siding materials	1	25
Noncombustible roof and combustible siding material	3	46
Combustible roof and noncombustible siding material	7	10
Combustible roof and combustible siding materials	10	19

Hazard	Rating	Results (%)
Additional Factors		
Rough topography that contains several steep canyons or ridges	+2	Average 1.9 points
Areas having history of higher than average fire occurrence	+3	
Areas exposed to severe fire weather and strong winds	+4	
Areas with existing fuel modifications or usable fuel breaks	-3	
Areas with local facilities (water systems, rural fire districts, dozers)	-3	

Table 2-4 depicts the percentage of respondents in each risk category, as calculated from the hazard rating assessments.

Table 2-4. Percent of Respondents in Each Risk Category.

Risk Category	Percent of Respondents (%)
Extreme Risk = 26 + points	0
High Risk = 16–25 points	2
Moderate Risk = 7–15 points	26
Low Risk = 6 or less points	72

Respondents were asked a series of questions regarding mitigation activities they had recently done or are currently doing on their property. The first question posed whether their property had been professionally assessed for wildfire danger in the last seven years. Only 8% said that their property had been assessed. The second question inquired if they conducted a periodic fuels reduction program near their home. A majority of 54% said that they did. Respondents were also asked if livestock were grazed around their home, and 41% indicated that they were.

Finally, respondents were asked, "If offered in your area, would members of your household attend a free or low cost, one-day training seminar designed to share with homeowners how to reduce the potential for casualty loss surrounding your home?" 49% of respondents indicated a desire to participate in this type of training.

Homeowners were also asked, "How Hazard Mitigation projects should be funded in the areas surrounding homes, communities, and infrastructure such as power lines and major roads?" Responses are summarized in Table 2-5.

Table 2-5. Public Opinion of Hazard Mitigation Funding Preferences.

Projects	100% Public Funding	Cost-Share (Public & Private)	Privately Funded (Owner or Company)
Home Defensibility Projects	30%	38%	33%
Community Defensibility Projects	38%	37%	16%
Infrastructure Projects Roads, Bridges, Power Lines, Etc.	33%	6%	14%

We wish to thank all Idaho County residents completing and returning these surveys.

2.3.4 Public Meetings

Public meetings were scheduled in a variety of communities in Idaho County during the hazard assessment phase of the planning process. Public meetings were scheduled to share information on the planning process, inform details of the hazard assessments, and discuss potential mitigation treatments.

Attendees at the public meetings were asked to give their impressions of the accuracy of the information generated, and provide their opinions of potential treatments.

The initial schedule of public meetings included four locations in the county that were attended by a number of individuals on the committee and from the general public. The public meeting announcement and minutes of these meetings are on file at the Idaho County Courthouse.

2.3.5 Documenting the Review Process

Review and comment on these plans has been provided through a number of venues for the committee members and members of the general public.

During regularly scheduled committee meetings in 2005, the committee met to discuss findings, review mapping and analysis, and provide written comments on draft sections of the document. During the public meetings, attendees observed map analyses, photographic collections, and discussed general findings within the ***2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan***.

The first draft of the document was prepared after the public meetings and presented to the committee on July 14th, 2005, for a full committee review. The public review draft was released on August 18th, 2005 for a one month public review period. The final committee meeting to discuss public comments was held on October 3rd, 2005. The final adoption meeting for the ***2005 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan*** by the County Commissioners took place on October 11th, 2005.

The review process for the ***2007 Update Addendum*** occurred similarly, with the update planning committee reviewing the draft addendum on June 19th, 2007 and the public reviewing it from July 6th through July 20th, 2007.

The update planning committee for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** reviewed the document on May 15 through October 1, 2009, and the public reviewed it on October 6, 2009.

2.3.6 Continued Public Involvement

Idaho County is dedicated to involving the public directly in review and updates of the Wildfire Mitigation Plan. The Idaho County Commissioners, through the County Disaster Manager, are responsible for the annual review and update of the plan as recommended in the Chapter 5 "*Administration and Implementation Strategy*" section of this document.

The public will have the opportunity to provide feedback about the Plan annually on the anniversary of the adoption of this plan, at the meeting of the County Commissioners. Copies of the Plan will be catalogued and kept at all of the appropriate agencies in the county. The existence and location of these copies will be publicized. Instructions on how to obtain copies of the plan will be made available on the County's Internet web site. The Plan also includes the electronic and mail address, and phone number of the County Emergency Management Coordinator, responsible for keeping track of public comments on the Plan.

A public meeting will also be held as part of each annual evaluation or when deemed necessary by the *Fire Mitigation Working Group*. The meetings will provide the public a forum for which they can express concerns, opinions, or ideas about the Plan. The County Public Information Officer will be responsible for using county resources to publicize the annual public meetings and maintain public involvement through the public access channel, webpage, and newspapers.

Chapter 3: Idaho County Characteristics

3 Overview

In this Chapter, you will find descriptions of Idaho County's characteristics, including demographics, socioeconomics, cultural resources, transportation and infrastructure, vegetation and climate, ecosystems, soils, hydrology, air quality and the wildland-urban interface.

3.1 Demographics

Idaho County reported an increase in total population from 13,783 in 1990 to 15,511 in 2000 with approximately 6,089 households. Idaho County has eight incorporated communities, Grangeville (pop. 3,188), Cottonwood (pop. 999), Riggins (pop. 409), Kamiah (pop. 1,128), Kooskia (pop. 793), Stites (pop. 276), Ferdinand (pop. 143), and White Bird (pop. 106). Nearly 21% of the total county population resides in Grangeville. Unincorporated communities include Keuterville, Fenn, Greencreek, Ferdinand, Mount Idaho, Pollock, Slate Creek, Lucile, Burgdorf, Warren, Clearwater, Harpster, Elk City, Lowell, Syringa, Dixie, and Woodland. Although a large portion of the Kamiah population resides in Idaho County, the Census Bureau places Kamiah in neighboring Lewis County. The total land area of the county is roughly 8,485 square miles (5,430,323 acres). Table 3-1 summarizes relevant demographic statistics for Idaho County.

Table 3-1. Selected Demographic Statistics for Idaho County, Idaho, from Census 2000.

Subject	Number	Percent (%)
Total population	15,511	100.0
SEX		
Male, total number	7,943	51.2
Female, total number	7,568	48.8
AGE CLASS		
Under 5 years	811	5.2
5 to 9 years	939	6.1
10 to 14 years	1,271	8.2
15 to 19 years	1,258	8.1
20 to 24 years	594	3.8
25 to 34 years	1,291	8.3
35 to 44 years	2,366	15.3
45 to 54 years	2,482	16.0
55 to 59 years	904	5.8
60 to 64 years	997	6.4
65 to 74 years	1,445	9.3
75 to 84 years	879	5.7
85 years and over	274	1.8
Median age (years)	42.1	N/A
18 years and over	11,641	75.0
Male, 18 years and over	5,989	38.6
Female, 18 years and over	5,652	36.4
21 years and over	11,093	71.5
62 years and over	3,081	19.9

Subject	Number	Percent (%)
65 years and over	2,598	16.7
Male, 65 years and over	1,223	7.9
Female, 65 years and over	1,375	8.9
RELATIONSHIP		
Population	15,511	100.0
In households	14,964	96.5
Householder	6,089	39.3
Spouse	3,711	23.9
Child	4,204	27.1
Own child under 18 years	3,562	23.0
Other relatives	421	2.7
Under 18 years	208	1.3
Nonrelatives	539	3.5
Unmarried partner	314	2.0
In group quarters	547	3.5
Institutionalized population	422	2.7
Non-institutionalized population	125	0.8
HOUSEHOLDS BY TYPE		
Households	6,089	100.0
Family households (families)	4,326	71.0
With children under 18 years	1,859	30.5
Married-couple family	3,674	60.3
With own children under 18 years	1,443	23.7
Female householder, no husband present	394	6.5
With own children under 18 years	241	4.0
Nonfamily households	1,763	29.0
Householder living alone	1,518	24.9
Householder 65 years and over	700	11.5
Households with individuals under 18 years	1,998	32.8
Households with individuals 65 years and over	2,462	40.4
Average household size	2.46	N/A
Average family size	2.93	N/A
HOUSING TENURE		
Occupied housing units	6,084	100.0
Owner-occupied housing units	4,687	77.0
Renter-occupied housing units	1,397	23.0
Average household size of owner-occupied unit	2.54	N/A
Average household size of renter-occupied unit	2.18	N/A

3.2 Socioeconomics

Idaho County had 6,084 occupied housing units and a population density of 1.8 persons per square mile reported in the 2000 Census. Ethnicity in Idaho County is distributed as follows: white 94.1%, black or

African American 0.1%, American Indian or Alaskan Native 2.9%, Asian 0.3%, Hispanic or Latino 1.6%, two or more races 1.7%, and some other race 0.9%.

Specific economic data for individual communities is collected by the US Census. In Idaho County this includes Grangeville, Cottonwood, Riggins, Kamiah, Kooskia, Stites, Ferdinand, and White Bird. The Idaho County median income was $29,515. Grangeville households earn a median income of $27,984 annually, Cottonwood has a median income of $34,167, Riggins reported a median income of $20,972, Kamiah reported $21,793, Kooskia reported $20,491, Stites reported $22,386, Ferdinand reported $26,250, and White Bird reported a median of $18,558. Table 3-2 shows the dispersal of households in various income categories in Idaho County with a total number of households of 6,089.

Table 3-2. Income in Idaho County for 1999.

Income Category	Number	Percent (%)
Less than $10,000	870	14.3
$10,000 to $14,999	568	9.3
$15,000 to $24,999	1,103	18.1
$25,000 to $34,999	1,119	18.4
$35,000 to $49,999	1,175	19.3
$50,000 to $74,999	770	12.6
$75,000 to $99,999	323	5.3
$100,000 to $149,999	116	1.9
$150,000 to $199,999	19	0.3
$200,000 or more	26	0.4

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of its projects on minority or low-income populations. Data from the 2000 Census reveal that in Idaho County, 541 families, or 12.5% of the population is at or below the poverty level (Table 3-3) (Census 2000).

Table 3-3. Poverty Status in 1999.

Category	Number	Percent Below Poverty Level (%)
Families	541	12.5
With related children under 18 years	362	18.5
With related children under 5 years	144	24.3
Families with female householder, no husband present	134	34.0
With related children under 18 years	134	50.2
With related children under 5 years	51	60.7
Individuals	2,445	16.3
18 years and over	1,633	14.5
65 years and over	249	10.0
Related children under 18 years	790	21.0
Related children 5 to 17 years	600	20.1
Unrelated individuals 15 years and over	666	28.2

The unemployment rate was 5.5% in Idaho County in 1999, compared to 4.4% nationally during the same period. Approximately 14.5% of the Idaho County employed population worked in natural resources, with much of the indirect employment relying on the employment created through these natural resource

occupations. Table 3-4 depicts Census 2000 numbers and percentages of the population in each occupation and industry for a total employed civilian population 16 years and over of 5,925.

Table 3-4. Employment and Industry Distributions for Idaho County.

Occupation or Industry	Number	Percent (%)
OCCUPATION		
Management, professional, and related occupations	1,713	28.9
Service occupations	1,061	17.9
Sales and office occupations	1,285	21.7
Farming, fishing, and forestry occupations	232	3.9
Construction, extraction, and maintenance occupations	686	11.6
Production, transportation, and material moving occupations	948	16.0
INDUSTRY		
Agriculture, forestry, fishing and hunting, and mining	857	14.5
Construction	498	8.4
Manufacturing	648	10.9
Wholesale trade	177	3.0
Retail trade	758	12.8
Transportation and warehousing, and utilities	307	5.2
Information	68	1.1
Finance, insurance, real estate, and rental and leasing	231	3.9
Professional, scientific, management, administrative, and waste management services	187	3.2
Educational, health and social services	1,075	18.1
Arts, entertainment, recreation, accommodation and food services	469	7.9
Other services (except public administration)	275	4.6
Public administration	375	6.3

Approximately 59% of Idaho County's employed persons are private wage and salary workers, while around 21.9% are government workers (Table 3-5) (Census 2000).

Table 3-5. Class of Worker

Class	Number	Percent (%)
Private wage and salary workers	3,495	59.0
Government workers	1,298	21.9
Self-employed workers in own not incorporated business	1,059	17.9
Unpaid family workers	73	1.2

3.2.1 Description of Idaho County

Information summarized from the Idaho County website, www.idahocounty.org.

Idaho County is the biggest County in Idaho. It covers 8503 square miles and was established on February 4, 1864 by the first Idaho Territorial Legislature.

The area now comprising Idaho County was part of Oregon Territory from 1848 to 1859. With Oregon statehood, it became a part of Washington Territory, and, in 1863, of Idaho Territory. A law in 1875 forced changes in regards of Idaho County boundaries. Therefore, in amendment of that law, new boundaries were defined to as they are to this day.

The first non-native settlement in the new county was by gold seekers from Pierce, Idaho, who in 1861 followed the Nez Perce Trail into Elk City Basin, hopeful of finding gravel deposits that would contain gold. The hopes of miners were realized and Elk City became the pioneer settlement of the upper Clearwater country. No town existed until the following year when a local government was established.

The gold seekers trek had begun. News of discoveries in Florence reached the ears of prospectors everywhere. Thousands of men left good gravel deposits for the better promise of gold in the Idaho mountain area of Florence. By the fall of 1862 a town of tents, lean-tos and brush houses had developed into a boom town. Florence became the first county seat town.

By 1875 Mount Idaho was developing into a prosperous town. Built largely as a stop for traffic to the gold fields, it seemed destined to be a more permanent settlement than the boom towns. It won a special election in 1875 for county seat. Mining was spreading to other areas: Orogrande, Dixie, Newsome, Salmon River, Golden, Marshall Lake, Burgdorf and others. Seventeen mining districts existed at that time, according to the Bicentennial Edition of the Idaho County Free Press published in 1976.

Mining activities had slowed down before World War II and the war saw the close of the remaining operations. In years since, several have tried to reopen, but most of today's mining is done with the use of small suction-type dredges that one sees operating along streams.

While the early mining towns were drawing in gold seekers, a new kind of traffic was developing. The Pre-Emption Act of 1841 allowed any American not already owning land to buy 160 acres in the public domain and pay later $1.25 per acre. The Homestead Act of 1862 supplemented the Pre-emption Act by offering a settler 160 acres of public land for a nominal fee after five years of residence. Stages and wagons lumbered across the Prairie with passengers including families looking to settle on this land, and with entrepreneurs who knew that hotels, livery barns, saloons, blacksmith shops, stores, real estate firms and other businesses would be needed and would provide a profitable living.

While land was available in some areas, land on the Nez Perce Reservation was not open to the settlers until the government concluded a treaty with the Nez Perce Tribe ceding a part of their land to the Federal Government. The opening up of the land gave rise to the growth of agriculture. Many who had come into the State to search for gold remained to take up land, finding their gold in the rich soil and favorable climatic conditions. By 1864, ranches were scattered over the Prairie and along the rivers.

In 1905 at Portland and again in 1909 at Seattle, the Idaho County exhibit of grains and grasses won the Gold Medal in competition with several other states. Raising livestock began almost simultaneously with the tilling of the soil. Mountains, valleys, river breaks and high plateaus afforded fine grazing land. Cattle, horses, sheep and swine were raised. To breed better horses, the pioneers shipped studs from the East.

Idaho County did not escape the wars on ranges between the sheep men and the cattlemen in the early 1900's. The USDA Forest Service stepped in to help control the range. The first passenger train whistled into Grangeville on the Camas Prairie Railroad in 1908 and the present State Cattle Association was organized in the 1920's. Idaho County organized its Association in 1958. Hereford and Aberdeen-Angus eventually became the main breeds of beef cattle.

Following the War, the growth of Grangeville brought another change in county seat. An election gave it to the fast growing town where it has remained 87 years. By 1937, a North-South highway from Bonners Ferry to Boise was completed and all except two small stretches were oiled.

The timber industry developed as an economic asset to the County. In the 1940's this industry began to develop on a full scale. While sawmills, mostly privately owned, were built earlier to produce lumber chiefly for home building, it was the huge demand for timber after World War II that made timber production a leading industry. Potlatch Forest Inc. began cutting on the first major site on the Nez Perce

National Forest in 1944 in the Meadow Creek-Cougar Creek area. Within two years, 75 million board feet had been taken out of the area.

While mining as an economic asset to the county was short lived, it gave the county its economic beginning and contributed sporadically to the economy throughout its developing years. Forestry and the timber industry, farming and ranching remain the lifeblood of the county, invigorated in recent years by the growth of tourism as a lucrative industry.

RECREATION

Idaho County has many outstanding tourism and recreational facilities. The county offers a full panorama of recreational opportunities ranging from jet boating the Snake, Salmon, or Clearwater Rivers to skiing at the Snowhaven Ski Lodge.

The economic impacts of these activities to the local economy and the economy of Idaho have not been enumerated. However, they are substantial, given the many months of the year that activities take place and the large numbers of visitors that travel to this location.

CLEARWATER NATIONAL FOREST

Part of Idaho's *Big Wild*, the Clearwater National Forest covers 1.8 million acres from the jagged peaks of the Bitterroot Mountains in the east to the river canyons and the rolling hills of the Palouse Prairie in the west.

The North Fork of the Clearwater and the Lochsa Rivers provide miles of tumbling white water interspersed with quiet pools for migratory and resident fish. The mountains provide habitat for elk, moose, whitetail and mule deer, black bear, gray wolf, cougar, mountain goats, and many smaller mammals.

The ridges between the deep canyons have provided travel corridors across the mountains for centuries. These routes were used by the Nez Perce Indians and, in 1805-1806, the Lewis and Clark Expedition. Today the main travel route is U.S. Highway 12, following the dramatic canyon of the Middle Fork of the Clearwater River and its tributary the Lochsa River. Many developed camping and picnicking facilities are located along the Highway 12 corridor in addition to the vast recreational resources offered throughout the Forest.

NEZ PERCE NATIONAL FOREST

The Nez Perce National Forest consists of 2.2 million acres of beautiful and diverse land, and is located in the heart of north-central Idaho. It stretches from the Oregon border on the west to the Montana border on the east; and is roughly bounded by the Selway River drainage on the north to the Salmon River on the south. It is located entirely within Idaho County and comprises approximately 50% of the entire county land base.

From the dry, rugged canyons of the Salmon River to the moist cedar forests of the Selway drainage, the Forest offers something for everyone. This vast, diverse area is managed to provide a variety of goods and services including breathtaking scenery, wilderness, wildlife, fisheries, timber harvest, livestock grazing, mining, pristine water quality and a wide array of recreational opportunities.

The Forest is best known for its wild character. Nearly half of the Forest is designated wilderness. It also sports two rivers popular with thrill-seeking floaters—the Selway and the Salmon. Camping, picnicking, hiking, horseback riding, and four-wheeling opportunities abound, many of which are easily access from paved or well maintained roads.

PAYETTE NATIONAL FOREST

The Payette National Forest extends into Idaho County from the south and is roughly bounded by the Main Salmon River drainage to the north. The forest encompasses a large portion of the Frank Church

River of No Return Wilderness Area in the southeastern region of the county. This is one of Idaho's most remote and scenic locations.

The communities of Burgdorf and Warren are encompassed by Payette National Forest lands. There are many recreational opportunities afforded in this more accessible part of the forest. Homes, summer cabins, and vacation rentals have been built along the Warren Wagon Road corridor. The USDA Forest Service has developed and currently maintains several campsites in addition to a number of undeveloped campsites. There are also a multitude of trails and historical sites accessible by vehicle, ATV, horseback, or by foot.

BITTERROOT NATIONAL FOREST

A small portion of the Bitterroot National Forest crosses into Idaho County from Montana. Most of the Idaho County portion of the Forest is designated as either the Frank Church River of No Return or Selway Bitterroot Wilderness. The Magruder Corridor Road from either Elk City or Darby, Montana has been described as "one of the wildest roads in the United States". Perfect for four-wheeling and mountain biking, this scenic route forms the boundary between the Selway Bitterroot Wilderness to the north and the Frank Church River of No Return Wilderness to the south. There are also several hiking and horseback trails in this area.

WILDERNESS AREAS

The Gospel Hump, Hells Canyon, Selway-Bitterroot, and Frank Church River of No Return Wilderness Areas make up a large portion of the Idaho County land base. Wilderness areas are loosely defined as areas over 5,000 acres that have retained their primeval character. Although no motorized equipment is allowed in the wilderness areas, the recreational opportunities afforded by these pristine areas are great. Camping, hiking, horseback riding, fishing, hunting, wildlife viewing, and many other activities are enjoyed throughout the counties designated wilderness areas.

BOATING

Boating is a very popular activity in Idaho County. The Snake, Salmon, and Clearwater Rivers along with many of their tributaries offer excitement for various types of boaters and recreational users during the warmer months. Riggins is well known as "The Whitewater Capital of the World" due to the boundless rafting and kayaking opportunities available. Boat ramps, docks, and other facilities are conveniently located at several access points along the rivers' banks.

CAMPING

Camping is another popular activity enjoyed by the residents of Idaho County. The Clearwater and Nez Perce National Forests provide many developed and undeveloped campsites. The amenities vary from full RV hookup to only a cleared tent site. There are also numerous RV parks closer to populated areas.

FISHING AND HUNTING

Fishing and hunting is very important to Idaho County both from a recreational standpoint and as an economic resource. A wide variety of fish can be caught in Idaho County including: trout, salmon, sturgeon, bass, catfish, crappie, perch, and pike. The river systems and many of the stocked lakes and mountain lakes provide excellent fishing.

For those who prefer a gun or bow to a fly rod, Idaho County offers a bounty of hunting experiences. Wild birds and game, like deer, elk, bear, mountain lion, pheasant, quail, partridge, chukar, grouse, wild duck, geese, and doves are found in abundance.

WINTER SPORTS

For those people who enjoy winter sports, Idaho County has a variety of activities to interest them. Cross-country and downhill skiers will be exhilarated by the hills and trails at the Snowhaven Ski Lodge.

Snowmobilers are not left out as hundreds of miles of designated snowmobile trails attract many local and out of town thrill seekers.

RESOURCE DEPENDENCY

Over the past century, employment through agricultural farming, timber harvesting, and livestock ranching has been significant in the region. Forestry, logging, trucking, and related support industries have relied on timber harvests from this region. Livestock ranching has been and continues to be an important component of the economy of Idaho County. Livestock grazing in Idaho and surrounding counties has provided stable employment while serving to keep rangelands and forestlands alike maintained at a lower wildfire risk than if they had not been present and grazed.

Agriculture and timber processing have historically been important to Idaho County and the State. Winter wheat is the leading cash crop, accounting for more than half of the gross income from all crops produced in the county. Peas, barley, oats, grass seed, canola, and hay are the other major crops. The forest products industry provides a significant portion of the economic base for Idaho County.

The communities of Idaho County have been evaluated by the University of Idaho College of Natural Resources Policy Analysis Group (PAG) for the degree of natural resource dependency each community experiences.

Idaho communities with more than 10% employment in resource-based sectors (wood products, travel and tourism, agriculture, and mining) were evaluated by Harris *et al.* (2003). Their findings indicate the travel, tourism, agriculture, and wood products as the predominant resources in the County (Harris *et al.* 2000) (Table 3-6).

Table 3-6. Predominant Resource by City

City	Predominant Resource
Cottonwood	Travel & Tourism and Agriculture
Grangeville	Travel & Tourism Only
Riggins	Travel & Tourism and Agriculture
Kamiah	Wood Products and Travel & Tourism
Kooskia	Wood Products and Agriculture

From 1993 to 1998, sawmill capacity dropped rapidly in response to dwindling public log supplies. The Ida-Pine Mill (large employer) was located in Grangeville but closed in the late 1990's, and Bennett Forest Industries has relocated their planer and kiln operations to that same site. Bennett Forest Industries closed its mill at Elk City and relocated all operations to Grangeville. The Three Rivers Mill located in Kamiah (Lewis-Idaho County lines) closed. Clearwater Forest Industries is located outside of Kooskia and continues to operate. A number of small log processors are scattered across the county.

In north central Idaho, Potlatch Corporation's Jaype mill in Pierce closed in 2002, and its Lewiston plant has been steadily reducing employees. Other recent closings of Idaho mills have occurred in Coeur d'Alene, Boise, and Grangeville, and in Baker, Oregon (Harris *et al.* 2000).

Harris *et al.* (2003) further evaluated Idaho communities based on their level of direct employment in several industrial sectors. Their findings for communities in Idaho County are summarized in Table 3-7.

Table 3-7. Levels of Direct Employment by Industrial Sector.

Community	Economic Diversity Index	Agriculture	Timber	Travel and Tourism	State and Local Government	Federal Government	Mining and Minerals
Cottonwood	Med. High	Med. High	Low	Med. High	High	Low	Low
Grangeville	High	Med. Low	Med. Low	Med. High	Med. High	Med. High	Low
Riggins	Med. High	Med. High	Low	High	Med. High	Med. High	Low
Kamiah	Med. High	Med. Low	High	Med. High	Med. High	Low	Low
Kooskia	Med. High	High	High	Med. Low	Med. High	Low	Low

A "low" level of direct employment represents 5% or less of total employment in a given sector; "med. low," 6 to 10%; "med. high" 11 to 19%; and "high" 20% or more of total employment in a given sector.

3.3 Cultural Resources

Cultural resource impacts were qualitatively assessed through a presence/absence determination of significant cultural resources and mitigation measures to be employed during potential fire mitigation activities such as thinning and prescribed fire.

The United States has a unique legal relationship with Indian tribal governments defined in history, the U.S. Constitution, treaties, statutes, Executive Orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependant nations under its protection. The Federal Government has enacted numerous regulations that establish and define a trust relationship with Indian tribes.

The relationship between Federal agencies and sovereign tribes is defined by several laws and regulations addressing the requirement of Federal agencies to notify or consult with Native American groups or otherwise consider their interests when planning and implementing Federal undertakings, among these are:

- **EO 13175, November 6, 2000**: Consultation and Coordination with Indian Tribal Governments.
- **Presidential Memorandum, April 1994**: Government-to-Government Relations with Tribal Governments (Supplements EO 13175). Agencies must consult with federally recognized tribes in the development of Federal Policies that have tribal implications.
- **EO 13007, Sacred sites, May 24, 1996**: Requires that in managing Federal lands, agencies must accommodate access and ceremonial use of sacred sites and must avoid adversely affecting the physical integrity of these sites.
- **EO 12875, Enhancing Intergovernmental Partnerships, October 26, 1993**: Mainly concerned with unfunded mandates caused by agency regulations. Also states the intention of establishing "regular and meaningful consultation and collaboration with state, local, and tribal governments on matters that significantly or uniquely affect their communities."
- **Native American Graves Protection and Repatriation Act (NAGPRA) of 1989**: Specifies that an agency must take reasonable steps to determine whether a planned activity may result in the excavation of human remains, funerary objects, sacred objects and items of cultural patrimony from Federal lands. NAGPRA also has specified requirements for notifying and consulting tribes.
- **Archaeological Resources Protection Act (ARPA), 1979**: Requires that Federal permits be obtained before cultural resource investigations begin on Federal land. It also requires that investigators consult with the appropriate Native American tribe prior to initiating archaeological studies on sites of Native American origin.

- **American Indian Religious Freedom Act (AIRFA), 1978**: Sets the policy of the United States to protect and preserve for Native Americans their inherent rights of freedom to believe, express, and exercise the traditional religions of the American Indian ...including, but not limited to access to sacred sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.
- **National Environmental Policy Act (NEPA), 1969**: Lead agency shall invite participation of affected Federal, State, and local agencies and any affected Indian Tribe(s).
- **National Historic Preservation Act (NHPA), 1966**: Requires agencies to consult with Native American tribes if a proposed Federal action may affect properties to which they attach religious and cultural significance (Bulletin 38 of the Act).
- **Treaties (Supreme Law of the Land):** Tribes were reserved certain rights for hunting, fishing and gathering and other stipulations of the treaty.
- **Unsettled Aboriginal Title to the Land, Un-Extinguished Rights of Tribes.**

3.3.1 Nez Perce Indian Reservation

The Nez Perce people belong to the Sahaptin linguistic group of the Northwest Plateau Region. At one time, they occupied an area that covered North Central Idaho, Northeastern Oregon, and Southeastern Washington. The 1855 Treaty reserved most of their ancestral homelands. However, the discovery of gold in the 1860s led to the Treaty Council of 1863, and the adjustment of the boundaries of the Reservation. The Reservation was reduced by seven million acres, leaving the Nez Perce with 757,000 acres. Several of the Nez Perce (the "Non-Treaty Nez Perce") refused to sign this treaty. The government attempted to force their compliance in 1877. A war resulted ending in a surrender at Bear Paw, Montana, following a 1,700 mile, four-month fighting retreat by these Nez Perce toward Canada. The Dawes General Allotment Act of 1877 followed, whereby the remaining land was distributed within the tribe. Then in 1893, the Nez Perce were pressured into signing an agreement in which all un-allotted land was declared "surplus" and sold to the Government for homesteading. The result of the Dawes Act was a Nez Perce Reservation reduced to about 86,500 acres, less than 12% of the 1863 Treaty lands. In 1948, the Nez Perce Tribe became a self-governing body under an approved constitution and by-laws. The Nez Perce Tribal Executive Committee is composed of nine members distributed geographically throughout the reservation.

3.3.2 National Register of Historic Places

The National Park Service (NPS) maintains the National Register of Historical Places as a repository of information on significant cultural locale. These may be buildings, roads, or trails, places where historical events took place, or other noteworthy sites. The NPS has recorded sites in its database, and those sites located in Idaho County, Idaho are summarized in Table 3-8.

Table 3-8. National Register of Historic Places in Idaho County, Idaho.

Item Number	Resource Name	Address	City	Listed	Architect, Builder, or Engineer
1	**Ah Toy Garden**	Along China Creek near junction with South Fork Salmon River, Payette National Forest	Warren	1990	
2	**Elk City Wagon Road-Victory Gulch--Smith Grade Segment**	Nez Perce National Forest	Elk City	2001	
3	**Fenn Ranger Station**	Selway Road 223 near Johnson Creek, Nez Perce National Forest	Kooskia	1990	Fox, William

Item Number	Resource Name	Address	City	Listed	Architect, Builder, or Engineer
4	**First Presbyterian Church**	Southeast of Kamiah on U.S. 12	Kamiah	1976	
5	**Florence**	Northeast of Riggins	Grangeville	1971	
6	**Foster, Blacky, House**	Along Salmon River, West of Shoup	Shoup	1992	
7	**Gold Point Mill**	Forest Service Road 222	Elk City	2000	
8	**Grangeville Savings and Trust**	State and Main Streets	Grangeville	1989	Nave, James H.
9	**Hells Canyon Archeological District**	Address Restricted	Riggins	1984	
10	**Lochsa Historical Ranger Station**	Address Restricted	Kooskia	1978	USDA Forest Service
11	**Lower Salmon River Archeological District**	Address Restricted	Cottonwood	1986	
12	**McBeth, Sue, Cabin**	Southeast of Kamiah on U.S. 12	Kamiah	1976	
13	**Meinert Ranch Cabin**	1.8 mile Southwest of Red River Hot Springs on Red River-Beargrass Road Number 234	Elk City	1987	Meinert, Emma, Meinert, Irad
14	**Moore, Jim, Place**	Salmon River Canyon	Dixie	1978	
15	**Moose Creek Administrative Site**	East side of Moose Creek, South of Whistling Pig Creek, Nez Perce National Forest	Grangeville	1990	Parsell, Jack
16	**O'Hara House**	East of Kooskia off U.S. 12	Kooskia	1991	
17	**Old China Trail**	Along China Creek near junction with South Fork Salmon River, Payette National Forest	Warren	1990	
18	**Arctic Point Fire Lookout**	North of Big Creek, Idaho Primitive Area, Payette National Forest	Big Creek	1994	
19	**Bemis, Polly, House**	Accessible on Salmon River via boat	Riggins	1988	Klinkhammer, Peter, Shepp, Charlie
20	**Aitken Barn**	Southwest of Riggins on US 95	Riggins	1982	Aitken, Stewart, Aitken, Jim
21	**Blue Fox Theatre**	116 W. Main St	Grangeville	1999	
22	**Burgdorf**	About 15 miles West of Warren	Warren	1972	
23	**Carey Dome Fire Lookout**	Nez Perce National Forest, 9 miles North of USDA Forest Service Burgdorf Guard Station	Burgdorf	1994	
24	**Celadon Slope Garden**	Along China Creek near junction with South Fork Salmon River, Payette National Forest	Warren	1990	
25	**Chi-Sandra Garden**	Along China Creek near junction with South Fork Salmon River, Payette National Forest	Warren	1990	
26	**Chinese Cemetery**	Payette National Forest, 0.5 miles Northwest of Warren Wagon Road	Warren	1994	
27	**Chinese Mining Camp Archeological Site**	Northwest of Warren, Payette National Forest	Warren	1994	

Item Number	Resource Name	Address	City	Listed	Architect, Builder, or Engineer
28	**Cold Meadows Guard Station**	Northeast of McCall, Frank Church-River of No Return Wilderness, Payette National Forest	McCall	1994	
29	**Riggins Motel**	615 South Idaho 95	Riggins	2001	Rowe, Leonard
30	**St. Gertrude's Convent and Chapel**	West of Cottonwood	Cottonwood	1979	Gier, Englebert
31	**State Bank of Kooskia**	1 S. Main St	Kooskia	1978	Trenary, George, Loring, Ralph
32	**Warren Guard Station, Building 1206**	Southwest side, Warren Wagon Road, Forest Highway 21	Warren	1994	CCC, USFS
33	**White Bird Battlefield**	North of White Bird off U.S. 95	White Bird	1974	
34	**White Bird Grade**	Northeast of White Bird	White Bird	1974	
35	**Wylies Peak Lookout**	Nez Perce National Forest	Grangeville	1983	
36	**East Kamiah--Site 15**	Southeast of Kamiah	Kamiah	1974	

Fire mitigation activities in and around these sites has the potential to affect historic places. In all cases, the intention of the fire mitigation work would be reduced potential of damaging the site due to wildfire. Areas where ground disturbance would occur would need to be inventoried depending on the location. Such actions may include, but are not limited to, constructed fire lines (hand line, mechanical line, etc.), new roads to creeks to fill water tankers, mechanical treatments, etc. Only those burn acres that may affect cultural resources that are sensitive to burning (i.e., buildings, peeled bark trees, etc.) would be examined. Burns over lithic sites are not expected to have an impact on those sites, as long as the fire is of low intensity and short duration. Areas with heavy vegetation may need to be examined after the burn to locate and record any cultural resources although this potential discovery is expected to be minimal. Traditional Cultural Properties (TCPs) will also need to be identified. Potential effects to TCPs will depend on what values make the property important and would be assessed on an individual basis.

3.4 Transportation & Infrastructure

Primary access to and from Idaho County is provided by US 95, a two-lane highway which traverses the county from the southwestern corner (near Pollock), through Grangeville, then Ferdinand, where it exits the county on the northwestern side. This access is the only primary route connecting north and south Idaho. U.S. Highway 12, part of the Lewis and Clark Trail, travels from the very northeastern corner near Lolo Pass, down the Lochsa River and Middle Fork of the Clearwater River, and then exits the County at Kamiah. This narrow, windy paved route is notorious for being dangerous during adverse weather conditions. State Highway 13 is a narrow and windy two-lane highway connecting Grangeville to Kooskia via the South Fork of the Clearwater River corridor. Although this path is relatively well-maintained, emergency evacuation along this route could potentially be dangerous due to the slower nature of travel, sharp corners, and the steepness of the Harpster Grade portion. State Route 14 is the only paved pathway connecting the community of Elk City to Grangeville and Kooskia. This path follows the South Fork of the Clearwater River corridor all the way from Elk City to its junction with State Route 13 near Harpster. Although this roadway is very narrow and windy, it functions as the primary escape route for residents or tourists in the Dixie, Orogrande, and Elk City vicinities. State Route 162 is the easiest and quickest access to the Camas Prairie from the Kamiah area. It is likely that this roadway would serve as the primary evacuation route in the event of a fire occurrence in the Clearwater River canyon.

Smaller roads maintained by the County, the USDA Forest Service, or private entities provide access to the adjoining areas within the county, including the communities of Dixie, Burgdorf, Warren, Keuterville, Woodland, and Greencreek. A variety of trails and closed roads are found throughout the region.

Almost all of the roads in the county were originally built to facilitate logging and farming activities. As such, these roads can support timber harvesting equipment, logging trucks, and firefighting equipment referenced in this document. However, many of the new roads have been built for home site access, especially for new sub-divisions. In most cases, these roads are adequate to facilitate firefighting equipment as they adhere to County road standards. County road standards and building guidelines for new developments should be adhered to closely to ensure this tendency continues.

Transportation networks in the county have been challenged by a number of communities with only one, two, or three access points suitable for use during an emergency. The community of Elk City is a prime example. Other communities that may be at risk because of limited access include Dixie, Burgdorf, Warren, Clearwater, Tahoe Ridge/Big Cedar, Lowell, and Woodland.

Idaho County has both significant infrastructure and unique ecosystems within its boundaries. Of note for this Wildfire Mitigation Plan are the existence of the only state highway route connecting north and south Idaho (US Highway 95) and the presence of high-tension power lines supplying the communities of Nez Perce, Lewis, Valley, Clearwater, and Adams Counties.

3.5 Vegetation & Climate

Vegetation in Idaho County is a mix of forestland and agricultural ecosystems. An evaluation of satellite imagery of the region provides insight to the composition of the vegetation of the area. The full extent of the county was evaluated for cover type as determined from Landsat 7 ETM+ imagery in tabular format as shown in Table 3-9.

The most represented vegetated cover type is Douglas-fir at approximately 12% of the total area. The next most common vegetation cover type represented is a mixed mesic forest at 11%. Lodgepole pine represents approximately 10% of the total area (Table 3-9).

Table 3-9. Vegetative Cover Types in Idaho County.

Vegetative Cover Type	Acres	Percent of County's Total Area (%)
Douglas-fir	625,561	12
Mixed Mesic Forest	593,530	11
Lodgepole Pine	534,486	10
Mixed Subalpine Forest	497,474	9
Warm Mesic Shrubs	385,373	7
Ponderosa Pine	335,098	6
Grand Fir	310,087	6
Subalpine Fir	237,000	4
Agricultural Land	191,270	4
Mixed Xeric Forest	187,325	3
Western Red Cedar/Grand Fir Forest	160,144	3
Douglas-fir/Grand Fir	159,717	3
Montane Parklands and Subalpine Meadow	151,558	3
Douglas-fir/Lodgepole Pine	150,071	3
Exposed Rock	116,435	2
Foothills Grassland	113,395	2
Herbaceous Burn	77,107	1
Western Red Cedar	74,283	1
Engelmann Spruce	54,728	1
Perennial Grass Slope	54,422	1

Vegetative Cover Type	Acres	Percent of County's Total Area (%)
Western Larch/Douglas-fir	52,121	1
Mixed Barren Land	38,240	1
Subalpine Pine	37,645	1
Western Larch/Lodgepole Pine	32,765	1
Basin & Wyoming Big Sagebrush	24,203	Less than 1
Curlleaf Mountain Mahogany	22,777	Less than 1
Shrub Dominated Riparian	21,406	Less than 1
Needle leaf Dominated Riparian	18,906	Less than 1
Graminiod or Forb Dominated Riparian	18,371	Less than 1
Cloud Shadow	16,639	Less than 1
Disturbed Grassland	15,748	Less than 1
Mixed Needle leaf/Broadleaf Forest	14,434	Less than 1
Mixed Whitebark Pine Forest	14,393	Less than 1
Water	13,126	Less than 1
Cloud	12,777	Less than 1
Western Larch	10,936	Less than 1
Perennial Ice or Snow	10,421	Less than 1
Cottonwood	8,976	Less than 1
Mountain Big Sagebrush	7,211	Less than 1
Bitterbrush	6,468	Less than 1
Subalpine fir/Whitebark Pine	5,626	Less than 1
Mixed Riparian (Forest and Non-Forest)	5,604	Less than 1
Broadleaf Dominated Riparian	4,925	Less than 1
Needle leaf/Broadleaf Dominated Riparian	2,828	Less than 1
Herbaceous Clear-cut	2,066	Less than 1
Urban	1,543	Less than 1
Alpine Meadow	1399	Less than 1
Disturbed, High	1,156	Less than 1
Wet Meadow	1,151	Less than 1
Low Sagebrush	927	Less than 1
Burnt, Standing Timber	912	Less than 1
Shoreline and Stream Gravel Bars	804	Less than 1
Mesic Upland Shrubs	663	Less than 1
Black Sagebrush Steppe	634	Less than 1
Perennial Grassland	571	Less than 1
Low Intensity Urban	227	Less than 1
Shallow Marsh	164	Less than 1
Wyoming Big Sagebrush	157	Less than 1
Disturbed, Low	153	Less than 1
Deep Marsh	151	Less than 1
Mixed Non-forest Riparian	21	Less than 1
Total Area	**5,438,311**	**100**

Vegetative communities within the county follow the strong moisture and temperature gradient related to the major river drainages. Limited precipitation and steep slopes result in a relatively arid environment in

the southwestern portion of the county, limiting vegetation to drought-tolerant plant communities of grass and scrublands, with scattered clumps of ponderosa pine and Douglas-fir at the higher elevations. As moisture availability increases, so does the abundance of conifer species, with subalpine forest communities present in the highest elevations where precipitation and elevation provide more available moisture during the growing season.

3.5.1 Monthly Climate Summaries in Idaho County

KOOSKIA, IDAHO (105011)

Period of Record Monthly Climate Summary

Period of Record: 11/16/1908 to 8/31/1987

Table 3-10. Climate Records for Kooskia, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	37.5	45.6	55.2	64.8	73.5	81.1	91.6	90.8	80.0	65.2	47.3	39.0	64.3
Average Min. Temperature (F)	21.3	26.2	30.3	35.8	41.9	48.2	51.3	49.4	42.8	35.8	29.5	24.6	36.4
Average Total Precipitation (in.)	1.98	1.70	2.34	2.69	2.93	2.50	0.88	0.97	1.64	2.21	2.38	2.02	24.2
Average Total Snowfall (in.)	9.8	3.9	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	1.9	6.4	23.6
Average Snow Depth (in.)	2	1	0	0	0	0	0	0	0	0	0	1	0

Percent of possible observations for period of record. Max. Temp.: 96.7% Min. Temp.: 96.6% Precipitation: 98.3% Snowfall: 97.5% Snow Depth: 95.2%

FENN RANGER STATION, IDAHO (103143)

Period of Record Monthly Climate Summary

Period of Record 8/ 1/1948 to 3/31/2004

Table 3-11. Climate Records for the Fenn Ranger Station, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	35.7	42.7	51.1	61.2	70.3	78.0	88.6	88.5	76.4	60.5	44.7	36.8	61.2
Average Min. Temperature (F)	23.5	26.9	30.5	35.4	41.6	47.7	51.5	50.4	44.3	36.8	30.8	25.8	37.1
Average Total Precipitation (in.)	4.73	3.49	3.65	3.63	3.44	3.02	1.05	1.24	2.11	2.91	4.50	4.27	38.03
Average Total Snowfall (in.)	18.0	8.8	3.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	4.7	14.5	49.6
Average Snow Depth (in.)	7	6	1	0	0	0	0	0	0	0	0	3	1

Percent of possible observations for period of record. Max. Temp.: 96.7% Min. Temp.: 96.5% Precipitation: 98% Snowfall: 96.1% Snow Depth: 95.2%

COTTONWOOD, IDAHO (102159)

Period of Record Monthly Climate Summary

Period of Record 2/ 3/1950 to 3/31/2004

Table 3-12. Climate records for Cottonwood, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	35.3	39.7	46.9	54.2	61.4	69.2	78.0	79.6	70.4	57.5	41.9	35.2	55.8
Average Min. Temperature (F)	23.3	25.9	30.2	35.2	41.3	47.9	54.3	54.6	47.4	38.2	28.7	23.0	37.5
Average Total Precipitation (in.)	1.86	1.51	1.86	2.36	3.05	2.44	1.48	1.11	1.25	1.49	2.09	1.78	22.28
Average Total Snowfall (in.)	12.4	3.9	5.0	1.9	0.2	0.0	0.0	0.0	0.0	0.2	3.3	13.5	40.5
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record. Max. Temp.: 47.3% Min. Temp.: 46.4% Precipitation: 50.3% Snowfall: 37.6% Snow Depth: 31.7%

GRANGEVILLE, IDAHO (103771)

Period of Record Monthly Climate Summary

Period of Record 8/ 1/1948 to 3/31/2004

Table 3-13. Climate Records for Grangeville, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	36.8	42.3	48.3	56.0	64.1	71.5	81.8	81.8	72.1	59.2	44.8	37.9	58.0
Average Min. Temperature (F)	21.3	24.5	27.7	32.9	39.3	45.6	50.4	49.6	42.3	34.6	27.9	22.6	34.9
Average Total Precipitation (in.)	1.57	1.29	2.18	2.77	3.43	2.88	1.27	1.15	1.68	1.91	1.83	1.58	23.53
Average Total Snowfall (in.)	10.8	7.3	8.5	3.4	0.4	0.0	0.0	0.0	0.0	1.3	6.0	11.4	49.1
Average Snow Depth (in.)	3	2	1	0	0	0	0	0	0	0	1	2	1

Percent of possible observations for period of record. Max. Temp.: 98.3% Min. Temp.: 98.2% Precipitation: 98.7% Snowfall: 87% Snow Depth: 95.1%

ELK CITY RANGER STATION, IDAHO (102875)

Period of Record Monthly Climate Summary

Period of Record 12/1/1950 to 3/31/2004

Table 3-14. Climate records for Elk City Ranger Station, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	34.4	41.0	46.1	53.3	62.4	70.9	80.9	81.2	72.7	59.3	42.5	34.2	56.6
Average Min. Temperature (F)	11.4	14.3	18.8	26.0	32.8	39.0	40.8	38.6	32.2	26.4	20.6	12.6	26.1
Average Total Precipitation (in.)	3.50	2.48	2.66	2.58	2.99	3.07	1.50	1.42	1.67	2.21	3.02	2.91	30.03
Average Total Snowfall (in.)	32.0	19.0	21.2	10.0	2.2	0.0	0.0	0.0	0.0	2.5	16.3	26.1	129.4
Average Snow Depth (in.)	17	19	15	3	0	0	0	0	0	0	2	8	5

Percent of possible observations for period of record. Max. Temp.: 91.3% Min. Temp.: 91.1% Precipitation: 93.3% Snowfall: 92.5% Snow Depth: 91.5%

RIGGINS, IDAHO (107706)

Period of Record Monthly Climate Summary

Period of Record 1/ 1/1940 to 3/31/2004

Table 3-15. Climate Records for Riggins, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	41.7	49.4	57.3	65.9	74.1	81.5	92.4	92.4	81.7	67.5	50.9	42.5	66.5
Average Min. Temperature (F)	27.7	30.9	34.6	39.5	45.9	52.4	58.3	57.9	50.5	41.9	34.5	29.3	41.9
Average Total Precipitation (in.)	1.22	1.10	1.59	1.74	2.20	1.91	0.82	0.80	1.12	1.32	1.52	1.37	16.70
Average Total Snowfall (in.)	2.9	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0	7.0
Average Snow Depth (in.)	1	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record. Max. Temp.: 93.7% Min. Temp.: 93.7% Precipitation: 95.5% Snowfall: 90.5% Snow Depth: 73%

WARREN, IDAHO (109560)

Period of Record Monthly Climate Summary

Period of Record 9/ 1/1959 to 3/31/2004

Table 3-16. Climate Records for Warren, Idaho (Idaho County).

Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.3	38.9	43.1	49.0	58.2	67.4	77.0	76.5	67.2	55.5	40.0	32.5	53.2
Average Min. Temperature (F)	6.8	9.1	13.3	20.3	27.5	33.1	35.8	34.3	28.7	23.1	16.0	8.1	21.4
Average Total Precipitation (in.)	2.95	1.93	2.39	2.27	2.53	2.52	1.23	1.29	1.47	2.05	2.58	2.64	25.85
Average Total Snowfall (in.)	34.4	22.2	24.8	14.0	5.7	0.8	0.0	0.0	0.8	5.3	21.6	31.9	161.4
Average Snow Depth (in.)	27	33	33	20	3	0	0	0	0	0	4	15	11

Percent of possible observations for period of record. Max. Temp.: 98.6% Min. Temp.: 98% Precipitation: 96.2% Snowfall: 97.8% Snow Depth: 95.6%

3.6 Ecosystems

Idaho County is a diverse ecosystem with a complex array of vegetation, wildlife, and fisheries that have developed with and adapted to fire as a natural disturbance process. A century of wildland fire suppression coupled with past land-use practices (primarily timber harvesting) has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. In addition, invasive weed species pose threats to natural ecosystems, especially the rangelands of Idaho County. These effects are especially challenging where plant composition has been substantially altered as a response to wildfires occurring beyond the natural range of variability. As a result, forests and rangelands in Idaho County have become more susceptible to large-scale, high intensity fires posing a threat to life, property, and natural resources including wildlife and special status plant populations and habitats. High-intensity, stand-replacing fires have the potential to seriously damage soils and native vegetation. In addition, an increase in the number of large high intensity fires throughout the nation's forest and rangelands has resulted in significant safety risks to firefighters and higher costs for fire suppression (House of Representatives, Committee on Agriculture, Washington, DC, 1997).

3.7 Soils

There are various soil types in the Idaho County area. Two major soil divisions are found:

1. Thirty-four percent of the land area (mainly in the northern portions of the survey area and at the lower elevations around Elk City) have a clayey subsoil that formed in loess or a loamy subsoil that formed in weathered basalt or granite and is used mainly for dry land crops and woodland.
2. Sixty-six percent of the land area (mainly on canyon walls and mountains) was formed in loess and weathered basalt and granite and is used mainly for grazing and woodland.

Our soil resource is an extremely important component for maintaining a healthy ecosystem and economy. Fire can play an intricate role in this process, if it occurs under normal conditions of light fuels associated with low intensity under burns. However, the buildup of fuels and consequent high severity fires can cause soils to become water repellent (hydrophobic), and thus greatly increase the potential for overland flow during intense rains. Soil in degraded conditions does not function normally, and will not be able to sustain water quality, water yield, or plant communities that have normal structure,

composition, and function. Fire is also strongly correlated with the carbon-nutrient cycles and the hydrologic cycle. Fire frequency, extent, and severity are controlled to a large degree by the availability of carbon, as well as the moisture regime (Quigley & Arbelbide 1997).

Soils were evaluated for their propensity to become hydrophobic during and after a fire as evidenced by the presence of clay and clay derivatives (e.g., clay loam) in the upper soil layers. In addition, their permeability and tendency to allow runoff to infiltrate the soil rapidly was evaluated. In general, with notable exceptions, the majority of the area within Idaho County has highly variable clay content in the Bt horizon. Much of the area has little to no reported clay content in the A horizon with a silt loam or cobbly loam present. On average, these soils are well drained with moderate permeability.

Low to moderate intensity fires would be not be expected to damage soil characteristics in the region, especially if the hotter fires in this range were limited to small extents associated with jackpots of cured fuels. Hot fires providing heat to the Bt horizon substrate depth have the potential to create hydrophobic characteristics in that layer. This can result in increased overland flow during heavy rains, following wildfire events, potentially leading to mass wasting. Rocky and gravelly characteristics in the A horizon layer would be expected to be displaced, while the silty and loamy fines in these soils may experience an erosion and displacement potential. These soils will experience the greatest potential impacts resulting from hot fires that burn for prolonged periods (especially on steep slopes).

The National Resource Conservation Service (NRCS) has mapped a large portion of Idaho County in detail. Idaho County has been split into two soil survey areas. Please refer to the Idaho County NRCS Soil Survey Report available at http://www.or.nrcs.usda.gov/pnw_soil/id_reports.html to view each soil unit in the County and the associated characteristics relating to the effects of wildland fire.

3.8 Hydrology

The Idaho Water Resource Board is charged with the development of the Idaho Comprehensive State Water Plan. Included in the State Water Plan are the statewide water policy plan, and component basin and water body plans that cover specific geographic areas of the state (IDEQ 2003). The Idaho Department of Water Resources has prepared General Lithologies of the Major Ground Water Flow Systems in Idaho.

The state may assign or designate beneficial uses for particular Idaho water bodies to support. These beneficial uses are identified in the Idaho water quality standards (IDAPA 58.01.02 Section 100). These uses include:

- **Aquatic Life Support:** cold water biota, seasonal cold water biota, warm water biota, and salmonid spawning;
- **Recreation:** primary (swimming) and secondary (boating);
- **Water Supply:** domestic, agricultural, and industrial; and
- **Wildlife Habitat;** and
- **Aesthetics**.

While there may be competing beneficial uses in streams, federal law requires DEQ to protect the most sensitive of these beneficial uses (IDEQ 2003).

Table 3-17 displays the municipal watersheds located in Idaho County.

Table 3-17. Idaho Water Resources Database of Municipal Water Supplies in Idaho County.

Name	Service Type	Source Name	Source Type	Lat	Long	Population
Clearwater Water Dist	Community	WALL CREEK	Surface Water	45.98025	115.87306	150

Name	Service Type	Source Name	Source Type	Lat	Long	Population
Elk City Water And Sewer Assn	Community	BIG ELK CREEK	Surface Water	45.83160	115.43768	350
Kamiah, City Of	Community	CLEARWATER	Surface Water	46.23015	116.01506	1157
Harpster Community System	Community	SPRING	Spring-Groundwater	45.98559	115.97989	30
Red River Hot Springs	Non-community Transient	SPRING	Spring-Groundwater	45.78677	115.19807	25
USFS Powell Ranger Station	Community	SPRING	Spring-Groundwater	46.52190	114.71360	100
USFS O'Hara Bar Campground	Non-community Transient	S E SPRING	Spring-Groundwater	46.08541	115.50861	40
USFS O'Hara Bar Campground	Non-community Transient	N W SPRING	Spring-Groundwater	46.08566	115.50852	40
USFS Red River Campground	Non-community Transient	SPRING	Spring-Groundwater	45.75617	115.27462	27
USFS Pittsburg Landing Campground	Non-community Transient	SPRING	Spring-Groundwater	45.63359	116.47618	25
Alacca Bible Camp	Non-community Transient	WELL #1	Groundwater	45.98199	115.96767	25
Middle Fork Cafe	Non-community Transient	WELL #1 LOWER	Groundwater	46.15074	115.72759	100
Winters Inn	Non-community Transient	WELL	Groundwater	45.24757	115.81671	25
USDI BLM Hammer Creek Recreation Site	Non-community Transient	WELL	Groundwater	45.76479	116.32566	25
USDI BLM Pine Bar Recreation Site	Non-community Transient	WELL	Groundwater	45.89153	116.33364	25
USDI BLM Shookumchuck Rest Area	Non-community Transient	WELL	Groundwater	45.70148	116.31610	25
Grangeville Meats	Non-community Transient	WELL #1	Groundwater	45.93493	116.13244	25
Lois Country Cafe	Non-community Transient	WELL #1	Groundwater	45.53446	116.30807	25
Cottonwood Water Dept	Community	WELL #2 W BIG	Groundwater	46.04856	116.35687	941
Cottonwood Water Dept	Community	WELL #3 W SMALL	Groundwater	46.04811	116.35782	941
Cottonwood Water Dept	Community	WELL #4 NORTH	Groundwater	46.05959	116.35025	941
Country Court Mobile Home Park	Community	WELL	Groundwater	45.94059	116.15884	89

Name	Service Type	Source Name	Source Type	Lat	Long	Population
Dales Cashway	Non-community Transient	WELL #1	Groundwater	46.17634	116.00042	35
Fenn Community System	Community	WELL #1	Groundwater	45.96555	116.25878	40
Ferdinand, City Of	Community	WELL 2-WEST	Groundwater	46.15442	116.39134	144
Ferdinand, City Of	Community	WELL	Groundwater	46.15450	116.39135	144
Grangeville Golf And Country Club	Non-community Transient	WELL #1	Groundwater	45.91136	116.15647	100
Clearwater Valley High School	Non-community Non-transient	WELL #1	Groundwater	46.11562	115.97732	300
Grangeville Water Dept	Community	MYRTLE ST. WELL	Groundwater	45.92775	116.11086	3226
Grangeville Water Dept	Community	SPENCER WELL	Groundwater	45.91048	116.12143	3226
Grangeville Water Dept	Community	PARK WELL	Groundwater	45.93155	116.12007	3226
Grangeville Water Dept	Community	EIMERS	Groundwater	45.93214	116.13791	3226
Grangeville Water Dept	Community	CASH WELL	Groundwater	45.92548	116.11261	3226
A Js Greencreek	Non-community Transient	WELL #1	Groundwater	46.10677	116.26507	25
Hoots Cafe	Non-community Transient	WELL #1	Groundwater	45.74245	116.31273	100
Junction Lodge	Non-community Transient	WELL #1	Groundwater	45.82707	115.51213	50
Keuterville Store And Tavern	Non-community Transient	WELL #1	Groundwater	46.03457	116.43686	25
Kooskia Water Dept	Community	WELL #1 RIVER W	Groundwater	46.14766	115.97447	692
Kooskia Water Dept	Community	WELL #4 AIRPORT	Groundwater	46.13572	115.97884	692
Kooskia Water Dept	Community	WELL #3 HILLSID	Groundwater	46.14407	115.97523	692
Kooskia Water Dept	Community	WELL #2 RIVER E	Groundwater	46.14769	115.97410	692
Lewis Clark RV Park	Non-community Transient	WELL #1	Groundwater	46.21084	116.00271	100
Lochsa Lodge	Non-community Transient	WELL #1	Groundwater	46.51143	114.71757	80
Wilderness Inn	Non-community Transient	WELL #1	Groundwater	46.14809	115.59365	80
North Idaho Correctional Institute	Community	NORTH WELL #5	Groundwater	46.08060	116.42670	245
Monastery of Saint Gertrudes	Community	SOUTHEAST WELL	Groundwater	46.02704	116.37918	200

Name	Service Type	Source Name	Source Type	Lat	Long	Population
Rapid River Fish Hatchery IDFG	Non-community Transient	WELL	Groundwater	45.35304	116.39664	25
Kern Mobile Park and Market	Non-community Transient	WELL	Groundwater	45.37167	116.35949	30
Rapid River Homeowners Water Sewer District	Community	WELL #1 OLD E	Groundwater	45.37006	116.36858	91
Rapid River Homeowners Water Sewer District	Community	WELL #2 NEW W	Groundwater	45.36829	116.37149	91
USFS Powell Campground	Non-community Transient	WELL	Groundwater	46.51169	114.72125	34
Riggins, City of	Community	WELL #1 S E	Groundwater	45.41746	116.31607	430
Riggins, City of	Community	WELL #2 N W	Groundwater	45.41752	116.31614	430
Harpster RV Park	Community	WELL	Groundwater	45.97838	115.96426	31
Shearer Lumber Products	Non-community Non-transient	WELL #2	Groundwater	45.80719	115.48119	50
Sheep Creek Rest Area IDT	Non-community Transient	WELL	Groundwater	45.34237	116.35006	25
USDI BLM Slate Creek Rest Area	Non-community Transient	WELL	Groundwater	45.64661	116.29337	25
Stites, City of	Community	ARTESIAN WELL	Groundwater	46.08814	115.97443	253

The geology and soils of this region lead to rapid to moderate moisture infiltration. Slopes are moderate to steep, however, headwater characteristics of the watersheds lead to a high degree of infiltration as opposed to a propensity for overland flow. Thus, sediment delivery efficiency of first and third order streams is fairly low. The bedrock is typically well fractured and moderately soft. This fracturing allows excessive soil moisture rapidly to infiltrate into the rock and thus surface runoff is rare. Natural mass stability hazards associated with slides are low. Natural sediment yields are low for these watersheds. However, disrupted vegetation patterns from logging (soil compaction), farming, and wildland fire (especially hot fires that increase soil hydrophobic characteristics), can lead to increased surface runoff and debris flow to stream channels.

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

Of critical importance to Idaho County will be the maintenance of the domestic watershed supplies near Grangeville. More discussion about these watersheds will be provided in the recommendations section.

Timberlands in the region have been extensively harvested for the past four decades, therefore potentially altering riparian function by removing streamside shade and changing historic sediment deposition. Riparian function and channel characteristics have been altered by ranch and residential areas as well. The current conditions of wetlands and floodplains are variable. Several wetlands and floodplains have been impacted by past management activities.

3.9 Air Quality

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards (40 CFR Part 50) for pollutants considered harmful to public health and the environment. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen dioxide. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).

The Clean Air Act also established a process for designation of Class I and Class II areas for air quality management. Class I areas receive the highest level of protection and numerical thresholds for pollutants are most restrictive for this Class. The large Selway Bitterroot Class I area and the Hell's Canyon Class I area fall within Idaho County's borders.

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in Central Idaho are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. In Idaho County, winds are predominantly from the southwest but occasionally blow from the west to northwest. Air quality in the area and surrounding airshed is generally good to excellent. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions that trap smoke and affect dispersion, causing local air quality problems. These adverse conditions occur most often during the summer and fall months and could potentially affect all communities in Idaho County.

All of the communities within Idaho County could be affected by smoke or regional haze from burning activities in the region. Idaho Department of Environmental Quality maintains Air Pollution Monitoring Sites throughout Idaho. The Air Pollution Monitoring program monitors all of the six criteria pollutants. Measurements are taken to assess areas where there may be a problem, and to monitor areas that already have problems. The goal of this program is to control areas where problems exist and to try to keep other areas from becoming problem air pollution areas (Louks 2001).

Smoke management on federal and state lands and participating members in Idaho County is managed by the Idaho/Montana Airshed Group. Much of the county is in Airshed Unit 13; however, the southernmost regions fall into Airshed Units 15 and 16. The Missoula and McCall Impact Zones are very near Idaho County's borders as identified in the *Montana/Idaho Airshed Group Operating Guide* (Levinson 2002). An airshed is a geographical area that is characterized by similar topography and weather patterns (or in which atmospheric characteristics are similar, e.g., mixing height and transport winds). The USDA Forest Service, USDI Bureau of Land Management, and the Idaho Department of Lands are all members of the Montana/Idaho State Airshed Group, which is responsible for coordinating burning activities to minimize or prevent impacts from smoke emissions. Prescribed burning is coordinated through the Missoula Monitoring Unit, which coordinates burn information, provides smoke forecasting, and establishes air quality restrictions for the Montana/Idaho Airshed Group. The Monitoring Unit makes recommendations, which may restrict burning when atmospheric conditions are not conducive to good smoke dispersion. Burning restrictions are issued for airsheds, impact zones, and specific projects. The monitoring unit is active March through November. Each Airshed Group member is also responsible for smoke management all year.

The Nez Perce Reservation has recently adopted the FARR General Rule for Open Burning. As of June 7, 2005, anyone conducting any sort of burning (excluding campfires or cultural burning) within the boundary of the Nez Perce Reservation is now required to obtain an air quality permit through the Nez

Perce Tribe Air Quality Office. This applies to all land ownership within the reservation boundary. There is a separate burn permitting process for small residential burning, large general burning, agricultural burning, and forestry and silvicultural burning. This program will be implemented on all 39 Indian reservations within Oregon, Washington, and Idaho over the next few years with the Nez Perce Reservation being the first. Under this rule, EPA can declare a burn ban whenever air quality concentrations approach, or are predicted to approach, the health standards for particulate matter. The EPA can also declare a burn ban under the "Air Pollution Episodes" rule when air quality degrades to unhealthful levels. During a burn ban, open burning would not be allowed. When a burn ban is declared, the open burn must be extinguished immediately or allowed to burn down. However, fires set for traditional or cultural purposes are allowed during a burn ban.

3.10 Wildland-Urban Interface

3.10.1 People and Structures

The Wildland-Urban Interface has gained attention through efforts targeted at wildfire mitigation, however, this analysis technique is also useful when considering other hazards because the concept identifies concentrations of people and structures in any particular region. For Idaho County, the WUI shows the relative concentrations of structures scattered across the county.

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the wildland-urban interface. The wildland-urban interface refers to areas where wildland vegetation meets urban developments. These areas encompass not only the interface (areas immediately adjacent to urban development), but also the continuous slopes that lead directly to a risk to urban developments. Reducing the hazard in the wildland urban interface requires the efforts of federal, state, local agencies, and private individuals (Norton 2002). "The role of [most] federal agencies in the wildland-urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education and technical experience. Structural fire protection [during a wildfire] in the wildland urban interface is [largely] the responsibility of Tribal, state, and local governments" (USFS 2001). Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures (USFS 2001). With treatment, a wildland-urban interface can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a properly thinned wildland-urban interface will be less likely to sustain a crown fire that enters or originates within it (Norton 2002).

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing defensible space, landowners would protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity surface or crown fires entering or leaving the area;
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior (McCoy *et al.* 2001 as cited in Norton 2002); and
- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Three wildland-urban interface conditions have been identified [Federal Register Volume 66(3), January 4, 2001] for use in wildfire control efforts. These include the Interface Condition, Intermix Condition, and Occluded Condition. Descriptions of each are as follows:

- **Interface Condition –** A situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;
- **Intermix Condition –** A situation where structures are scattered throughout a wildland area. There is no clear line of demarcation; the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres; and
- **Occluded Condition –** A situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size.

In addition to these classifications detailed in the Federal Register, two additional classifications of population density have been included by the planning committee to augment these categories:

- **Rural Condition –** A situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.
- **Non-WUI Condition -** A situation where the above definitions do not apply because of a lack of structures in an area or the absence of critical infrastructure crossing these unpopulated regions. This classification is not WUI.

In summary, the designations of areas by the planning committee include:

- **Interface Condition:** WUI
- **Intermix Condition:** WUI
- **Occluded Condition:** WUI, but not present
- **Rural Condition:** WUI
- **Non-WUI Condition:** Not WUI, but present in Idaho County

By evaluating the structure density, WUI areas can be defined on maps by using mathematical formulae and population density indexes to define the WUI based on where structures are located. The resulting population density indexes create concentric circles showing high-density areas, interface, and intermix condition WUI, as well as rural condition WUI (as defined above). This portion of the analysis allows us to identify the location of the highest concentrations of structures in reference to high-risk landscapes, limiting infrastructure, and other points of concern.

All structures are represented by a "dot" on the map. No differentiation is made between a garage and a home, or a business and a storage building. The density of structures and their specific locations in this management area are critical in defining where the potential exists for casualty loss in the event of a disaster in the region.

The WUI, as defined here, is unbiased, consistent, allows for edge matching with other counties, and most importantly, addresses the entire County, not just identified communities. This method shows home and business location and structure density, leading to identified WUI categories. The methodology used to determine the WUI could be replicated in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities because it uses a repeatable, reliable, and unbiased analysis process.

The Healthy Forests Restoration Act makes a clear designation that the County or Reservation determines the location of the WUI when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the Federal Agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes.

Appendix I contains the *Updated Wildland Urban Interface Map for Idaho County, Idaho* for 2007. As compared to the 2005 WUI map preceding it, one can see that the WUI can change.

3.10.2 Evaluating Potential WUI Treatments

The definition and mapping of the WUI creates a planning tool used to identify where structures, people, and infrastructure are located in reference to each other. This analysis tool does not include a component of fuels risk. There are a number of reasons to map and analyze these two components separately (population density vs. fire risk analysis). Primarily, is the fact that population growth often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the WUI dependant of all of them would eliminate populated places with a perceived low level of fire risk today, which may in a year become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately, the planner is able to evaluate these layers of information to see where the combination of population density overlays areas of high current fire risk, and then implement mitigating actions to reduce the fuels, improve readiness, directly address factors of structural ignitability, improve initial attack success, mitigate resistance to control factors, or (more often) a combination of many approaches.

It should not be assumed that just because an area is identified as being within the WUI, that it will therefore receive treatments due to this identification alone. Nor should it be implicit that the same prescription would apply to all WUI treatments. Instead, each location targeted for treatments must be evaluated on its own merits: factors of structural ignitability, access, resistance to control, population density, resources and capabilities of firefighting personnel, and other site specific factors.

It should also not be assumed that WUI designation on national or state system lands automatically equates to a treatment area. The USDA Forest Service, USDI Bureau of Land Management, and Idaho Department of Lands are still obligated to manage lands under their control according to the standards and guides listed in their respective management plans. The adopted management plan may have legal precedence over the WUI designation in this mitigation plan until such a time as the management plan is revised to reflect updated priorities.

Most treatments may begin with a home evaluation, including the implicit factors of structural ignitability (roofing, siding, deck materials), and vegetation within the treatment area of the structure. However, treatments in the low population areas of rural lands (mapped as yellow) may focus on access and egress (two ways in and out), and communications through means other than land-based telephones. Conversely, treatment in a subdivision with densely packed homes (mapped as brown – interface areas) surrounded by forests and dense underbrush may focus on fuels treatments beyond the immediate home site to reduce the probability of a crown fire entering the subdivision.

Chapter 4: Risk and Preparedness Assessments

4 Overview

In this chapter, we cover the countywide risk evaluations conducted as a part of this analysis, by first introducing wildland fire characteristics and wildfire hazards, summarizing the hazard in Idaho County, and then discussing Communities at Risk. Following this general overview, we discuss risk evaluations for each rangeland and forestland community in Idaho County. Following, we list firefighting resources and capabilities for the County's fire departments, and wildland fire districts. We conclude with the issues facing Idaho County fire protection, success stories, and lessons learned.

4.1 Countywide Risk Evaluations

4.1.1.1 *Wildland Fire Characteristics*

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn, the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, the topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we can manipulate the third component of the fire environment, the fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to determine how fires burn, particularly within the Wildland-Urban Interface.

A brief description of each of the fire environment elements follows in order to illustrate their effect on fire behavior.

4.1.1.2 *Weather*

Weather conditions contribute significantly to fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant effect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

Weather can also be a major factor after a fire. Often, the soils in a burned over area become hydrophobic following an intense fire; therefore, heavy rains or winter melt off before the vegetation has a chance to recover can lead to flooding, erosion, and landslides. The effects of these post-fire disturbances are sometimes more damaging than the fire itself.

4.1.1.3 *Topography*

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on

how fires burn. North slopes tend to be cooler, wetter, more productive sites leading to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. In contrast, south and west slopes tend to receive direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be "available to burn" a greater portion of the year.

Slope also plays a significant role in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect fast rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind. Steep slopes also play a factor in fires spreading downhill due to rolling debris or down slope winds. Steady nighttime down slope and down canyon winds coupled with the mid-slope thermal belt conditions also contribute to fire spread.

4.1.1.4 *Fuels*

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity, and arrangement all have an effect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to extinguish a fire burning in grass than a fire burning in timber.

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potential development of crown fire. That is, they release much more energy. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determine how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected effects small changes in any single component have on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, the principles that govern fire behavior have been identified and are recognized.

4.1.1.5 *Wildfire Hazard within Idaho County*

The planning team assessed wildfire hazard, the potential for the landscape to burn during the fire season in the event of a fire ignition, for Idaho County using a number of different tools managed in a Geographic Information System (GIS), as discussed in this section. Initially, wildfire ignitions are displayed to show the quantity of fires that have occurred in Idaho County. Next, the amount of area burned by wildfire in Idaho County, and also nationally, is discussed, Fire prone landscapes are then discussed, which helps assess the potential for the landscape to burn during the fire season in the event of a fire ignition. Then, fire regimes are discussed to display the amount of departure from the natural regime, important in determining the natural role fire plays in the Idaho County ecosystems. Fire severity is discussed next, to display the potential severity in which fires could burn within the County. Finally,

the fuel model descriptions are displayed to assist the reader in understanding the on-site evaluations for the communities of Idaho County.

4.1.1.6 *Wildfire Ignitions*

Fire was once an integral function of the majority of ecosystems in Idaho. The seasonal cycling of fire across the landscape was as regular as the July, August and September lightning storms plying across the canyons and mountains. Depending on the plant community composition, structural configuration, and buildup of plant biomass, fire resulted from ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition (Johnson 1998). The fires burned from one to 47 years apart, with most at 5 to 20-year intervals (Barrett 1979). With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age (Johnson et al. 1994). Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels. Fire history data (from fire scars and charcoal deposits) suggest fire has played an important role in shaping the vegetation in the Columbia Basin for thousands of years (Steele et al. 1986, Agee 1993).

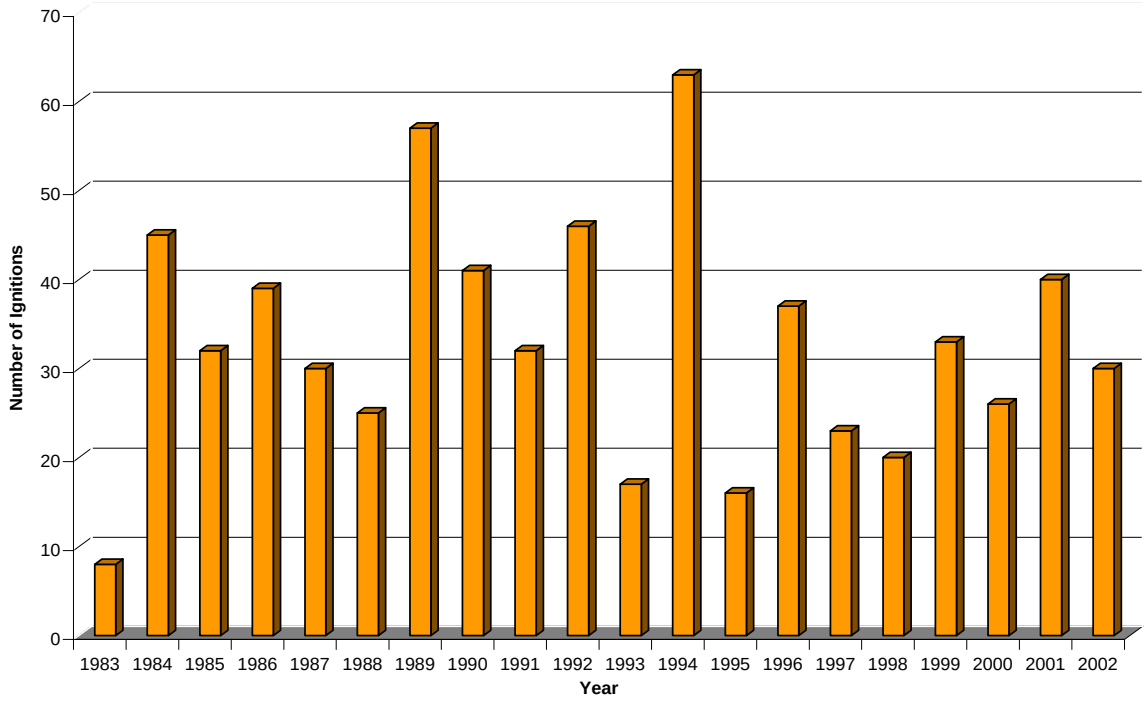
Detailed records of fire ignition and extent have been compiled by the Idaho Department of Lands, and the USDA Forest Service dating back over the past 50 years.

The Idaho Department of Lands maintains a database of wildfire ignitions (1983-2002) in Idaho for those areas where they provide primary wildfire suppression services. An analysis of this data reveals that approximately 660 wildfires have been ignited during this period (Table 4-1, Figure 4-1) burning approximately 43,500 acres. Lightning caused ignitions accounted for approximately 59% of all ignitions.

Table 4-1. Wildfire Ignitions from the Idaho Department of Lands Database 1983-2002.

General Cause	Number of Ignitions	Percent of Total Ignitions (%)	Acres Burned	Cost of Fire Control
Lightning	391	59	40,038	$11,118,866.18
Campfire	15	2	88	$14,440.69
Smoking	7	1	2	$1,347.04
Debris Burning	88	13	883	$299,996.07
Arson	33	5	488	$171,857.30
Equipment Use	56	8	405	$118,822.37
Children	8	1	214	$40,558.50
Miscellaneous	62	9	1,365	$586,783.40
Totals	**660**	**100**	**43,483**	**$12,352,671.55**

Figure 4-1. Idaho County Wildfire Ignitions from the Idaho Department of Lands Dataset.



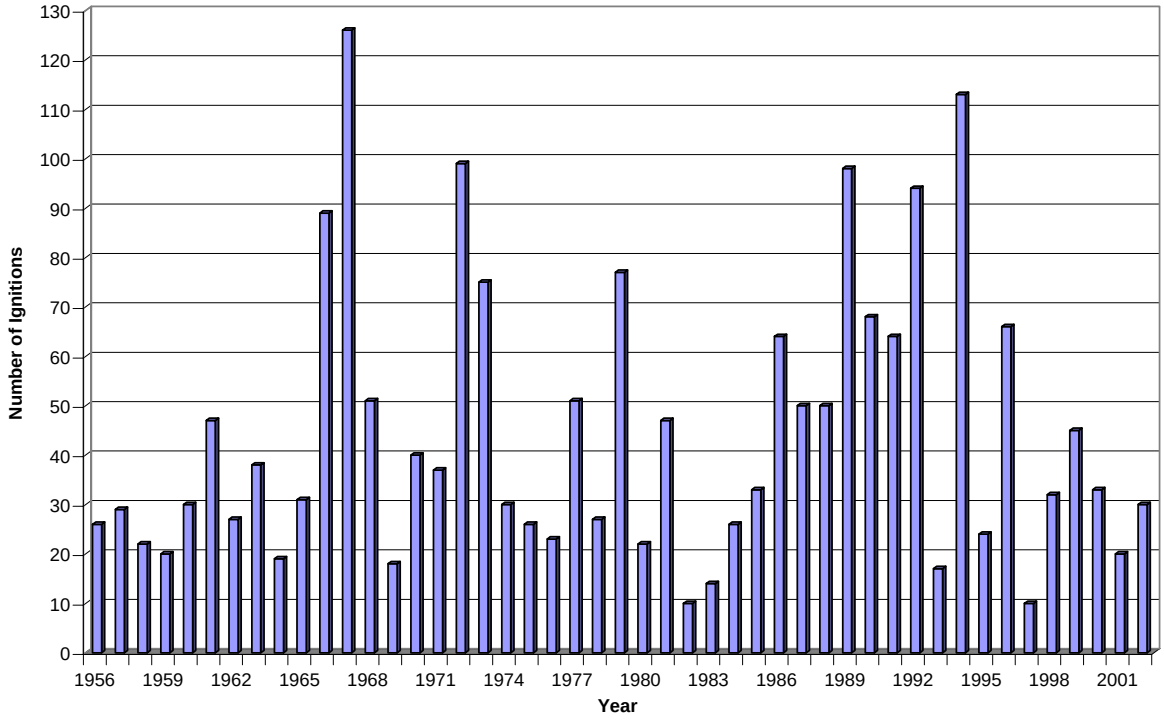
The Idaho Department of Lands dataset is a tabular dataset that does not include specific geographic data on the exact location of the ignitions, but it does include the fire's name. This data is provided in Appendix II.

The Payette National Forest manages the USDA Forest Service system lands in the southern areas of Idaho County. The Payette National Forest has maintained detailed fire ignition and extent data dating back to 1956. Their record keeping includes the location of ignitions, extent of wildfires, and the cause of the ignition. An analysis of this data indicates that 2,088 wildfire ignitions have burned approximately 588,409 acres in Idaho County over this period of time (Table 4-2 and Figure 4-2). Approximately 90% of these ignitions were caused by lightning.

Table 4-2. Summary of Wildfire Ignitions in Idaho County from the Payette National Forest Database 1956-2002.

General Cause	Number of Ignitions	Percent of Total Ignitions (%)	Acres Burned
Lightning	1,870	90	573,837
Campfire	14	1	2,409
Smoking	34	2	3,106
Debris Burning	108	5	62
Arson	24	1	909
Equipment Use	6	0	905
Children	4	0	4
Miscellaneous	28	1	7,176
Total	**2,088**	**100**	**588,409**

Figure 4-2. Idaho County Wildfire Ignitions on the Payette National Forest.

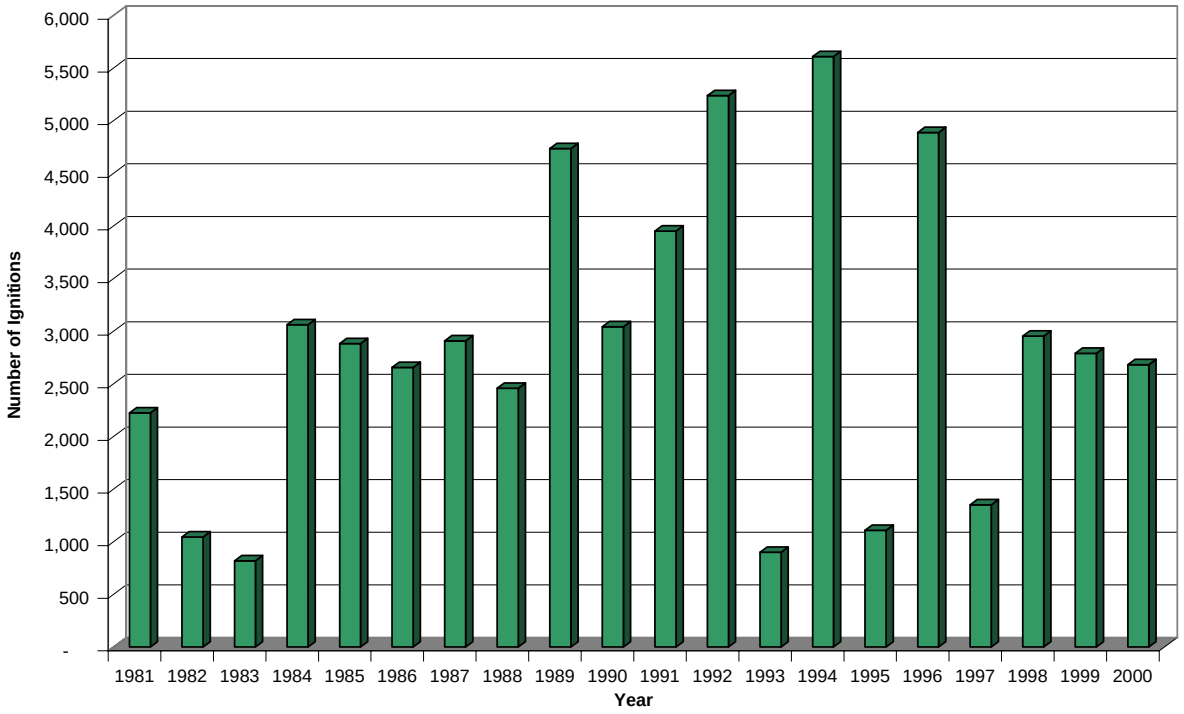


The Clearwater and Nez Perce National Forests manage the USDA Forest Service system lands in the central and northern areas of Idaho County. The Clearwater and Nez Perce National Forests have maintained detailed fire ignition and extent data dating back to 1981. Their record keeping includes the location of ignitions, extent of wildfires, and the cause of the ignition (in three categories). An analysis of this data indicates that 57,285 wildfire ignitions have burned approximately 4.7 million acres in these regions from 1981 to 2000 (Table 4-3 and Figure 4-3). Approximately 90% of these ignitions were caused by lightning.

Table 4-3. Summary of Wildfire Ignitions in Idaho County on the Clearwater and Nez Perce National Forests 1981-2000.

General Cause	Number of Ignitions	Percent of Total Ignitions (%)	Acres Burned
Lightning	51,129	89	4,333,455
Human Caused	6,075	11	372,909
Other	81	0	47,700
Total	57,285	100	4,754,064

Figure 4-3. Idaho County Wildfire Ignitions on the Clearwater and Nez Perce National Forests.



4.1.1.7 *Wildfire Area Profile*

IDAHO COUNTY SUMMARY

Many very large fires, growing to over 200,000 acres, have burned in North Central Idaho, including Idaho County (Appendix II). Tables 4-1, 4-2, and 4-3, above, detail the number of acres burned for Idaho Department of Lands and the USDA Forest Service administrative lands.

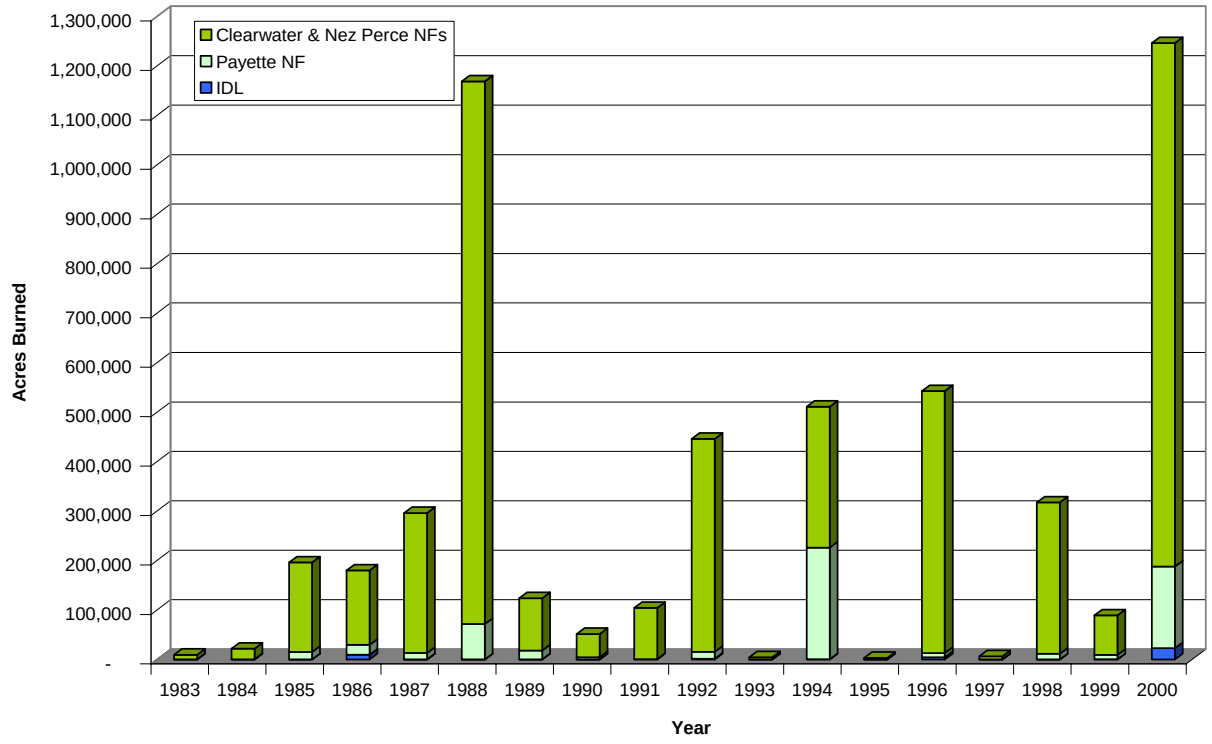
Table 4-4 and Figure 4-4, below, show the number of acres burned for the periods indicated. The data shows the largest wildfire losses on the Clearwater and Nez Perce National Forests, however, it should be recognized that these two National Forests protect the vast majority of lands in the County. The largest number of acres burned in the county during this period occurred in 1988 (1,169,000 acres) and in 2000 (1,246,436 acres). Data is not available from the Idaho Department of Lands prior to 1983, and it has not been provided from the Clearwater and Nez Perce National Forests for the periods prior to 1981 or after 2000.

Table 4-4. Wildfire Acres Burned in Idaho County by Protection Area 1981-2002.

Year	Idaho Department of Lands (acres)	Payette National Forest (acres)	Clearwater & Nez Perce National Forests (acres)	Total (acres)
1981	N/A	71	50,926	50,996
1982	N/A	15	401	416
1983	31	315	9,243	9,589
1984	364	4	21,568	21,936
1985	139	14,962	181,218	196,319

Year	Idaho Department of Lands (acres)	Payette National Forest (acres)	Clearwater & Nez Perce National Forests (acres)	Total (acres)
1986	9,618	20,115	150,483	180,215
1987	56	13,034	283,097	296,187
1988	28	71,769	1,097,205	1,169,002
1989	330	17,915	105,728	123,973
1990	155	4,550	46,936	51,640
1991	790	73	103,504	104,366
1992	1,636	13,850	430,771	446,257
1993	31	4	4,559	4,593
1994	685	225,702	284,833	511,220
1995	110	70	2,919	3,098
1996	4,829	8,134	529,605	542,569
1997	34	54	6,443	6,531
1998	148	11,196	306,379	317,722
1999	583	8,780	79,660	89,023
2000	22,741	165,110	1,058,586	1,246,436
2001	307	29	N/A	336
2002	868	62	N/A	930

Figure 4-4. Wildfire Acres Burned in Idaho County from 1983 to 2000 for Idaho Department of Lands and USDA Forest Service Administrative Lands.



NATIONAL SUMMARY

The National Interagency Fire Center, located in Boise, Idaho, maintains records of fire costs, extent, and related data for the entire nation. Across the west, wildfires have been increasing in extent and cost of control. The National Interagency Fire Center (2005) reported over 77,500 wildfires in 2004 that burned a total of 6.7 million acres and cost $890 million in containment (Table 4-5). Data summaries for 2000 through 2004 are provided and demonstrate the variability of the frequency and extent of wildfires nationally (Table 4-5). It is important to note that the ten-year average number of acres burned reported each year has been increasing constantly since 2000.

Table 4-5. National Fire Season Summaries 2000-2004.

Statistical Highlights	2000	2001	2002	2003	2004
Number of Fires	122,827	84,079	88,458	85,943	77,534
10-year Average (ending with indicated year)	106,393	106,400	103,112	101,575	100,466
Acres Burned	**8,422,237**	**3,555,138**	**6,937,584**	**4,918,088**	**6,790,692**
10-year Average (ending with indicated year)	3,786,411	4,083,347	4,215,089	4,663,081	4,923,848
Structures Burned	861	731	2,381	5,781	1,095
Estimated Cost of Fire Suppression (Federal agencies only)	$1.3 billion	$917 million	$1.6 billion	$1.3 billion	$890 million

The following national statistics (Tables 4-6 and 4-7) are based on end-of-year reports compiled by all wildland fire agencies after each fire season, and are updated by March of each year (National Interagency Fire Center 2004). The agencies include the USDI Bureau of Land Management, USDI Bureau of Indian Affairs, USDI National Park Service, USDI Fish and Wildlife Service, USDA Forest Service, and all State Lands.

Table 4-6. National Fire Numbers and Acres 1960-2004.

Year	Fires	Acres	Year	Fires	Acres
2004	77,534	* 6,790,692	**1981**	249,370	4,814,206
2003	85,943	4,918,088	**1980**	234,892	5,260,825
2002	88,458	6,937,584	**1979**	163,196	2,986,826
2001	84,079	3,555,138	**1978**	218,842	3,910,913
2000	122,827	8,422,237	**1977**	173,998	3,152,644
1999	93,702	5,661,976	**1976**	241,699	5,109,926
1998	81,043	2,329,709	**1975**	134,872	1,791,327
1997	89,517	3,672,616	**1974**	145,868	2,879,095
1996	115,025	6,701,390	**1973**	117,957	1,915,273
1995	130,019	2,315,730	**1972**	124,554	2,641,166
1994	114,049	4,724,014	**1971**	108,398	4,278,472
1993	97,031	2,310,420	**1970**	121,736	3,278,565
1992	103,830	2,457,665	**1969**	113,351	6,689,081
1991	116,953	2,237,714	**1968**	125,371	4,231,996
1990	122,763	5,452,874	**1967**	125,025	4,658,586
1989	121,714	3,261,732	**1966**	122,500	4,574,389
1988	154,573	7,398,889	**1965**	113,684	2,652,112
1987	143,877	4,152,575	**1964**	116,358	4,197,309
1986	139,980	3,308,133	**1963**	164,183	7,120,768

Year	Fires	Acres	Year	Fires	Acres
1985	133,840	4,434,748	**1962**	115,345	4,078,894
1984	118,636	2,266,134	**1961**	98,517	3,036,219
1983	161,649	5,080,553	**1960**	103,387	4,478,188
1982	174,755	2,382,036			

Table 4-7. National Suppression Costs for Federal Agencies (National Interagency Fire Center 2005).

Year	Bureau of Land Management	Bureau of Indian Affairs	Fish and Wildlife Service	National Park Service	USDA Forest Service	Totals
2004	$ 147,165,000	$ 63,452,000	$ 7,979,000	$ 34,052,000	$ 637,585,000	**$890,233,000**
2003	$151,894,000	$ 96,633,000	$ 9,554,000	$ 44,557,000	$ 1,023,500,000	**$1,326,138,000**
2002	$ 204,666,000	$ 109,035,000	$ 15,245,000	$ 66,094,000	$ 1,266,274,000	**$1,661,314,000**
2001	$ 192,115,000	$ 63,200,000	$ 7,160,000	$ 48,092,000	$ 607,233,000	**$917,800,000**
2000	$180,567,000	$ 93,042,000	$ 9,417,000	$ 53,341,000	$ 1,026,000,000	**$1,362,367,000**
1999	$ 85,724,000	$ 42,183,000	$ 4,500,000	$ 30,061,000	$ 361,000,000	**$523,468,000**
1998	$ 63,177,000	$ 27,366,000	$ 3,800,000	$ 19,183,000	$ 215,000,000	**$328,526,000**
1997	$ 62,470,000	$ 30,916,000	$ 2,000	$ 6,844,000	$ 155,768,000	**$256,000,000**
1996	$ 96,854,000	$ 40,779,000	$ 2,600	$ 19,832,000	$ 521,700,000	**$679,167,600**
1995	$ 56,600,000	$ 36,219,000	$ 1,675,000	$ 21,256,000	$ 224,300,000	**$340,050,000**
1994	$ 98,417,000	$ 49,202,000	$ 3,281,000	$ 16,362,000	$ 678,000,000	**$845,262,000**

Tables 4-3 through 4-7 summarize relevant local and national wildland fire data, and show trends that are likely to continue into the future in Idaho County unless targeted fire mitigation efforts are implemented and maintained.

4.1.1.8 *Fire Prone Landscapes*

METHODOLOGY FOR ASSESSING FIRE PRONE LANDSCAPES

The methodology for assessing wildfire hazard followed Schlosser *et al*. (2002). Physical features of the region were represented by data layers including roads, streams, soils, elevation, and remotely sensed images from the Landsat 7 ETM+ satellite. Field visits were conducted by specialists from Northwest Management, Inc., and others. Discussions with area residents and fire control specialists augmented field visits and provided insights to forest health issues and treatment options. The specialists then used the gathered information to analyze and develop an assessment of wildland fire risk in the region.

The goal of developing the Fire Prone Landscapes analysis is to make inferences about the relative risk factors across large geographical regions (multiple counties) for wildfire spread. This analysis uses the extent and occurrence of past fires as an indicator of characteristics for a specific area and their propensity to burn in the future. Concisely, if a certain combination of vegetation cover type, canopy closure, aspect, slope, stream, and road density have burned with a high occurrence and frequently in the past, then it is reasonable to extrapolate that they will have the same tendency in the future, unless mitigation activities are conducted to reduce this potential.

The analysis for determining those landscapes prone to wildfire utilized a variety of sources, including digital elevation, remotely sensed images, riparian zones, wind direction, past fires, and finally, fire prone landscapes.

Digital Elevation

Digital elevation models (DEM) used for this project were USGS 10 meter DEM data provided at quarter-quadrangle extents. These were merged together to create a continuous elevation model of the analysis area.

The merged DEM file was used to create two derivative data layers: aspect and slope. Both were created using the spatial analyst extension in ArcGIS 8.2. Aspect data values retained one decimal point accuracy representing the cardinal direction of direct solar radiation, represented in degrees. Slope was recorded in degrees and retained two decimal points accuracy.

Remotely Sensed Images

Landsat 7 Enhanced Thematic Mapper (ETM+) images were used to assess plant cover information and percent of canopy cover. The Landsat ETM+ instrument is an eight-band multi-spectral scanning radiometer capable of providing high-resolution image information of the Earth's surface. It detects spectrally-filtered radiation at visible, near-infrared, short-wave, and thermal infrared frequency bands from the sun-lit Earth. Nominal ground sample distances or "pixel" sizes are 15 meters in the panchromatic band; 30 meters in the 6 visible, near and short-wave infrared bands; and 60 meters in the thermal infrared band.

The satellite orbits the Earth at an altitude of approximately 705 kilometers with a sun-synchronous 98-degree inclination and a descending equatorial crossing time of 10 a.m. daily.

Image spectrometry has great application for monitoring vegetation and biophysical characteristics. Vegetation reflectance often contains information on the vegetation chlorophyll absorption bands in the visible region and the near infrared region. Plant water absorption is easily identified in the middle infrared bands. In addition, exposed soil, rock, and non-vegetative surfaces are easily separated from vegetation through standard hyper-spectral analysis procedures.

Two Landsat 7 ETM images were obtained to conduct hyper-spectral analysis for this project. The first was obtained in 1998 and the second in 2002. Hyper-spectral analysis procedures followed the conventions used by the Idaho Vegetation and Land Cover Classification System, modified from Redmond (1997) and Homer (1998).

Riparian Zones

Riparian zones were derived from stream layers created during the Interior Columbia Basin Ecosystem Management Project (Quigley *et al.* 2001).

Wind Direction

Wind direction and speed data detailed by monthly averages was used in this project to better ascertain certain fire behavior characteristics common to large fire events. These data are spatially gridded Average Monthly Wind Directions in Idaho. The coverage was created from data summarized from the Interior Columbia Basin Ecosystem Management Project (Quigley *et al.* 2001).

Past Fires

Past fire extents represent those locations on the landscape that have previously burned during a wildfire. Past fire extent maps were obtained from a variety of sources for the North Central Idaho area including the USDA Forest Service Nez Perce and Clearwater National Forests and the Idaho Department of Lands.

Fire Prone Landscapes

Using the methodology developed by Schlosser *et al.* (2002, 2003, 2004), and refined for this project, the factors detailed above were used to assess the potential for the landscape to burn during the fire season in the event of a fire ignition. Specifically, the entire region was evaluated at a resolution of ten meters (meaning each pixel on the screen represented a ten meter square on the ground) to determine the propensity for a particular area (pixel) to burn in the case of a wildfire. The analysis involved creating a linear regression analysis within the GIS program structure to assign a value to each significant variable, pixel-by-pixel. The analysis ranked factors from zero (little to no risk) to 100 (extremely high risk) based on past fire occurrence.

RESULTS FOR ASSESSING FIRE PRONE LANDSCAPES

The maximum rating score for Idaho County was 97 and the minimum was 23. Figures 4-5 and 4-6 display the results of this analysis.

The maps depicting these risk categories display yellow as the lowest risk and red as the highest with values between a constant gradient from yellow to orange to red (Table 4-8). While large maps (16 square feet) have been provided as part of this analysis, smaller size maps are presented in Appendix I.

Table 4-8. Fire Prone Landscape Rankings and Associated Acres in Each Category for Idaho County.

Color Code	Value	Total Acres	Percent of Total Area (%)
	0	0	0
	10	0	0
	20	15,127	0.3
	30	140,503	3
	40	132,082	2
	50	325,117	6
	60	1,556,617	29
	70	2,766,670	51
	80	497,385	9
	90	1,883	0.03
	100	1	<0.01

Figure 4-5. Fire Prone Landscapes in Idaho County, Idaho.

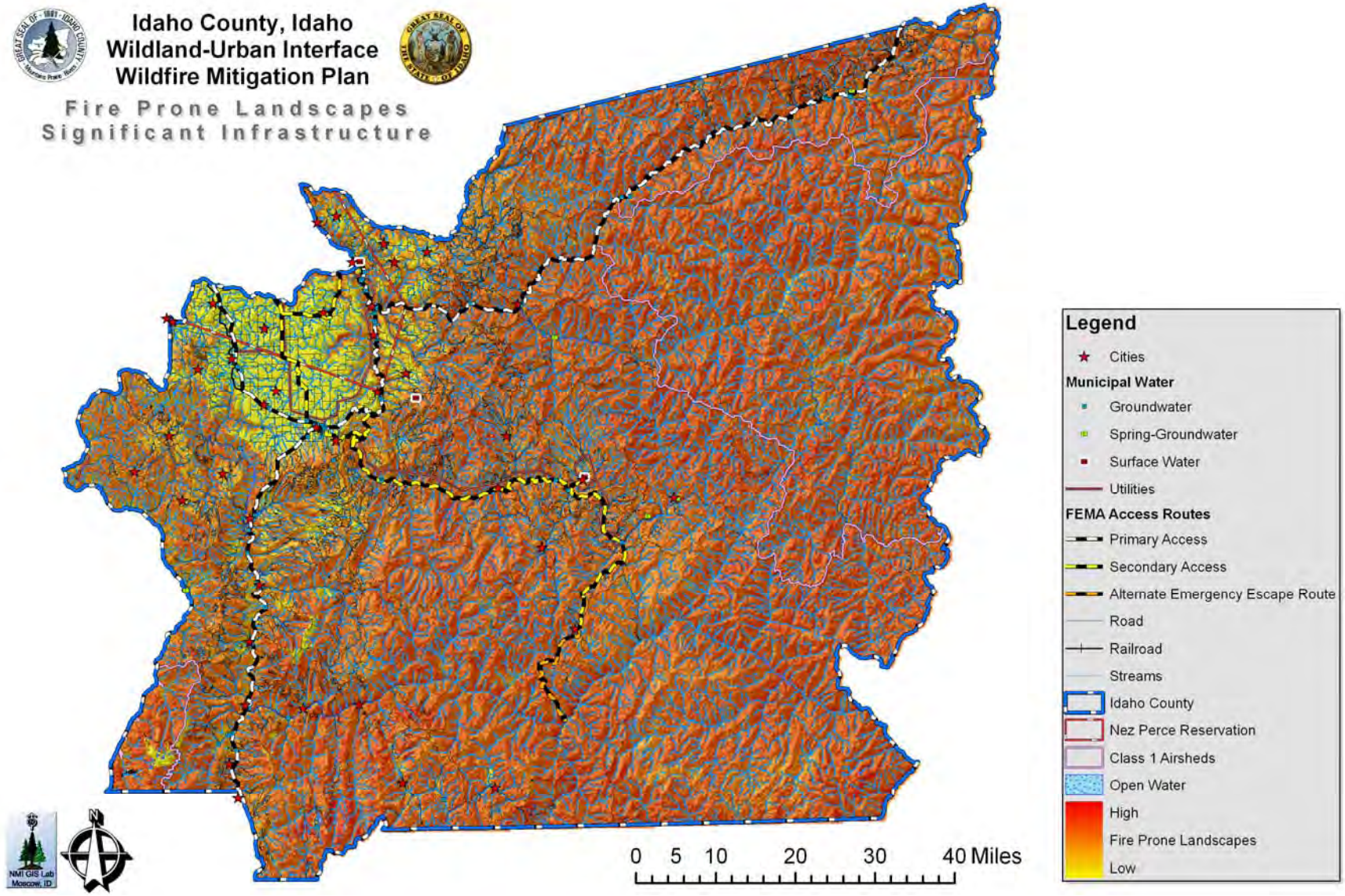
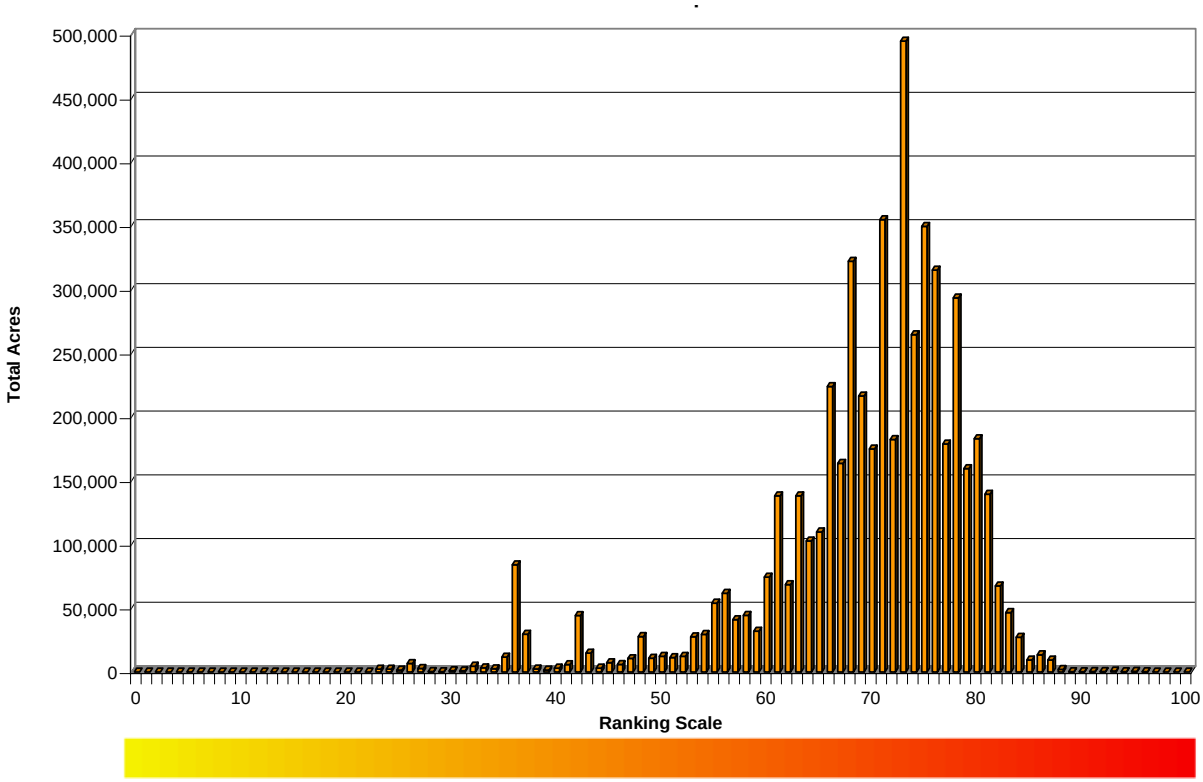


Figure 4-6. Distribution of Fire Prone Landscapes in Idaho County by Fire Prone Landscape Ranking.



The risk category values developed in this analysis should be considered **ordinal data**, that is, while the values presented have a meaningful ranking, they neither have a true zero point nor scale between numbers. Rating in the "40" range is not necessarily twice as "risky" as rating in the "20" range. These category values also do not correspond to a rate of fire spread, a fuel loading indicator, or measurable potential fire intensity. Each of those scales is greatly influenced by weather, seasonal and daily variations in moisture (relative humidity), solar radiation, and other factors. The risk rating presented here serves to identify where certain constant variables are present, aiding in identifying where fires typically spread into the largest fires across the landscape.

4.1.1.9 *Fire Regimes*

4.1.1.9.1 Historic Fire Regime

In the fire-adapted ecosystems of Idaho, fire is undoubtedly the dominant process in terrestrial systems that constrains vegetation patterns, habitats, and ultimately, species composition. Land managers can use historical fire regimes (that is, fire frequency and fire severity prior to settlement by Euro-Americans) to define ecologically appropriate goals and objectives for an area using spatially explicit knowledge of how historical fire regimes vary across the landscape.

Many ecological assessments are enhanced by the characterization of the historical range of variability which helps managers understand: (1) how the driving ecosystem processes vary from site to site; (2) how these processes affected ecosystems in the past; and (3) how these processes might affect the ecosystems of today and the future. Obviously, historical fire regimes are a critical component for characterizing the historical range of variability in the fire-adapted ecosystems of Idaho. Furthermore, understanding ecosystem departures provides the necessary context for managing sustainable ecosystems. Land

managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components. For example, the departure from historical fire regimes may serve as a useful proxy for the potential of severe fire effects from an ecological perspective.

METHODOLOGY FOR ASSESSING HISTORIC FIRE REGIMES

A database of fire history studies in the region was used to develop modeling rules for predicting historical fire regimes (HFRs). Tabular fire-history data and spatial data were stratified into ecoregions, potential natural vegetation types (PNVs), slope classes, and aspect classes to derive rule sets which were then modeled spatially. Expert opinion was substituted for a stratum when empirical data was not available.

Fire is the dominant disturbance process that manipulates vegetation patterns in Idaho. The HFR data were prepared to supplement other data necessary to assess integrated risks and opportunities at regional and sub regional scales. The HFR theme was derived specifically to estimate an index of the relative change of a disturbance process, and the subsequent patterns of vegetation composition and structure.

However, with this description in place, it should be noted that returning sites to natural historic fire regimes is not always ecologically or socially desirable, especially in stand replacing regimes located within the Wildland-Urban Interface where homes and significant infrastructure are located. In these areas, reducing the intensity of wildfires through mechanical treatments and prescribed fire may achieve the desired reduction of risk to people and structures, infrastructure, and community resources.

General Limitations

These data were derived using fire history data from a variety of different sources and were designed to characterize broad scale patterns of historical fire regimes for use in regional and sub regional assessments. Any decisions based on these data should be supported with field verification, especially at scales finer than 1:100,000. Although the resolution of the HFR theme is 30 meter cell size, the expected accuracy does not warrant their use for analyses of areas smaller than about 10,000 acres (for example, assessments that typically require 1:24,000 data).

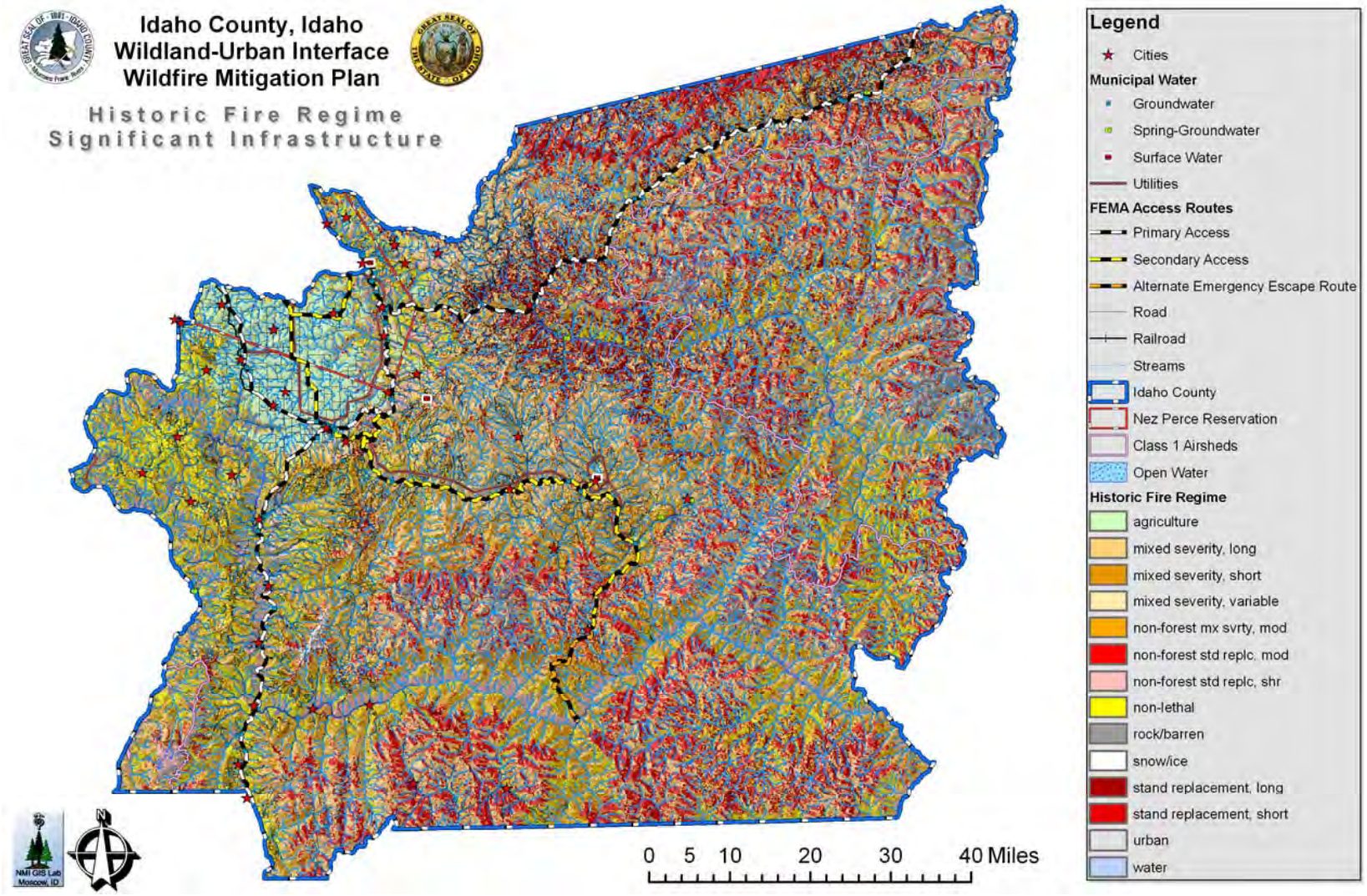
RESULTS FOR ASSESSING HISTORIC FIRE REGIMES

Results of this analysis are displayed in Table 4-9 and Figure 4-7. Of note, the historic fire regime covering the most area is the mixed-severity, long return interval.

Table 4-9. Natural Historic Fire Regimes in Idaho County, Idaho.

Natural Historic Fire Regime	Acres	Percent of Area
Non-lethal Fires	609,803	11%
Mixed severity, short return interval	968,468	18%
Mixed severity, long return interval	1,838,897	34%
Stand replacement, short return interval	878,492	16%
Stand replacement, long return interval	323,183	6%
Non-forest stand replacement, short return interval	210,702	4%
Non-forest mixed severity, moderate return interval	25,306	1%
Non-forest stand replacement, moderate return interval	25,668	1%
Agriculture	201,170	4%
Rock / barren	286,084	5%
Urban	1,667	0%
Water	15,902	0

Figure 4-7. Historic Fire Regimes in Idaho County, Idaho.



4.1.1.9.2 Fire Regime Condition Class

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995).

METHODOLOGY FOR ASSESSING FIRE REGIME CONDITION CLASS

Coarse scale definitions for natural (historical) fire regimes have been developed by Hardy *et al.* (2001) and Schmidt *et al.* (2002) and interpreted for fire and fuels management by Hann and Bunnell (2001). The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation. These five regimes include:

I. 0-35 year frequency and low (surface fires most common) to mixed severity (less than 75% of the dominant overstory vegetation replaced);

II. 0-35 year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);

III. 35-100+ year frequency and mixed severity (less than 75% of the dominant overstory vegetation replaced);

IV. 35-100+ year frequency and high (stand replacement) severity (greater than 75% of the dominant overstory vegetation replaced);

V. 200+ year frequency and high (stand replacement) severity.

As scale of application becomes finer, these five classes may be defined with more detail, or any one class may be split into finer classes, but the hierarchy to the coarse scale definitions should be retained.

A fire regime condition class (FRCC) is a classification of the amount of departure from the natural regime (Hann and Bunnell 2001). Coarse-scale FRCC classes have been defined and mapped by Hardy *et al.* (2001) and Schmidt *et al.* (2001) (FRCC). They include three condition classes for each fire regime. The classification is based on a relative measure describing the degree of departure from the historical natural fire regime. This departure results in changes to one (or more) of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern), fuel composition, fire frequency, severity, and pattern; and other associated disturbances (e.g. insect and disease mortality, grazing, and drought). There are no wildland vegetation and fuel conditions or wildland fire situations that do not fit within one of the three classes.

The three classes are based on low (FRCC 1), moderate (FRCC 2), and high (FRCC 3) departure from the central tendency of the natural (historical) regime (Hann and Bunnell 2001, Hardy *et al.* 2001, Schmidt *et al.* 2002). Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside this range.

Characteristic vegetation and fuel conditions are considered those that occurred within the natural (historical) fire regime. Uncharacteristic conditions are considered to be those that did not occur within the natural (historical) fire regime, such as invasive species (e.g. weeds, insects, and diseases), forest composition and structure in which large trees have been removed by timber harvest in a frequent surface fire regime, or repeated annual grazing that maintains grassy fuels across relatively large areas at levels that will not carry a surface fire. Determination of the amount of departure is based on comparison of a composite measure of fire regime attributes (vegetation characteristics; fuel composition; fire frequency, severity, and pattern) to the central tendency of the natural (historical) fire regime. The amount of departure is then classified to determine the fire regime condition class. A simplified description of the

fire regime condition classes and associated potential risks are presented in Table 4-10. Maps depicting Fire Regime and Condition Class are presented in Appendix I.

Table 4-10. Fire Regime Condition Class Definitions.

Fire Regime Condition Class	Description	Potential Risks
Condition Class 1	Within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances.	Fire behavior, effects, and other associated disturbances are similar to those that occurred prior to fire exclusion (suppression) and other types of management that do not mimic the natural fire regime and associated vegetation and fuel characteristics. Composition and structure of vegetation and fuels are similar to the natural (historical) regime. Risk of loss of key ecosystem components (e.g. native species, large trees, and soil) is low.
Condition Class 2	Moderate departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances.	Fire behavior, effects, and other associated disturbances are moderately departed (more or less severe). Composition and structure of vegetation and fuel are moderately altered. Uncharacteristic conditions range from low to moderate. Risk of loss of key ecosystem components is moderate.
Condition Class 3	High departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances.	Fire behavior, effects, and other associated disturbances are highly departed (more or less severe). Composition and structure of vegetation and fuel are highly altered. Uncharacteristic conditions range from moderate to high. Risk of loss of key ecosystem components is high.

RESULTS FOR ASSESSING FIRE REGIME CONDITION CLASS

An analysis of Fire Regime Condition Class in Idaho County shows that approximately 43% of the County is in Condition Class 1 (low departure), about 24% is in Condition Class 2 (moderate departure), with 23% of the area in Condition Class 3 (Table 4-11). Condition Class was not assessed for agriculture, rock/barren, urban, water, or other areas without information. See Appendix I for maps of Fire Regime and Conditions Class.

Table 4-11. Fire Regime Condition Class by Area in Idaho County.

Rating		Acres	Percent of Area
Condition Class			
1	Low departure	2,328,842	43%
2	Moderate departure	1,326,225	24%
3	High departure	1,255,008	23%
Other Areas			
Agriculture		201,170	4%
Rock / barren		286,084	5%
Urban		1,667	0.03%
Water		15,902	0.3%
No Information		19,847	0.4%

4.1.1.10 *Fire Severity*

Current fire severity (CFS) is an estimate of the *relative* fire severity if a fire were to burn a site under its current state of vegetation. In other words, how much of the overstory would be removed if a fire were to burn today. The USDA Forest Service (Flathead National Forest) recommends not modeling *absolute* values of fire severity, as there are too many variables that influence fire effects at any given time (for example, temperature, humidity, fuel moisture, slope, wind speed, wind direction).

Fire is a dominant disturbance process in the Northern Rockies. The likely effect of fire upon vegetation (i.e., current fire severity) is critical information for understanding the subsequent fire effects upon wildlife habitats, water quality, and the timing of runoff. There have been many reports of how fire suppression and timber harvest have affected vegetation patterns, fuels, and fire behavior. The USDA Forest Service researchers from the Flathead National Forest derived the current fire severity theme explicitly to compare with the historical fire regime theme to evaluate how fire severity has changed since Euro-American settlement (that is, to derive fire-regime condition class).

METHODOLOGY FOR ASSESSING FIRE SEVERITY

The characterization of likely fire severity was based upon historic fire regimes, potential natural vegetation, cover type, size class, and canopy cover with respect to slope and aspect. Each cover type was assigned a qualitative rating of fire tolerance based upon likely species composition and the relative resistance of each species to fire. The USDA Forest Service researchers defined three broad classes of fire tolerance: high tolerance (<20 percent post-fire mortality); moderate tolerance (20 to 80 percent mortality); and low tolerance (>80 percent mortality). We would expect that fires would be less severe within cover types comprised by species that have a high tolerance to fire (for example, western larch and ponderosa pine). Conversely, fires would likely burn more severely within cover types comprised by species having a low tolerance to fire (for example grand fir and subalpine fir). Data assignments were based upon our collective experience in the field, as well as stand structure characteristics reported in the fire-history literature. For example, if they estimated that a fire would remove less than 20 percent of the overstory, the current fire severity would be assigned to the non-lethal class (that is, NL). However, if they expected fire to remove more than 80 percent of the overstory, the current fire severity was assigned to a stand replacement class (that is, SR or SR3).

General Limitations

These data were designed to characterize broad scale patterns of estimated fire severity for use in regional and sub regional assessments. Any decisions based on these data should be supported with field verification, especially at scales finer than 1:100,000. Although the resolution of the CFS theme is 90 meter cell size, the expected accuracy does not warrant their use for analyses of areas smaller than about 10,000 acres (for example, assessments that typically require 1:24,000 data).

The current fire severity rule-set was developed for an "average burn day" for the specific vegetation types in our area. Any user of these data should familiarize themselves with the rule sets to understand better our estimate of current fire severity.

RESULTS FOR ASSESSING FIRE SEVERITY

Table 4-12 displays the predicted fire severity area in Idaho County for each fire severity class. Appendix I contains a map of these predicted fire severities.

Table 4-12. Predicted Fire Severity Area in Idaho County by Fire Severity Class.

Predicted Fire Severity Class		Acres	Percent of Area
1	Non-Lethal	37,083	1%
2	Mixed Severity, Short	115,821	2%
3	Mixed Severity, Long	1,887,945	35%
4	Mixed Severity, Variable	49,395	1%
5	Stand Replacement	2,557,489	47%
6	Non-Forest Stand Replacement, Short	209,971	4%
7	Non-Forest Mixed Severity, Moderate	25,010	0%
8	Non-Forest Stand Replacement, Moderate	25,663	0%
10	Agriculture	201,130	4%
11	Rock/Barren	286,027	5%
13	Urban	1,667	0%
14	Water	15,899	0%
15	No Information	20,566	1%

4.1.1.11 *Fuel Model Descriptions*

Anderson (1982) developed a categorical guide for determining fuel models to facilitate the linkage between fuels and fire behavior. These 13 fuel models, grouped into four basic groups: grass, chaparral and shrub, timber, and slash, provide the basis for communicating fuel conditions and evaluating fire risk.

The following is a brief description of each of the most frequently occurring fire behavior fuel models in Idaho County.

Grass Group

Fire Behavior Fuel Model 1 - Fire spread is governed by the very fine, porous, and continuous herbaceous fuels that have cured or are nearly cured. Fires are surface fires that move rapidly through the cured grass. Very little timber or shrubs are present.

Fire Behavior Fuel Model 2 - Fire spread is primarily through cured or nearly cured grass where timber or shrubs cover one to two-thirds of the open area. These are surface fires that may increase in intensity as they hit pockets of other litter.

Fire Behavior Fuel Model 3 - Fires in this grass group display the highest rates of spread and fire intensity under the influence of wind. Approximately one-third or more of the stand is dead or nearly dead.

Shrub Group

Fire Behavior Fuel Model 4 - Fire intensity and fast spreading fires involve the foliage and live and dead fine woody material in the crowns of a nearly continuous secondary over story. Stands of mature shrubs six feet tall or more are typical candidates. Besides flammable foliage, dead woody material in the stands contributes significantly to the fire intensity. A deep litter layer may also hamper suppression efforts.

Fire Behavior Fuel Model 5 - Fire is generally carried by surface fuels that are made up of litter cast by the shrubs and grasses or forbs in the understory. Fires are generally not very intense because the fuels are light and shrubs are young with little dead material. Young green stands with little dead wood would qualify.

Fire Behavior Fuel Model 6 - Fires carry through the shrub layer where the foliage is more flammable than Fuel Model 5, but requires moderate winds greater than eight miles per hour.

Fire Behavior Fuel Model 7 - Fires burn through the surface and shrub strata with equal ease and can occur at higher dead fuel mixtures because of the flammability of live foliage and other live material.

Timber Group

Fire Behavior Fuel Model 8 - Slow burning ground fuels with low flame lengths are generally the case, although the fire may encounter small "jackpots" of heavier concentrations of fuels that can flare up. Only under severe weather conditions do the fuels pose a threat. Closed canopy stands of short-needled conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mostly twigs, needles, and leaves.

Fire Behavior Fuel Model 9 - Fires run through the surface faster than in Fuel Model 8 and have a longer flame length. Both long-needle pine and hardwood stands are typical. Concentrations of dead, down woody material will cause possible torching, spotting, and crowning of trees.

Fire Behavior Fuel Model 10 - Fires burn in the surface and ground fuels with greater intensity than the other timber litter types. A result of over maturing and natural events create a large load of heavy down, dead material on the forest floor. Crowning out, spotting, and torching of individual trees are more likely to occur, leading to potential fire control difficulties.

Slash Group

Fire Behavior Fuel Model 11 - Fires are fairly active in the slash and herbaceous material intermixed with the slash. Fuel loads are light and often shaded. Light partial cuts or thinning operations in conifer or hardwood stands. Clear-cut operations generally produce more slash than is typical of this fuel model.

Fire Behavior Fuel Model 12 - Rapidly spreading fires with high intensities capable of generating fire brands can occur. When fire starts, it is generally sustained until a fuel break or changes in conditions occur. Fuels generally total less than 35 tons per acre and are well distributed. Heavily thinned conifer stands, clear cuts, and medium to heavy partial cuts are of this model.

Fire Behavior Fuel Model 13 - Fire is generally carried by a continuous layer of slash. Large quantities of material three inches and greater is present. Fires spread quickly through the fine fuels and intensity builds up as the large fuels begin burning. Active flaming is present for a sustained period of time and firebrands may be generated. This contributes to spotting as weather conditions become more severe. Clear cuts are depicted where the slash load is dominated by the greater than three inch fuel size, but may also be represented by a "red slash" type where the needles are still attached because of high intensity of the fuel type.

METHODOLOGY FOR ASSESSING FUEL MODELS

There are a number of ways to estimate fuel models in forest and rangeland conditions. The field personnel from Northwest Management, Inc. evaluated fuel models for communities and other areas of

Idaho County by making ocular estimates of fuel models they observed. In an intense evaluation, actual sampling would have been employed to determine fuel models and fuel loading.

RESULTS FOR ASSESSING FUEL MODELS

Fire control and evaluation specialists, as well as hazard mitigation consultants, evaluated the communities of Idaho County to determine the extent of risk and characteristics of hazardous fuels in the Wildland-Urban Interface, and one measurement of this determination was fuel models. The on-site evaluations have been summarized in written narratives described below for each community.

4.1.1.12 *Summary of Wildfire Hazard within Idaho County*

Idaho County is characterized by moderate to cold winters and warm, dry summers. Although relatively infrequent, fires in the forest fuel types present throughout much of the County have the potential to result in large, intense fires, resulting in high social and economic costs. This potential was realized in the summer of 2000 when several homes were threatened by wildfire in the Burnt Flats Fire east of the community of White Bird, and again in 2007 when the Poe Cabin Fire crossed over a ridgeline that separates the Snake and Salmon River Canyons, spilling into the headwaters of the Deer Creek drainage. Within ten minutes, the fire had traveled two miles, as embers were cast in front of the main fire front. Eight homes were overrun by a high intensity wildfire within minutes. Homeowners were forced to flee with little or no evacuation warning. Some became trapped because sections of the escape route were engulfed by flames. Other residents waited out the storm at a designated safety zone; many were left wondering if their homes would survive. After the main fire passed, residents of the Deer Creek drainage returned home to find that the majority of structures had survived, primarily due to homeowner's implementing treatments that made their homes "Fire Wise." These events clearly illustrate the mounting urban-interface issue facing Idaho County.

Population growth rates have been greatest in the western portion of the County around Grangeville, Cottonwood, Kamiah, and Riggins with development sprawling along the river corridors and towards bedroom communities such as Mount Idaho, Burgdorf, Keuterville, and White Bird. The growing appreciation for seclusion has led to significant development in many of the lower elevation forests. Frequently, this development is in the dry ponderosa pine–Douglas-fir forest types where grass, needle, and brush surface litter create forest fuel conditions that are at a high propensity for fire occurrence. Human use is strongly correlated with fire frequency, with increasing numbers of fires as use increases. Discarded cigarettes, tire fires, and hot catalytic converters increase the potential for fire starts along roadways. Careless and unsupervised use of fireworks also contributes to unwanted and unexpected wildland fires. Further contributing to ignition sources are the debris burners and "sport burners" who use fire to rid ditches of weeds and other burnable materials. The increased potential for fire starts and the fire prone landscapes in which homes have been constructed greatly increases the potential for fires in interface areas.

Fire departments within Idaho County have reported a general increase in the number of fires within the County. Although there have been only a few homes lost to wildland fires in the recent past, the potential is growing. Fire departments feel as though pure luck has been on the side of many homeowners, as more and more fires seem to be controlled at the doorstep of residents' homes. It is quite probable that homes will eventually be lost to wildland fire. However, there are a number of actions that can be taken now that can decrease the probability that these events will occur.

4.1.1.13 *Vegetation Associations and Risk*

Idaho County is comprised of three ecological sub regions, the Camas Prairie in the northwestern corner of the County, the arid Snake and Salmon River canyon lands, and the vast forestlands of the Clearwater

and Salmon Mountains. The community risk evaluations found in the next sections are divided into two categories, (1) rangelands, which comprise the Camas Prairie's, and Snake and Salmon Rivers' communities, and (2) forestlands, which comprise the Clearwater and Salmon Mountains' communities.

RANGELANDS

The combination of deep and productive soils make the Camas Prairie well suited to growth of both grassland and forest vegetation. The relatively arid meadow-steppe ecosystem of the Camas Prairie (part of the Palouse prairie bioregion) is dominated by bluebunch wheatgrass, Idaho fescue, and a plethora of wildflowers including Blue Camas for which the prairie was named. Over the course of the past century, most of the native meadow-steppe grasslands have been converted to agriculture fields producing winter wheat, canola, bluegrass, alfalfa, peas, and many other crops.

FORESTLANDS

Coniferous woodlands associated with the National Forests and wilderness areas cover the majority of the county. The transition zone between forest and meadow-steppe or river break lands vegetation consists of a complex inter-twining of vegetation dependent on localized topographic and climatic conditions. A ponderosa pine and Douglas-fir habitat type typically forms the lower timberline on hills and low mountains. Mixed Douglas-fir, grand fir, lodgepole pine, and western larch forests dominate at middle elevations, while subalpine fire, lodgepole, and Engelmann spruce occur at higher elevations. Western red cedar and Engelmann spruce commonly grow in moist draws and frost pockets.

4.1.1.14 *Communities at Risk*

Individual community assessments have been completed for all of the populated places in Idaho County listed in Table 4-13. The summaries in the next section include descriptions and observations for these areas. Of note, twenty of the twenty four communities in Idaho County are considered "Communities at Risk", urban wildland interface communities near Federal lands that are at high risk from wildfire [Federal Register Volume 66 (160)].

Table 4-13. Idaho County Communities.

Community Name	Planning Description	Vegetative Community	National Register Community at Risk?
Burgdorf	Community	Forestland	No
Clearwater	Community	Forestland/Rangeland	Yes
Cottonwood	City	Rangeland	Yes
Dixie	Community	Forestland	Yes
Elk City	Community	Forestland	Yes
Fenn	Community	Rangeland	Yes
Ferdinand	City	Rangeland	Yes
Grangeville	City	Rangeland	Yes
Greencreek	Community	Rangeland	Yes
Harpster	Community	Forestland	Yes
Kamiah	City	Forestland/Rangeland	Yes
Keuterville	Community	Forestland/Rangeland	Yes
Kooskia	City	Forestland/Rangeland	Yes
Lowell	Community	Forestland	Yes
Lucile	Community	Rangeland	No
Mount Idaho	Community	Forestland/Rangeland	Yes
Pollock	Community	Rangeland	Yes

Community Name	Planning Description	Vegetative Community	National Register Community at Risk?
Riggins	City	Rangeland	Yes
Slate Creek	Community	Rangeland	No
Stites	City	Forestland/Rangeland	Yes
Syringa	Community	Forestland	No
Warren	Community	Forestland	Yes
White Bird	City	Rangeland	Yes
Woodland	Community	Forestland/Rangeland	Yes

4.2 Rangeland Communities' Risk Evaluations in Idaho County

This section provides wildland fire risk evaluations for the rangeland communities located in Idaho County by discussing general rangeland vegetative associations, the overall rangeland fuels assessment, and finally displaying individual community assessments.

4.2.1 Vegetative Associations

There are two distinct types of rangeland in Idaho County. Communities on the Camas Prairie (northwestern region) lie in the fertile vegetative ecosystem known as the "Palouse prairie" community. Smaller grassland areas exist near Woodland, on many of the slopes north of the Middle Fork of the Clearwater River near Kooskia, along many of the ridges east of Stites, and around the communities of Clearwater and Tahoe Ridge/Big Cedar. These areas are also very fertile and are typically used for pasture or hay crops. Communities surrounded by the rangeland ecosystem of the Salmon River canyon including Pollock, Riggins, Lucile, Slate Creek, and White Bird are vastly different from the upland rangeland ecosystems. The slopes of the Salmon River canyon are typically very steep and dry. Idaho fescue and other bunch grasses and forbs grow abundantly; however, there is little other vegetation. Weed infestations (cheat grass, yellow star thistle, etc) are also common in much of the canyon break lands. Short shrubs and stunted ponderosa pine grow in draws and at the higher elevations. Livestock grazing is the primary land use; however, irrigated agricultural fields have been developed on flat benches near the river.

The Palouse Prairie Bioregion is widespread over much of eastern Washington, northern Idaho, and western Montana. These areas are typically characterized by rolling hills, deep soils, and a mild climate. One hundred fifty years ago, the typical vegetation consisted of perennial bunchgrasses, which grew in tufts or clumps, accompanied by many different kinds of "wildflowers." Together, the grasses and flowers gave the appearance (in spring and early summer at least) of a lush meadow. This type of vegetation occurs in relatively moist environments, where the climate is almost wet enough to support the growth of trees. The principal bunchgrasses were Idaho fescue, bluebunch wheatgrass, and prairie june grass. Short shrubs, especially snowberry and wild rose, were common. Mosses and lichens were an important but inconspicuous feature.

Agricultural practices surrounding rangeland communities within Idaho County have created a patchwork of green, lush vegetation and cured rangeland. This pattern is particularly apparent around Cottonwood, Ferdinand, and Grangeville. Cultivation has also broken fuel continuity in areas surrounding Kamiah, Kooskia, and White Bird. Although this patchwork helps to break the continuity of fuels, during the growing season or under severe weather conditions, many agricultural fields have the potential to burn very intensely.

Before the development of agriculture and other land uses, the Palouse Prairie Bioregion and the Salmon River break lands had a rich fire history, with relatively frequent fires. The last decade has seen the increase in the occurrence of cheat grass, yellow starthistle, and several other invasive species. Cheat grass and yellow star thistle are exotic species that are able to out-compete native bunchgrasses and forbs. Both of these exotics respond well to soil disturbance and are found in abundance along roadsides, driveways, new construction areas, and in recently burned areas. Over time, vegetative species compositions on many native grasslands have shifted toward these fire prone species, particularly in high use areas where disturbance is common.

4.2.2 Overall Fuels Assessment

Fuels throughout the entire rangeland community in Idaho County are fairly consistent, dominated by grasslands, cultivated fields, and in a number of instances weeds. Areas dominated by grass can be

described as Fuel Models 1, 2, and 3 (FM1, FM2, and FM3). Fires in these fuel types tend to spread rapidly, but burn at relatively low intensity. Wild or cultivated grains that have not been harvested can burn more intensely, especially under severe weather conditions. Where grasses become less consistent, wind is needed to push fires through the bunchgrass.

The majority of homes and structures within and surrounding communities on the Camas Prairie and along the Salmon River are at low to moderate risk of loss to wildland fire. The prevalence of grasses and agricultural crops pose a low threat to homes surrounded by these fuels. However, there are a number of individual homes that are at much higher risk to wildland fire loss in the area largely due to use of highly ignitable materials in home construction, location of the home on a steep slope or within heavy fuels, and the lack of defensible space surrounding the home. Several subdivisions located in the grasslands near the Clearwater River drainages have a higher risk factor due to the steeper slopes and lack of a defensible space. Home defensibility practices can dramatically increase the probability of home survivability. The amount of fuel modification necessary will depend on the specific attributes of the site. Considering the high spread rates typical in these fuel types, homes need to be protected prior to fire ignitions, as there is little time to defend a home in advance of a grass and range fire.

4.2.3 Individual Community Assessments

Cottonwood and Keuterville

The town of Cottonwood is located on the Camas Prairie upland along U.S. Highway 95 between Fenn and Ferdinand. The town is surrounded by cultivated agriculture and hay ground. Keuterville lies four miles to the west of Cottonwood at the edge of the timberline. Cottonwood Butte is a 5,730 foot knob rising just north of Keuterville and west of Cottonwood. The Butte creates a rain shadow resulting in drier conditions on the east slope.

FIRE POTENTIAL

Fuels Assessment

There is very little native vegetation remaining near these prairie ecosystem communities. The native Camas Prairie plant community has been almost exclusively replaced by agriculture and pasture lands. A few patches of native species, such as big bluestem, blue camas, shooting star, and lupines, can be found sporadically along fence lines or in non-tillable corners. The remnant prairie grasslands historically burned at relatively frequent intervals, but generally were lower intensity fires. The agricultural fields currently dominating the landscape become very dry during the summer months. These cured grasses can be very flammable, especially under extreme weather conditions, such as drought or wind. In the event of an uncontrolled wildfire, these light fuels would tend to support very fast moving, yet lower intensity fires. However, modification of the vegetation around structures can be done quickly with available farm equipment and is usually effective in controlling wildfire.

The forestland abutting Keuterville along its west side is composed of primarily ponderosa pine, Douglas-fir, grand fir, and western larch. Many privately owned parcels in this area have been thinned, which generally reduces the risk of intense wildfire. Due to the gentle topography and recent harvest operations, this forestland does not pose a high risk to nearby structures; however, homes that lack a defensible space and are directly adjacent to dense timber fuels have an increased risk of loss to fire.

The Salmon River canyon is approximately four miles south of Keuterville. The break lands on the north side of the drainage are dominated by cured grasses with stringers of ponderosa pine in draws. Fires along the river have the potential to spread very rapidly upslope towards the community as the Maloney Creek Fire in 2000 demonstrated. Due to the development of agricultural fields south of Keuterville, it is unlikely that the wildfire would reach the community before being controlled. However, individual homes in this area and in nearby timbered areas could be threatened. Fast response by emergency personnel would be critical in this situation.

Ignition Profile

Although lightning events are common in Idaho County, the communities of Cottonwood and Keuterville are more prone to human caused ignitions than lightning strikes due to the flat topography and agricultural development. Annual field burning, debris fires, and vehicle use are much more common ignition sources. Stubble fires seldom escape landowner's boundaries; however, there are a few such incidents each year. These fires are generally easily suppressed by modifying the vegetation and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pickups are used regularly in farming operations.

INGRESS-EGRESS

U.S. Highway 95 is the primary travel route across the Camas Prairie. This two-lane highway passes alongside the community of Cottonwood. Keuterville is accessed by traveling west from Cottonwood on the Keuterville Road. This is also a well-maintained, paved, two-lane route. Both of these roadways are abutted by agricultural or pasturelands that are at low risk of experiencing a wildland fire. There are several secondary routes crossing the area that may serve as potential escape routes depending on the location of the fire. Typically, these roads are also at low fire risk due to the lack of flat topography and native vegetation.

INFRASTRUCTURE

The communities of Cottonwood and Keuterville depend on municipal well systems as well as personal or multiple home well systems. Most farmers in this area do not irrigate so supplementary wells for agricultural purposes are not usually necessary. However, several ranchers use surface runoff or small springs to provide water for livestock. These water resources would not likely be seriously affected by a rangeland fire.

The Grangeville Line of the Camas Prairie Railroad traveling from Spalding through Cottonwood has recently been abandoned. This line historically transported grain, lumber, fertilizer, and other products to and from Camas Prairie markets.

FIRE PROTECTION

The Cottonwood Volunteer Fire Department provides structural protection for residents. The USDI Bureau of Land Management and the Craig Mountain Idaho Department of Lands would respond to wildland fires in this area.

COMMUNITY ASSESSMENT

Residents in the Cottonwood-Keuterville area have low risk of experiencing a wildland fire due to the extensive agricultural development. Nevertheless, in the event of wildfire, the light fuels would likely support a very fast-moving rangeland fire. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

Homes located in timbered areas west of Keuterville have an increased risk of loss to wildfire, although recent harvesting operation practices have decreased this risk. Many homeowners in this area also maintain a defensible space by watering lawns and mowing grass and weeds near structures.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry, flashy fuels. The receptive nature of these fuels increases the likelihood of a fire start. Most homeowners maintain an adequate defensible space around structures by watering their yards or mowing grass and weeds.

MITIGATION ACTIVITIES

Creating a fuel break along timbered sections of the Uptmor-Gehring Road would drastically decrease the likelihood of a fire approaching from the Salmon River canyon threatening the community. Homeowners in this area should also maintain a well groomed and green defensible space in order to ensure that their structures and families are protected from wildland fire.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Fenn, Greencreek, Winona, and Ferdinand

The communities of Fenn, Greencreek, Winona, and Ferdinand are located on the Camas Prairie in the northwestern portion of Idaho County. Farming and ranching drives the economy in these small towns. Agricultural fields surround the city centers and extend for several miles in all directions. This area is almost entirely privately owned and there are very few trees and little native prairie grasslands dotting the relatively even landscape. U.S. Highway 95 passes directly through Fenn and Ferdinand and is the main method of transporting the grains, canola, peas, and other crops that are grown in the area. Greencreek, Winona, and Ferdinand are encompassed by the Nez Perce Indian Reservation.

FIRE POTENTIAL

Fuels Assessment

There is very little native vegetation remaining near these prairie ecosystem communities. The native Camas Prairie plant community has been almost exclusively replaced by agriculture and pasture lands. A few patches of native species, such as big bluestem, blue camas, shooting star, and lupines, can be found sporadically along fence lines or in non-tillable corners. The remnant prairie grasslands historically burned at relatively frequent intervals, but generally were lower intensity fires. The agricultural fields currently dominating the landscape become very dry during the summer months. These cured grasses can be very flammable, especially under extreme weather conditions, such as drought or wind. In the event of an uncontrolled wildfire, these light fuels would tend to support very fast moving, yet lower intensity fires. However, modification of the vegetation around structures can be done quickly with available farm equipment and is usually effective in controlling wildfire.

Ignition Profile

Although lightning events are common in Idaho County, the communities of Fenn, Greencreek, Winona, and Ferdinand are more prone to human caused ignitions than lightning strikes due to the flat topography and agricultural development. Annual field burning, debris fires, and vehicle use are much more common ignition sources. Stubble fires seldom escape landowner's boundaries; however, there are a few incidences each year. These fires are generally easily suppressed by modifying the vegetation and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but also fires are commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pickups are used regularly in farming operations.

INGRESS-EGRESS

U.S. Highway 95 is the primary travel route across the Camas Prairie. This two-lane highway passes through the communities of Fenn and Ferdinand. Winona is located along State Route 162 between Nez Perce and Kamiah. Greencreek is accessed by Greencreek Road, a paved two-lane short-cut between U.S. 95 and Power line Road. All of these roadways are abutted by agricultural or pasturelands that are at low risk of experiencing a wildland fire. There are several secondary routes crossing the area that may serve as potential escape routes depending on the location of the fire. Typically, these roads are also at low fire risk due to the lack of flat topography and native vegetation.

INFRASTRUCTURE

Residents of Fenn, Greencreek, Winona, and Ferdinand either are connected to a municipal well or have drilled personal wells. Most farmers in this area do not irrigate so supplementary wells for agricultural purposes are not usually necessary; however, several ranchers use surface runoff or small springs to provide water for livestock. These water resources would not likely be seriously affected by a rangeland fire.

The Grangeville Line of the Camas Prairie Railroad traveling from Spalding through Ferdinand and Fenn to Grangeville has recently been abandoned. This line historically transported grain, lumber, fertilizer, and other products to and from Camas Prairie markets.

FIRE PROTECTION

The Ferdinand Volunteer Fire Department is responsible for structural protection around the community of Ferdinand. Structures in Fenn are protected by the Grangeville Rural Fire District. The Cottonwood Volunteer Fire Department provides structural protection for residents of Greencreek, and the Kamiah Fire Department would be dispatched for structural fires in the Winona area. Due to the many rural farms and ranches, these departments typically have good mutual aid relationships in order to provide the best service possible and to provide back up for each other.

COMMUNITY ASSESSMENT

Residents in the Fenn-Greencreek-Winona-Ferdinand area have low risk of experiencing a wildland fire due to the extensive agricultural development. Nevertheless, in the event of wildfire, the light fuels would likely support a very fast-moving rangeland fire. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry, flashy fuels. The receptive nature of these fuels increases the likelihood of a fire start. Most homeowners maintain an adequate defensible space around structures by watering their yards or mowing grass and weeds.

MITIGATION ACTIVITIES

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for recommended mitigation.

Grangeville

The community of Grangeville is located on the Camas Prairie at approximately 3,300 feet elevation. The surrounding area is primarily farmland to the north, east, and west, with relatively flat terrain to rolling hills. Vegetation is predominantly agricultural in nature interspersed with uncultivated grasslands and isolated open ponderosa pine stands. To the south, terrain slopes upward to just over 6,000 feet within five miles of town. Vegetation quickly changes from the open grasslands of the Camas Prairie to dry-site Ponderosa Pine and Douglas-fir stands to denser stands of mixed conifer on the north-facing slopes. Drainages are predominantly moister site spruce/fir stands.

The Crimson Ridge Subdivision and Bear Den RV Park are new developments being constructed along U.S. Highway 95 and Fish Hatchery Road west of town. At completion, Crimson Ridge will encompass 80 new home sites. Additional home sites are also being developed south of Bear Den RV Park along Fish Hatchery Road. Other subdivisions include Meadow Grass Acres, The Vineyards, and Golden Hills.

FIRE POTENTIAL

Fuels Assessment

There is very little native vegetation remaining near this prairie ecosystem community. The native Camas Prairie plant community has been almost exclusively replaced by agriculture and pasture lands. A few patches of native species, such as big bluestem, blue camas, shooting star, and lupines, can be found sporadically along fence lines or in non-tillable corners. The remnant prairie grasslands historically burned at relatively frequent intervals, but generally were lower intensity fires. The agricultural fields currently dominating the landscape become very dry during the summer months. These cured grasses can be very flammable, especially under extreme weather conditions, such as drought or high winds. In the event of an uncontrolled wildfire, these light fuels would tend to support very fast moving, yet lower intensity fires. However, modification of the vegetation around structures can be done quickly with available farm equipment and is usually effective in controlling wildfire.

Ignition Profile

Both natural and human caused ignitions occur around the community of Grangeville. The community center is more prone to human caused ignitions than lightning strikes due to the flat topography and agricultural development; however, lightning strikes occur frequently in the state and federal forestlands to the south and east of the population center. Annual field burning, debris fires, and vehicle use are more common ignition sources. Stubble fires seldom escape landowner's boundaries; however, there are a few such incidents each year. These fires are generally easily suppressed by modifying the vegetation and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but also fires are commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pickups are used regularly in farming operations.

INGRESS-EGRESS

U.S. Highway 95 and State Route 13 are the primary access routes to and from Grangeville. Both routes are two-lane, paved highways. There are also several paved or gravel secondary routes extending into the lower risk Camas Prairie grasslands that could serve as potential escape routes including Rock Pit Road and Tolo Lake Road. All of these roadways are abutted by agricultural or pasturelands that are at low risk of experiencing a wildland fire.

INFRASTRUCTURE

Residents of Grangeville depend on the Three Mile Creek Watershed for most of the water resources; however, homeowners outside of the city limits typically have drilled personal wells. Most farmers in this area do not irrigate so supplementary wells for agricultural purposes are not usually necessary; however, several ranchers use surface runoff or small springs to provide water for livestock. Ground water resources would not likely be seriously affected by wildland fire.

The Three Mile Creek Watershed, located three miles directly south of Grangeville, consists of ponderosa pine and Douglas-fir stands. Much of this drainage has been logged over the years with little subsequent management. There are several acres of dense pine and fir regeneration stands intermixed with multi-layered stands of Douglas-fir, pine, and western larch. These slopes are of moderate to high concern for potential crown fire spread leading up to the High Camp Loop Road, where communications facilities are at risk as well as to private homes on either side of this drainage. Potential impacts of a large stand-replacing fire in this area could negatively affect the community of Grangeville via potential flooding, erosion, and degradation of water quality.

FIRE PROTECTION

The Grangeville Rural Fire District is responsible for structural fire protection in this area, while the USDA Forest Service, the Idaho Department of Lands, and the USDI Bureau of Land Management provide wildland fire protection.

COMMUNITY ASSESSMENT

Residents of the Grangeville area have low to moderate risk of experiencing a wildland fire due to the extensive agricultural development. Nevertheless, in the event of wildfire, the light fuels would likely support a very fast-moving rangeland fire. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

The new Crimson Ridge Subdivision and Bear Den RV Park developments currently under construction in Grangeville are located between the city center and the Grangeville Country Club along Highway 95. This area is at low risk of wildfire due to the surrounding prairie vegetation and pasture ground. Meadow Grass Acres north of Grangeville and The Vineyards are also at low risk of wildfire. As more development occurs in this area, the fire risk will likely be reduced further. Nevertheless, fire ignitions are highly correlated with population density; more people typically means more human caused fire starts. There is currently a gap in fire coverage between the Harpster Fire District and the Grangeville Rural Fire District. This results in the Golden Hills Subdivision area being without structural protection.

As the community grows, more and more homes are also being built in the wildland urban interface, particularly south and southwest of town. Many of these new homes abut forest-type fuels and are accessed by one-way in and one-way out driveways, which dramatically increases the likelihood of loss of life or property in the event of a wildland fire. These homes and other buildings are at much higher risk of experiencing a fire.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry, flashy fuels. The receptive nature of these fuels increases the likelihood of a fire start. Most homeowners maintain an adequate defensible space around structures by watering their yards or mowing grass and weeds.

MITIGATION ACTIVITIES

The Three Mile Creek Watershed should be a high priority for fire mitigation treatments due to the dependence of the community on the water resources produced by this facility.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Ensuring that there are adequate water resources available for emergency use and that new roads and driveways are accessible to emergency apparatus will become increasingly important as the community expands.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Pollock

The community of Pollock is a very small town located along U.S. 95 adjacent to the Little Salmon River. The relatively recent development of a homeowner's association on the west bank of the Little Salmon River has resulted in a concentration of homes in this area. These homes are scattered throughout the rangeland fuels that dominate these steep break lands. There are also several structures and ranches associated with the Diamond Springs Subdivision, the Rapid River Fish Hatchery, and the Whitewater Wilderness Ranch located near Pollock on the Rapid River Road.

FIRE POTENTIAL

Fuels Assessment

The rangeland vegetation dominating the town site is typical of the Salmon River canyon consisting of cured grasses. Historically, this area was actively grazed by livestock, which significantly reduced the amount of fine fuels. However, as more homes are built, grazed land is continually reduced. Fires in rangeland fuels typically burn at low intensities, but spread very rapidly, especially under the influence of up canyon winds.

Along the upper breaks on the west side of the river, the landscape is dominated by relatively open ponderosa pine and Douglas-fir stands with a grass understory. These forest fuels will typically experience surface fires in mild years, but have the potential to spread to crowns when fuel moisture is low and winds are high. Ladder fuels in interface areas have increased due to current fire suppression policies. This can lead to more severe fire behavior, especially on steeper slopes.

Ignition Profile

Both natural and human caused ignitions occur around the community of Pollock. The community center is more prone to human caused ignitions than lightning strikes due to its location in the bottom of the drainage and nearby water resources; however, lightning strikes occur frequently in the forested lands on upper slopes and along the canyon rim. Annual field burning, debris fires, and vehicle use are more common ignition sources. On gentler slopes, rangeland fires in this area can be relatively easy to suppress by modifying the vegetation; however, on the steeper slopes fire suppression becomes much more difficult and hazardous.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails.

INGRESS-EGRESS

U.S. Highway 95 is the main access into Pollock. This two-lane highway provides rapid egress both to the north and south. Although there are numerous gravel secondary roads in the area, none are thru roads accessing safe locations. The lack of an alternate escape route increases the fire hazard.

The Rapid River Road is the sole access route into the Diamond Springs Subdivision and the Rapid River Fish Hatchery. This well-maintained gravel route has turnouts and a turnaround area at the end. Several homes and the Whitewater Wilderness Ranch are accessed via narrow secondary roads that may limit access by emergency vehicles.

INFRASTRUCTURE

Residents in the Pollock area have personal wells. These water resources would not likely be severely affected by wildland fire.

FIRE PROTECTION

The Salmon River Volunteer Fire Department maintains stations on Rapid River Road and Whitewater Wilderness Ranch to provide structural fire protection in this area. The USDA Forest Service is responsible for wildland fire protection.

COMMUNITY ASSESSMENT

Residents of the Pollock area have moderate risk of experiencing a wildland fire due to the lack of an alternate escape route, dry, flashy fuels, and steep slopes rising from the river canyon. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

The Whitewater Wilderness Ranch, Diamond Springs Subdivision, and the Rapid River Fish Hatchery all exhibit risk factors that increase their vulnerability to wildfire. Homes and other structures along the Rapid River Road sit in the small valley created by Rapid River. In the event of a fire, the valley walls may funnel hot fumes and gases as well as cause extreme fire behaviors. Additionally, the Rapid River Road is the sole access route for residents in this area. Residents fortunately do have easy access to water resources.

Many homes in this area are accessed by one-way in and one-way out driveways. It is difficult for emergency response personnel to protect these homes safely; therefore, it is more likely that homes with this characteristic will experience loss of life or property in the event of a wildland fire.

Homes located on mid or upper slopes are in danger of becoming threatened by rangeland fire spreading rapidly up slope. These homes generally have poor access and would be difficult to protect in a wildfire situation. The receptive nature of the fuels in this area increases the likelihood of a fire start. Residences exhibiting these traits have an increased fire risk. However, most homeowners maintain a defensible space around structures by watering their yards and mowing grass and weeds.

MITIGATION ACTIVITIES

Residents of Pollock and the surrounding area should be encouraged to work with local fire departments and fire management agencies within the county to complete individual home site evaluations. Home defensibility steps should be enacted based on the results of these evaluations.

Grazing generally works positively towards reducing the fine fuels in the vegetation types surrounding Pollock, particularly in rangeland areas and open forest stands with grass and brush in the understory. Many landowners already graze livestock in areas that would otherwise be more susceptible to carrying a wildland fire. Grazing is a relatively inexpensive fire mitigation tool that typically works very well with little negative impact on the land.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Riggins

The community of Riggins is located at the intersection of the Main Salmon and the Little Salmon Rivers. Drainages coming off the western slope of the Salmon River canyon have become rural residential areas. There are several homes and small ranches leading up to the Nez Perce National Forest boundary on the Race Creek Road, Bean Creek Road, Kessler Creek Road, and the Seven Devils Road (Squaw Creek and Papoose Creek).

The economy of this small roadside community is almost completely dependent on the flow of tourists' dollars. As the "Whitewater Capital of the World", Riggins is a bustling metropolis throughout the rafting and kayaking seasons. This area is also popular for its fishing and camping opportunities.

FIRE POTENTIAL

Fuels Assessment

The rangeland vegetation dominating the town site is typically of the Salmon River canyon consisting of cured grasses and patches of sage brush. Scattered ponderosa pine grows in many of the shallow draws where the soil moisture is slightly higher, particularly on the east side of the river. Several hardwood species can also be found along the narrow banks of the Little Salmon. The slopes rising from the city center are actively grazed by livestock and wildlife, which helps to reduce the fine fuel loads. Fires in rangeland fuels typically burn at low intensities, but spread very rapidly, especially under the influence of up canyon winds.

Along the upper breaks on the west side of the river, land is dominated by forest cover intermixed with rangelands. These habitat types will experience ground fires under normal fire conditions, but have the potential to spread to crowns when fuel moisture is low and winds are high. Ladder fuels are present in the interface between the range lands and the forest lands, which increases the likelihood of a torching and crowning wildfire. The dry nature of the vegetation combined with steep canyon slopes makes this area very susceptible to rapidly spreading rangeland fires.

Ignition Profile

Both natural and human caused ignitions occur around the community of Riggins. The community center is more prone to human caused ignitions than lightning strikes due to its location in the bottom of the drainage and nearby water resources; however, lightning strikes occur frequently in the forested lands on upper slopes and along the canyon rim. Debris or campfires and vehicle use are more common ignition sources. On gentler slopes rangeland fires in this area can be relatively easy to suppress by modifying the vegetation; however, on the steeper slopes fire suppression becomes much more difficult and hazardous.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails.

INGRESS-EGRESS

U.S. Highway 95 is the main access into Riggins. This two-lane highway provides rapid egress both to the north and south. Although it dead ends several miles up the Main Salmon River, the Salmon River Road is highly trafficked. Boaters, anglers, rafters, and residents use this narrow corridor excessively. The gravel/paved, single-lane roadway follows the river's contours eastward crossing several light duty bridges along the way. There are only a few turnouts, no guard rails, and bridges are inadequately signed. This road is currently undergoing a major renovation project, which should greatly improve safety along

this roadway. Heavy traffic and recreational use make this passageway extremely prone to a fire ignition. Furthermore, emergency evacuation of this corridor would be difficult and unsafe. The only alternate escape route from Riggins is the Bean Creek Road, a Forest Road traveling north along the ridge on the west side of the river all the way back to White Bird. In order to function as a safe escape route, this road would need clearing of hazardous vegetation, regular maintenance, and emergency route signage.

INFRASTRUCTURE

Residents of Riggins depend on a community well system and personal wells. These water resources would not likely be severely affected by a wildland fire; however, the electrical power that operates the pumps on the wells could potentially be interrupted or damaged leaving all or a portion of the community without water.

FIRE PROTECTION

The Riggins City Volunteer Emergency Services has equipment and a station in Riggins, which provides for city fire protection and the protection of homes within the ten-mile mutual aid area with Salmon River Rural Fire Department. This station also houses two ambulances. The Nez Perce National Forest is responsible for wildland fire control west and north of the Salmon River, while the Payette National Forest is responsible for wildland fire control east and south of the river.

COMMUNITY ASSESSMENT

Residents of the Riggins area have moderate to high risk of experiencing a wildland fire due to the intense recreational activities, dry, flashy fuels, and steep slopes rising from the river canyon. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

Many homes in this area are accessed by one-way in and one-way out driveways. It is difficult for emergency response personnel to protect these homes safely; therefore, it is more likely that homes with this characteristic will experience loss of life or property in the event of a wildland fire. Many of the homes in the creek drainages on the west side of the Salmon River are accessed by only a single roadway. In most cases, these roads dead end near the top of the ridge within the National Forest. Homes in the Race Creek, Squaw Creek, Bean Creek, and Kessler Creek drainage are at a higher fire risk due to the flashy fuels and limited ingress and egress. This situation is further exacerbated by their location in a draw, which may funnel hot gases and fumes. Fires in this type of topography are generally difficult and dangerous for firefighters to suppress.

Homes located on mid or upper slopes are in danger of becoming threatened by rangeland fire spreading rapidly up slope. These homes generally have poor access and would be difficult to protect in a wildfire situation. The receptive nature of the fuels in the area increases the likelihood of a fire start. Residences exhibiting these traits have an increased fire risk. However, most homeowners maintain a defensible space around structures by watering their yards and mowing grass and weeds.

MITIGATION ACTIVITIES

Development of evacuation plans for the residents located in the small creek drainages west of Riggins is necessary to assure orderly evacuations in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. Most residents would benefit from the construction of additional escape routes to Highway 95. Community safety zones should also be established in the event of a compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Grazing generally works positively towards reducing the fine fuels in the vegetation types surrounding Riggins, particularly in rangeland areas and open forest stands with grass and brush in the understory. Many landowners already graze livestock in areas that would otherwise be more susceptible to carrying a wildland fire. Grazing is a relatively inexpensive fire mitigation tool that typically works very well with little negative impact on the land.

Residents and visitors to the Riggins area would also benefit from improvements to the Salmon River Road. In the event of an emergency, this road would become extremely congested. Emergency personnel would not be able to travel up river during an evacuation due to the narrowness of the roadbed and lack of turnouts.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Slate Creek and Lucile

The small communities of Slate Creek and Lucile are located along U.S. Highway 95 and the Salmon River between White Bird and Riggins. Slate Creek, after which the community was named, flows into the Salmon River just north of the Slate Creek city center. The economy in Slate Creek is largely dependent on area farmers and ranchers; however, employees of the Salmon River Ranger District make up a large portion of seasonal residents. There are only a few permanent residents living in Lucile; however, privately owned recreational facilities attract travelers and tourists, especially during the warmer months. There are several homes located in the Cow Creek drainage on the west side of the canyon across the Salmon River from the city center. Lucile is also the primary pick up point for rafters and kayakers traveling down river from Riggins. Both Slate Creek and Lucile are also popular fishing and camping destinations due to their easy access of the highway and their location along the Salmon River corridor.

FIRE POTENTIAL

Fuels Assessment

The rangeland vegetation dominating these town sites is typical of the Salmon River canyon consisting of cured grasses and forbs. Scattered ponderosa pine grows at higher elevations in many of the shallow draws where the soil moisture is slightly higher. Many non-native hardwood species have been planted along Slate Creek and throughout the community of Slate Creek creating somewhat of an oasis in the dry rangeland landscape. The steep canyon slopes rising from both communities are actively grazed by livestock and wildlife, which helps to reduce the fine fuel loads. Fires in rangeland fuels typically burn at low intensities, but spread very rapidly, especially under the influence of up canyon winds.

Along the upper breaks on both sides of the river, land is dominated by forest cover intermixed with rangelands. These habitat types will experience ground fires under normal fire conditions, but have the potential to spread to crowns when fuel moisture is low and winds are high. Ladder fuels are present in the interface between the range lands and the forest lands, which increases the likelihood of a torching and crowning wildfire. The dry nature of the vegetation combined with steep canyon slopes makes this area very susceptible to rapidly spreading rangeland fires.

The Hells Canyon National Recreation Area (Wallowa-Whitman National Forest) and the Nez Perce National Forest boundaries are within two to five miles of both communities. Heavier fuel loading due to decades of fire suppression on these federally administered lands may increase the fire risk to neighboring communities including Slate Creek and Lucile. Nevertheless, immediate fire suppression is generally the policy if communities or homes are or could become threatened by wildfire.

Ignition Profile

Both natural and human caused ignitions occur around the Slate Creek and Lucile. The community centers are more prone to human caused ignitions than lightning strikes due to its location in the bottom of the drainage and nearby water resources; however, lightning strikes occur frequently in the forest and rangelands on upper slopes. Debris or campfires and vehicle use are more common ignition sources. On gentler slopes rangeland fires in this area can be relatively easy to suppress by modifying the vegetation; however, on the steeper slopes fire suppression becomes much more difficult and hazardous.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails.

INGRESS-EGRESS

U.S. Highway 95 is the main access into both Slate Creek and Lucile. This two-lane highway provides rapid egress both to the north and south. The only secondary access out of Lucile is the Cow Creek Road, which travels west from the river intersecting with other Forest Roads on the ridge top. This gravel road may be an adequate escape route if a fire occurs on the east side of the Salmon River; however, it would likely become impassable in the event of a fire occurrence on the western slope. In order to function as a safe escape route, this road would need improvements, regular maintenance, and emergency route signage. There are two gravel roads on the eastern slope of the river near Slate Creek that could function as escape routes. Slate Creek Road and Nut Basin Road are both gravel routes that lead into Nez Perce National Forest system lands. Both of these routes would need improvements, regular maintenance, and signage to function as an emergency escape route. Both of these roadways could easily become impassable due to a wildfire on the eastern slope. There are no secondary routes on the western side of the Salmon River.

INFRASTRUCTURE

The communities of Slate Creek and Lucile rely on personal or multiple home wells. These water resources would not likely be affected by wildland fire.

FIRE PROTECTION

The Salmon River Rural Fire Department is responsible for structural fires in Slate Creek and the Riggins Fire Department is responsible for structural fires in Lucile. The USDA Forest Service and the Idaho Department of Lands provide wildland fire protection.

COMMUNITY ASSESSMENT

Residents of the Slate Creek-Lucile area have moderate risk of experiencing a wildland fire due to the intense recreational activities, dry, flashy fuels, and steep slopes rising from the river canyon. This risk is further increased by the lack of good alternate escape routes. In the event of a wildfire, U.S. Highway 95 will be the sole escape route for many residents and travelers. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

Many homes in this area are accessed by one-way in and one-way out driveways. It is difficult for emergency response personnel to protect these homes safely; therefore, it is more likely that homes with this characteristic will experience loss of life or property in the event of a wildland fire.

Homes in the Cow Creek drainage opposite Lucile have an increased risk of fire. Not only are they surrounded by dry, flashy rangeland fuels, but they are also located in a narrow canyon with only one escape route. The walls of the canyon would likely funnel hot fumes and gases and cause extreme fire behavior characteristics, making suppression difficult and dangerous for firefighters. Residents in the Cow Creek area are dependent on the bridge across the Salmon River into Lucile for their primary escape route. If this bridge were compromised, residents would have to travel up the canyon to Forest Road 672, which, because fire generally moves upslope, may not be a very safe alternative.

Homes located on mid or upper slopes are in danger of becoming threatened by rangeland fires moving spreading rapidly up slope. These homes generally have poor access and would be difficult to protect in a wildfire situation. The receptive nature of the fuels in the area increases the likelihood of a fire start. Residences exhibiting these traits have an increased fire risk. However, most homeowners maintain a defensible space around structures by watering their yards and mowing grass and weeds. Additionally, both Slate Creek and Lucile are located in the bottom of the canyon adjacent to vast water resources, which drastically reduces the fire risk.

MITIGATION ACTIVITIES

Grazing generally works positively towards reducing the fine fuels in the vegetation types surrounding the communities of Slate Creek and Lucile, particularly in rangeland areas and open forest stands with grass and brush in the understory. Many landowners already graze livestock in areas that would otherwise be more susceptible to carrying a wildland fire. Grazing is a relatively inexpensive fire mitigation tool that typically works very well with little negative impact on the land.

Residents and visitors to Slate Creek and Lucile would also benefit from improvements and signage along the secondary escape routes.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Upper Salmon River In-Holdings

The Upper Salmon River community is a number of isolated ranches and homes scattered along the main Salmon River, upriver from the end of the Salmon River Road. This includes the Shepp Ranch, the Polly Bemis Ranch, the Indian Creek Ranch, the James Ranch, the Romine Ranch, the Allison Ranch, Campbell's Ferry, China Bar, Five Mile Bar, Jim Moore (historical), Painter Bar, the Wolfe Place, Yellow Pine, Whitewater Ranch, and Mackey Bar. These homes are scattered along the Main Salmon River in the typically grassy fuels that dominate these steep break lands.

FIRE POTENTIAL

Fuels Assessment

The rangeland vegetation dominating these sites is typical of the Salmon River canyon consisting of cured grasses. Fires in these fuels tend to burn at low intensities, but spread very rapidly, especially under the influence of up canyon winds.

Along the upper breaks on the north side of the river, the landscape is dominated by relatively open ponderosa pine and Douglas-fir stands with a grass understory. These forest fuels will generally experience surface fires in mild years, but could support a crown fire when fuel moisture is low and winds are high. Ladder fuels throughout the drainage have increased due to current fire suppression policies. This can lead to more severe fire behavior, especially on steeper slopes.

Ignition Profile

Both natural and human caused ignitions occur along the upper Salmon River. Many of the in holdings are more prone to human caused ignitions than lightning strikes due to their location in the bottom of the drainage and nearby water resources; however, lightning strikes occur frequently in the forested lands on upper slopes and along the canyon rim. Annual recreation use on the river brings a huge influx of potential starts; however, fire restrictions along the river corridor have aided in decreasing this likelihood. On gentler slopes wildland fires in this area can be relatively easy to suppress by modifying the vegetation; however, on the steeper slopes fire suppression becomes much more difficult and hazardous.

INGRESS-EGRESS

There is no road along the upper Main Salmon River. These backcountry ranches are supplied either by jet boat on the river or airplane. Most of these in-holdings have trail access also. Mackay Bar and White Water Ranch have road access via narrow, seasonal dirt roads accessible by ATV or four-wheel drive vehicles.

INFRASTRUCTURE

There are no phone or power lines. Communication consists of an old radio system, satellite internet and phone, and hand delivered mail via boat or aircraft.

FIRE PROTECTION

There is no organized fire protection for the residents along the upper Salmon River. Residents have established a backcountry radio network and are in communication with one another, usually daily; thus, they would be able to solicit help from their neighbors. The response time for each ranch may vary due to location, weather, and transportation means.

COMMUNITY ASSESSMENT

Residents along the Main Salmon River have moderate to high risk of experiencing a wildland fire due to the sheer remoteness, lack of escape routes, flashy fuels, and steep slopes rising from the river canyon. Human caused fire ignitions are more likely to occur along the river corridor and move very quickly upslope leaving little time to escape. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

The remoteness of these homes and the vast amounts of surrounding fuels make it highly probable that a number of these residents will experience loss of life or property in the event of a wildland fire.

Prescribed burning projects have been conducted on Forest Service lands adjacent to the Mackey Bar Road to Little Mallard Creek to reduce the risk of wildfire encroaching on private lands. These projects not only serve to create a safe escape route for residents, but will also enable emergency apparatus and personnel to access the property more safely.

Homes located on mid or upper slopes are in danger of becoming threatened by fire spreading rapidly up slope. These homes generally have poor access and would be difficult to protect in a wildfire situation. The receptive nature of the fuels in this area increases the likelihood of a fire start. Residences exhibiting these traits have an increased fire risk. However, most homeowners maintain a defensible space around structures by irrigating their yards and mowing grass and weeds.

MITIGATION ACTIVITIES

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

White Bird

This small town is located one mile off the Salmon River along White Bird Creek at about 1,600 feet in elevation. The mountains surrounding it quickly rise to 5,000 feet with the timber line down to 2,000 feet on north slopes and 3,800 feet on south slopes. Ponderosa pine grows along the river in the shade of the mountains. The rangeland is plagued by yellow starthistle and cheat grass, but there are still native grasses mixed throughout.

Deer Creek Road takes off from the Swiftwater Bridge on the west side of the canyon west of White Bird. This road travels southwest over the ridge, then drops down to the Snake River on the other side. There are numerous homes and ranches all along this roadway up to the National Forest Boundary.

The Twin Rivers Subdivision, which is still under development, lies on the west side of the Salmon River in the Hammer Creek and lower Deer Creek area. These lots are typically riverfront views with limited access.

FIRE POTENTIAL

Fuels Assessment

The rangeland vegetation that covers most of the Salmon River canyon, including the slopes rising from the White Bird Creek drainage, is primarily made up of cured grasses with hay fields and pasture ground intermixed. Fires in rangeland fuels typically burn at low intensities, but spread very rapidly, especially under the influence of up canyon winds.

Ponderosa pine is present on the mid and upper slopes of the western canyon wall of the Salmon River. These stands tend to be relatively open with a grass and light brush understory. Over the past several years, this east aspect slope has been systematically logged in order to continue development of the Twin River subdivision. This area is at high risk for wildfire due to the increased human activity in combination with highly flammable rangeland fuels, slash build up from logging activity, and steep slopes.

Rangeland in the Salmon River canyon historically burned very frequently, which restored nutrients to the ecosystem and eradicated invasive species. Due to recent suppression policies and severe soil disturbance cheat grass and other nonnative species have become established. Cheat grass's fine structure and ability to dominate completely disturbed sites provides a dry, consistent fuel bed for fire. In areas where the exotic has out competed native species, there is a consistent bed of fine fuels that can actively carry fire without the effect wind. Because of these characteristics, cheat grass will support fire during times of the year and under conditions in which native vegetation would not sustain a wildland fire.

Ignition Profile

Both natural and human caused ignitions occur around the community of White Bird. The community center is more prone to human caused ignitions than lightning strikes due to its location in the bottom of the drainage and nearby agricultural development; however, lightning strikes occur frequently along the canyon rim and in the forestland east of the town. Annual field burning, debris fires, and vehicle use are much more common ignition sources. Stubble fires seldom escape landowners' boundaries; however, there are a few such incidents each year. These fires are generally easily suppressed by modifying the vegetation and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pickups are used regularly in farming operations.

INGRESS-EGRESS

The old U.S. Highway 95 passed directly through the White Bird community center. The new highway bypasses the town site via a large bridge across the White Bird Creek drainage. The primary access into the community center is a short spur road off the new U.S. 95 that connects to the old highway. The new U.S. 95 is the most direct route to and from the Salmon River canyon; however, the old highway can still be used to gain access to the Camas Prairie to the north. Both of these roadways are bordered by rangeland fuels; thus, it is unlikely that both would be disabled at the same time due to the short duration of fires typical in these fuels. Nevertheless, the Free Use Road and the Canfield Road could be used as alternative escape routes. These roads are also at low risk due to the lack of heavy fuels.

The Deer Creek Road is the sole access route for residents in the Deer Creek area. Most of this gravel route is fairly narrow and winding, traveling through rangeland fuels or pasture ground until it reaches the Nez Perce National Forest boundary near the summit.

The Twin Rivers Subdivision is accessed by Deer Creek Road and Canfield Road off the Old Highway 95 loop through Swift Water. Both of these access routes are narrow gravel roads, which may not support two-way truck traffic in several spots. Additionally, most homeowners have narrow private driveways with inadequate turnaround or turnout areas, which may limit emergency vehicle admittance.

INFRASTRUCTURE

Residents of city of White Bird rely on a community well system, while homeowners in the surrounding areas have personal or multiple home wells. These water resources are not likely to be severely affected by wildfire.

FIRE PROTECTION

The White Bird Volunteer Fire Department is responsible for structural fire protection in the City of White Bird. Salmon River Rural Fire Department and White Bird Volunteer Fire Department have an automatic response agreement for the area surrounding the city.

COMMUNITY ASSESSMENT

Although the White Bird town site is at relatively low risk of experiencing a wildfire; homes located along the steep slopes rising from either Salmon River or the White Bird Creek drainage are at much higher risk. Many homeowners in the Deer Creek area would be threatened in the event of a fire burning upslope on the west side of the river. If access to the river via the Deer Creek Road were compromised, residents would be forced to travel up the grade either to be airlifted or jet boated out of Pittsburg Landing or take Forest Road 672 along the ridge top all the way to Lucile or Riggins.

The Twin River Subdivision on the west side of the Salmon River is at particularly high risk. Since the development of the subdivision seven years ago, there have been five fires in the area, and on four of those occasions structures were threatened. On one occasion, a fire came so close that scorch marks were left on a home. Idaho County currently has no planning and zoning laws in place; however, cooperation through local fire response agencies has resulted in a small fire education program for Twin River residents. The combination of light fuels and high fire occurrence on these steep slopes make it imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event. The Hells Canyon National Recreation Area lies only two air miles south of the subdivision. The Wallowa-Whitman National Forest has jurisdiction over these lands; however, the less than aggressive initial attack that is practiced in natural areas could become a significant threat to homeowners in the Twin River development. A fire spreading over the ridge from the Hells Canyon area could result in multiple spot fires on the Salmon River side.

In 2000, landowners in the White Bird Creek drainage northeast of White Bird realized the importance of defensible space as the Burnt Flats Fire nearly caused an evacuation of the entire town. This fire burned 25,000 acres of forest and rangeland before it was contained. Additionally, the Poe-Cabin fire in 2007 threatened numerous homes and structures in the Salmon-River canyon south of White Bird. A fuels mitigation project started in 2004 and finished two years later resulted in all treated homes surviving a severe crown fire event. Evaluations of home sites conducted after the fire led to the production of the video, "Are We Safe from Fire?", currently being used nationally and on the internet.

As more and more homes are built in the wildland urban interface, particularly in the Twin River subdivision, pre-fire mitigation activities will become increasingly important. Due to the nature of the topography, many of these structures are accessed by one-way in, one-way out driveways, which are not conducive to effective fire protection and dramatically increases the likelihood of loss of life or property in the event of a wildland fire. These homes and other buildings are at much higher risk of experiencing a fire.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry, flashy fuels. The receptive nature of these fuels increases the likelihood of a fire start.

MITIGATION ACTIVITIES

Grazing generally works positively towards reducing the fine fuels in the vegetation types surrounding White Bird, particularly in rangeland areas and open forest stands with grass and brush in the understory. Many landowners already graze livestock in areas that would otherwise be more susceptible to carrying a wildland fire. Grazing is a relatively inexpensive fire mitigation tool that typically works very well with little negative impact on the land.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

4.3 Forestland Communities' Risk Evaluations in Idaho County

This section provides wildland fire risk evaluations for the forestland communities located in Idaho County by discussing general forestland vegetative associations, the overall forestland fuels assessment, and finally displaying individual community assessments.

4.3.1 Vegetative Associations

Vegetative structure and composition in Idaho County are closely related to elevation, aspect, and precipitation. Relatively mild and moist environments characterize the undulating topography of the region, which transitions from the Palouse prairie plant communities of the northwest region to the forest ecosystems that characterize the vast majority of the land area in Idaho County. These forest communities contain high fuel accumulations that have the potential to burn at moderate to high intensities. Highly variable topography coupled with dry, windy weather conditions typical of the region is likely to create extreme fire behavior.

The transition between developed agricultural land and timberlands occurs somewhat abruptly, usually along toe slopes or distinct property boundaries. At higher elevation mountainous regions, moisture becomes less limiting due to a combination of higher precipitation and reduced solar radiation. Vegetative patterns shift toward forested communities dominated by ponderosa pine, western larch, grand fir, and Douglas-fir at the lower elevations, transitioning to lodgepole pine and subalpine fir at the higher elevations. Engelmann spruce and western red cedar are commonly found in moist draws and frost pockets. These forested conditions possess a greater quantity of both dead and down fuels as well as live fuels. Rates of fire spread tend to be lower than those in the grass and shrub lands; however, intensities can escalate dramatically, especially under the effect of slope and wind. These conditions can lead to control problems and potentially threaten lives, structures and other valued resources.

As elevation and aspect increase available moisture, forest composition transitions to moister habitat types. Increases in moisture keep forest fuels unavailable to burn for longer periods during the summer. This increases the time between fire events, resulting in varying degrees of fuel accumulation. When these fuels do become available to burn, they typically burn in mosaic pattern at mid elevations, where accumulations of forest fuels result in either single or group tree torching, and in several instances, short crown fire runs. At the highest elevations, fire events are typically stand replacing, as years of fuel accumulation lead to large, intense wildfires.

Idaho County is unique in the sense that a huge amount of land area is designated wilderness or National Forest. The Selway Bitterroot Wilderness and the Frank Church River of No Return Wilderness cross into Idaho County. The Gospel Hump Wilderness is completely encompassed within Idaho County. In addition, jurisdiction over much of Idaho County's forestlands is apportioned to the Nez Perce National Forest, the Payette National Forest, the Bitterroot National Forest, and the Clearwater National Forest.

Many lower elevation forested areas throughout Idaho County are highly valued for their scenic qualities as well as for their proximity to travel corridors. These attributes have led to increased recreational home development and residential home construction in and around forest fuel complexes. The juxtaposition of highly flammable forest types and rapid home development will continue to challenge the ability to manage wildland fires in the wildland-urban interface.

4.3.2 Overall Fuels Assessment

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and structures themselves are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity and arrangement all have an

effect on fire behavior. , the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, burning with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber.

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potentially development of crown fire. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determine how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected effect small changes in any single component have on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, several of the principles that govern fire behavior have been identified and are recognized.

The majority of homes and structures within and surrounding these communities are along a spectrum from low to moderate to high risk of loss to wildland fire. Individual characteristics of each community and structure dictate the risk factors. The prevalence of tree and shrub fuels poses a moderate to high threat to homes surrounded by these fuels. Fire typically spreads quickly through grasses, but burns at relatively high intensities in the brush and forest tree fuels, especially where declining forest health is a factor. Many homes are at low risk because of the management of fuels in the area immediately surrounding the structures and their access routes. There are a number of individual homes that are at much higher risk to wildland fire loss in the area, largely due to the use of highly ignitable materials in home construction, or to the lack of defensible space surrounding the home. Home defensibility practices can dramatically increase the probability of home survivability. The amount of fuel modification necessary will depend on the specific attributes of the site. Considering the high spread rates possible in these fuel types, homes need to be protected prior to fire ignitions, as there is little time to defend a home in advance of fire.

4.3.3 Individual Community Assessments

Burgdorf, Secesh, and Warren

The small mountain towns of Burgdorf, Secesh, and Warren are steeped in the history of the area. During the mid and late 1800's and early 1900's these communities were bustling mining towns. During their heydays, over 5,000 people lived in the area. Gold dredging began in the 1930's and continued until 1956. As a result, much of the Stratton Creek and Warren Creek drainages have been chewed up and overturned by the dredges, which is still staggeringly evident today.

On the Warren Wagon Road, it is approximately 30 miles to Burgdorf Junction and 45 miles to Warren from McCall. The scattered community of Secesh is located throughout Secesh Meadows on the Warren Wagon Road between Burgdorf and Warren

The Burgdorf Hot Springs and the USDA Forest Service Burgdorf Administrative Site are two of the few functioning buildings left in the old Burgdorf town site. Owners of the Burgdorf Hot Springs currently maintain the pool area and buildings and many of the old cabins, which they rent to visitors. There are several developed campgrounds in the area, which are well used by RV's and other campers, hikers, off-road ATV users, anglers, and explorers.

Residents of Secesh are scattered throughout the Secesh Meadows area in a privately owned strip along the Warren Wagon Road. This area is completely surrounded by Payette National Forest system lands. During the summer months, approximately 100 individuals reside in the area; however, many of these are only seasonal residents. The Chinook Campground is also located in Secesh and offers nine overnight campsites and additional parking. This is a popular starting point for overnight trips into the Loon Lake area.

Although it is listed as a ghost town, Warren has 9 to 15 year round and 45 to 60 summer time residents. There are several cabins and businesses at the old Warren town site still catering to tourists and travelers. Adventurers drive and four-wheel into Warren throughout the summer months and snowmobile in during the winter. Warren has a post office, a store, an air strip, and a few rooms for rent. The Warren Guard Station, located on the southwest end of town, is fully staffed during the fire season, complete with fire response and suppression equipment.

Much of the ground along the Warren Wagon Road between Burgdorf Junction and Warren is privately owned. Many new homes and seasonal residences have been built along this corridor. The majority of these structures are log cabins with short private drives. Although several homeowners maintain a defensible space, most homes are surrounded by forest fuels with little to no lawn or cleared area in an attempt to preserve an "outdoorsy" look.

FIRE POTENTIAL

Fuels Assessment

The landscape surrounding Burgdorf, Secesh, and Warren is dominated by higher elevation forest habitat types. Lodgepole pine and spruce are the dominant overstory species with a generally sparse grass and shrub understory. Due to extensive mining in various areas, rock piles and mounds of dirt are common throughout the forestlands, in a few cases reducing the fire potential by limiting available soil for plant growth.

Large portions of the Payette National Forest were burned during the 1910 fires and evidence of more recent fires is apparent surrounding the town sites, especially Burgdorf. The majority of the fires in the Burgdorf-Warren area tend to burn through subalpine forest types that typically experience low-

frequency, high-severity fire regimes. Since widespread fire suppression began in 1911, many subalpine forests have not yet missed an entire fire cycle; thus, much of these forests are still within their historical range of variability. Evidence of the 1985 French Creek Fire, 1989 Whangdoodle Fire, 1994 Corral Fire, the 2000 Burgdorf Junction Fires can be seen in the large, haunting stands of snags along the Warren Wagon Road and Forest Road 246.

Due to the steep, rugged terrain and remoteness of the communities, fires in these high elevation forests are difficult and potentially dangerous to fight. Additionally, there are only a few roads in the area that will support heavy equipment travel, which complicates and considerably limits suppression capabilities.

Ignition Profile

Both natural and human caused fires occur in this area. Most of the fire ignitions near Burgdorf, Secesh, and Warren are caused by summer lightning storms; however, the high density of recreational and industrial activity increases potential ignition sources significantly. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area.

The abundance of human and natural ignition sources and unhealthy forest conditions in a number of areas increases the propensity of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires, as was experienced during the Burgdorf Junction Fire.

INGRESS-EGRESS

The primary access into Burgdorf, Secesh, and Warren is via the Warren Wagon Road. This mostly two-lane route is paved from McCall to Burgdorf Junction and continues with a gravel surface towards Secesh and Warren and beyond. Burgdorf can also be reached by traveling up from the Salmon River Road on Forest Road 246, which is a one-lane dirt road. This path is not well-maintained (potholes, large rocks, etc. in road path) and traverses a steep grade with no guard rails and very few turnouts. This route could function as an emergency evacuation route due to the relatively small population, but only in extreme situations and only with coordination between officials on Salmon River Road to ensure a single direction of travel.

Forest Road 340 continues from Warren towards Big Creek in Valley County. Although escape on this route is possible, Forest Road 340 is not an acceptable secondary escape route. This is a one-lane, dirt road that travels deeper into the National Forest through heavy forest fuels. Not only would an evacuation on this route be difficult and dangerous, but it would also take several hours for escapees to reach a good safety zone.

There are several other Forest Roads in the area; however, these are generally dead end roads that lead to more remote regions of the Payette National Forest.

INFRASTRUCTURE

There are still at least three active mines in Warren, the Rescue, Charity, and Unity Mines, and a small, private wood mill. The mining and wood products industries have been the chief employers in this area for many decades. The loss of productive timber ground because of a large wildfire may affect the mill's ability to continue operating efficiently. Mining operations would not be significantly impaired by wildfire.

Tourism is becoming an increasingly important component of the local economy. Weekend warriors and other adventurers are supporting small stores and lodging facilities in Warren, Burgdorf, and Secesh. In

addition, more and more homes are being built in the area. These businesses also provide closer access to supplies and amenities for residents. Restricted access due to wildfires may negatively affect this cash flow.

Burgdorf, Secesh, and Warren do not have access to commercial electricity, but underground phone lines were installed in 1995. These transmission lines are not at significant risk of being damaged by or causing a wildfire ignition. Due to the lack of electricity, most full-time and seasonal residents rely on propane or generators for a power source. Large propane tanks are typically located in close proximity to structures, which creates a potential fire and explosion hazard. The closest refueling station for area residents is located in McCall; therefore, many residents also maintain fuel tanks. These containers are also a fire and explosion hazard.

Residents of Burgdorf, Secesh, and Warren have personal wells. These water resources are unlikely to be severely affected by wildland fire.

FIRE PROTECTION

Warren has an old fire engine that residents can use in the event of a fire, but they do not have a fire department. The Secesh Meadows Rural Fire District is responsible for structural fire protection in the Secesh and Burgdorf communities. Nevertheless, this department lacks training, functioning equipment, a facility, and volunteers. Most of the volunteers, including the chief, only live in the area part time; thus, it is difficult to run a operational department. It would be in the best interests of residents to know whom to call in the case of a fire emergency, especially during the winter months when there are limited response personnel in the immediate area.

The USDA Forest Service provides wildland fire protection.

COMMUNITY ASSESSMENT

Like many remote mountain communities, Burgdorf, Secesh, and Warren are considered to be at high risk of wildfire due to the surrounding forest fuels, lack of escape routes, and high ignition potential. Past fires in this area have proven difficult to suppress due to the intensity at which the subalpine habitat burns, steep topography, and limited access points.

Many structures are scattered around the town sites and along access roads with private one-way in, one-way out driveways. The majority of homes, new and old alike are constructed with wood building materials, which further increases their fire risk.

Recreational and industrial activities introduce a multitude of potential ignition sources. Landowners should be especially careful to maintain a well-groomed defensible space and locate propane and fuel tanks as well as firewood away from structures.

MITIGATION ACTIVITIES

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape route signage would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and on surrounding National Forest system lands. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Recreational facilities near the community and along access routes should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Clearwater, Harpster, and Tahoe Ridge/Big Cedar

The town of Harpster is located on the eastern bank of the South Fork of the Clearwater River drainage approximately ten miles east of Grangeville. The small community of Clearwater lies about four miles northeast Harpster and away from the river. Although both communities have a designated city center, most homes are scattered throughout the area.

The community of Tahoe Ridge/Big Cedar lies directly east of Kooskia and north across the thousand-foot deep valley of Clear Creek from Clearwater. It has no city or community center and its 650 residents are scattered over four drainages: Big Cedar Creek, Leitch Creek, Big Horse Canyon, and Tinker Creek. In addition to a growing population of retirees, resident income is derived mainly from employment outside the community. A few families are still involved with historic agriculture and timber pursuits.

FIRE POTENTIAL

Fuels Assessment

The terrain along the river is generally identified as very steep break-lands; however, above the rim of the canyon the topography is much milder. Vegetation is primarily mixed agricultural land and open ponderosa pine stands with Douglas-fir and grand fir on north slopes and in cooler drainages. The transition of native vegetation to cultivated or grazed fields around home sites serves to break up the continuity of fuels, which will tend to reduce the intensity and increase the ability of emergency personnel to control approaching wildfires. Homes located in timbered areas, especially those on steeper slopes have a much higher fire risk. Fires in these fuels will tend to burn much more intensely and move very rapidly upslope under the influence of up canyon winds.

The Nez Perce National Forest boundary lies within two miles of both Harpster and Clearwater, and forms the entire eastern and part of the southern boundary of the Tahoe Ridge/Big Cedar community. Additionally, Tahoe Ridge/Big Cedar's northern boundary is the Middle Clearwater Wild and Scenic River corridor along the Middle Fork of the Clearwater River. Fire suppression on National Forest system lands (and private lands) over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Fire behavior in these fuel types is highly variable ranging from low intensity surface fires to stand replacing wildfires. Torching, crowning, and spot fires tend to occur more frequently under these conditions. Several of the larger drainages, including Wall Creek, Clear Creek, Big Cedar Creek, Leitch Creek, Big Horse Canyon, and Tinker Creek have denser fuels with a cedar/fir component. The current fuel conditions in these drainages leads to an increased threat of stand replacing wildfires.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational activity and the intense use of mechanized equipment in farming and logging operations increase potential ignition sources significantly. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can spark fires, especially during windy conditions.

Lightning events are common across Idaho County; but are especially common in the mountainous regions encompassed by the Nez Perce National Forest and the Middle Clearwater Wild and Scenic River corridor near the Harpster, Clearwater, and Tahoe Ridge, Big Cedar communities. The cured grasses and dry forest habitat types that dominate the area surrounding these communities are very receptive to ignition.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS-EGRESS

State Highway 13 passes directly through Harpster. This two lane highway follows the path of the South Fork of the Clearwater River and can be very narrow and windy. This roadway is the sole paved route between Harpster and other population centers to the north and south. Much of this roadway abuts timber-type fuels and steep slopes. The river canyon is narrow enough that a fire on either side could restrict access due to extreme heat and fumes. In the event of a wildfire along the river, it is likely that this escape route would become impassable. Clearwater can be reached by traveling east on the Sally Ann Creek Road off State Highway 13. This is a paved/gravel two lane route that ends near the community center. This roadway is bordered primarily by light grassland fuels.

The Tahoe Ridge/Big Cedar community is accessed from Kooskia by Leitch Creek Road (paved) and Wilson Road (gravel). Both roads are steep, narrow, winding, and travel through brush- and timber-type fuels, which have received little or no fire mitigation management in many years. It is conceivable that spot fires from an incident along Battle Ridge paralleling and west of Clear Creek would close these evacuation routes.

There are a few secondary roads in the area that may serve as a potential escape routes in the event that Highway 13 becomes impassable including Battle Ridge Road and Clear Creek Road. These roads typically travel through grassland fuels, and have a much lower risk of being blocked by fire.

INFRASTRUCTURE

Although most newly constructed homes rely on personal wells, the Wall Creek Municipal Watershed, within the Nez Perce National Forest boundary, provides a critical water source to many residents in the community of Clearwater. This watershed could potentially be heavily impacted by wildfire, not only through direct vegetation removal, but also from the creation of ash and sediment as secondary effects of a fire. Municipal watersheds should be afforded a high priority for fire mitigation treatments.

FIRE PROTECTION

The Harpster Fire Protection District provides structural fire protection for the community of Harpster and the BPC Volunteer Fire Department provides the Clearwater area with structural fire protection. Ridge Runner Fire Department provides residents of the Tahoe Ridge/Big Cedar community with wildfire and minimal structure fire protection. While the Ridge Runner Fire Department is working quickly to become fully equipped and trained to handle structure fires, Kooskia Fire Department is automatically paged-out when a structure is involved. Due to conditions and distances along Leitch Creek Road, Kooskia Fire Department is severely time-restricted in even getting into the Tahoe Ridge/Big Cedar community with its big engines and response to remote homes can take as long as an hour.

The USDA Forest Service is responsible for wildland fire protection on National Forest system lands. The Idaho Department of Lands responds to wildfire situations on non-National Forest property.

Nez Perce National Forest, Idaho Department of Lands, and the Kooskia, Stites, Harpster, BPC, and Ridge Runner Fire Departments, all have an excellent working relationship with each other and, in many cases, have trained together. Mutual aid agreements between the various departments and agencies have been formalized and implemented. In addition, an Idaho-Lewis County Fire Association has recently been formed with the intent of improving inter-agency communication and collaboration.

COMMUNITY ASSESSMENT

The communities of Harpster and Clearwater are at moderate risk of experiencing a wildland fire. Homes built on steep slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Dry grasses on the steep slopes would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increase potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival.

The Big Cedar, Clear Creek, Big Horse Canyon, Tinker Creek, and Leitch Creek drainages north of Clearwater pose a very different situation. These larger, steep draws have a high concentration of dense cedar/fir stands. There are approximately 650 structures, many of which are homes, scattered throughout these watersheds with little to no defensible space around them. Limited access creates a concern for both the landowner and responding firefighting resources.

Fires that more frequently start in the drier conditions at lower elevations become larger and more difficult to suppress as they head onto the national forest. Such fires would have large-scale impacts to the landscape that would negatively affect development and communities down river via erosion and flooding, as well as decreased water quality.

The location of the primary access route in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the river would funnel hot gases and fumes through the canyon. Intense heat, sparks, or fire brands could easily light the opposite side; thus, compounding the threat. Additionally, there are only a few alternate escape routes available to residents.

Many landowners in the Harpster, Clearwater, Tahoe Ridge/Big Cedar areas are grazing cattle and horses around homes, in pastures, and in the forest-range interface. These animals serve to eat the fine, porous grasses and shrubs, trample fine woody fuels, and keep the ladder fuels trimmed and thus reduce the fire risk in this interface area. Although this practice helps deflate the fire risk in this area, many other mitigation activities would significantly improve the survivability of this community in the event of a wildland fire.

MITIGATION ACTIVITIES

Local fire departments and fire management agencies within the Harpster-Clearwater-Tahoe Ridge/Big Cedar area are currently working with residents to complete individual home site evaluations and Red Zone surveys. Home defensibility steps should be implemented based on the results of these evaluations.

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape route signage would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Recreational facilities near the community and along the South and Middle Forks of the Clearwater River corridor should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions

that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Dixie and Orogrande

Dixie is located approximately 35 miles southwest of Elk City along Forest Road 222. Orogrande is located approximately 21 miles northwest of Dixie along the Dixie-Orogrande Road. Orogrande can also be accessed from Crooked River Road via Highway 14. Dixie and Orogrande are located within the Nez Perce National Forest. Both Dixie and Orogrande are old gold mining communities that have been converted into recreation towns since the decline of the gold mining industry. These small, mountain communities have not become urbanized, with very few services and amenities available for residents or visitors. Due to the high recreational use of the area including ATV's, motorcycles, pickups, and chainsaws, there are many potential ignition sources.

FIRE POTENTIAL

Fuels Assessment

Dixie and Orogrande lie in a very fire prone region of the Nez Perce National Forest. The landscape surrounding these communities is dominated by moderate to steep forestland. Lodgepole pine dominates the overstory with Douglas-fir, western larch, Engelmann spruce, and grand fir components mixed intermittently throughout. The understory is mostly bear-grass, huckleberry, alder, and various other brush species. Thick patches of regeneration, in various stages of development, are also occurring in several areas.

The Forest Service reduced natural fuels on 90 acres of National Forest system land surrounding the community of Dixie, Idaho in 2003, and is currently maintaining this reduction. Additionally, the Red Pines timber sale and hazardous fuels reduction project is currently being implemented, and is located east of Orogrande and north of Dixie. Moreover, areas south of Dixie burned in 2007 during the Rattlesnake Fire, and some of the timber around Dixie was thinned for structure protection during the incident.

However, much of this area around Dixie and Orogrande has not burned or been otherwise managed for many years and is unnaturally dense with significant increases in the fuel loading, and consequently the fire hazard. The occurrence of thick brush and regeneration in the understory can also lead to higher intensity fires or a crown fire.

Beetles, particularly Mountain Pine and Douglas-fir beetles have moved into stressed trees. Beetles in combination with root diseases are killing off many acres of timber in the Dixie and Orogrande vicinity. The large amount of mortality caused by insects and disease increases the risk of a catastrophic fire. Due to the topography, fuel type, and rural nature of the area, Dixie, Orogrande, and surrounding forestlands are at a very high risk for wildfire.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational activity increases potential ignition sources significantly. Off-road vehicles, debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and campfires are just a few of the countless potential human ignition sources in the area.

Lightning events are common across Idaho County; but are especially common in the mountainous regions encompassed by the Nez Perce National Forest. The cured grasses and dry forest habitat types that dominate the area surrounding Dixie and Orogrande are very receptive to ignition.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as

on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS-EGRESS

The roads into the area are mainly gravel roads, which are typically one-lane roads with turnouts. The Crooked River Road/Dixie-Orogrande Road and Forest Road 222 (Jack Mountain Road) are the main transportation routes into Dixie and Orogrande. Both roads lack regular maintenance and are adjacent to heavy forest fuels; however, the Jack Mountain Road allows more rapid ingress and egress to and from Dixie. Additionally, the southern extension of Forest Road 222 (Mackay Bar Road) from Dixie to the Mackay Bar area on the Salmon River serves as the sole escape route for residents and recreational users at Mackay Bar. In order to function as escape routes, these roadways should be signed and frequently maintained.

Although there are several other Forest Roads in the area, very few drivable routes could serve as an adequate escape route. Many of the Forest Roads in the area were originally built to access mining claims or other remote sites and are now limited to off-road vehicles or horses. These roads tend to be very steep, rocky, and winding. The lack of alternate escape routes exacerbates the need for pre-fire mitigation activities in order to ensure the safety of people and structures in the communities.

Private driveways are generally short, but need pruning and expanded turn-around areas to aid safe fire response. Although there are a few, gated drives are not common. This trend helps fire response personnel more safely access properties and effectively protect homes from fire.

INFRASTRUCTURE

The economy in Dixie, and Orogrande to a smaller degree, are completely reliant on tourism. Warm weather attracts adventurous campers, hikers, four-wheelers, and other recreational users, while during the winter months snowmobiles flood the area. The amenities provided by the small scale hostels and stores in Dixie draw patrons and keep business owners active year round.

FIRE PROTECTION

The Dixie Fire Station is responsible for structural fire protection within the Dixie community. Orogrande has no structural fire protection. Due to the location of the communities, the USDA Forest Service takes control of the majority of the wildfire suppression duties. The USDA Forest Service has a guard station located approximately four miles south of Dixie. This guard station has several engines and equipment for initial attack responses. An air strip is also located just west of the guard station. There are several streams near the communities, but the availability of water during the late summer months could be questionable. Mountain lakes exist within the area, which could be used for aerial dipping.

COMMUNITY ASSESSMENT

The majority of the homes within the area are seasonally occupied recreation cabins. These cabins are typically built using very flammable wood construction materials, although most have metal roofs. Most cabins are nestled within or adjacent to the forestlands putting these cabins at high risk of damage to wildland fires. Many lawns are intermittently maintained; thus, dried and cured grasses are common with little to no defensible space cleared. A small number of cabin owners within the area have taken an active management approach to protect their properties and performed various thinning, pruning, and slashing activities to reduce the amount of fuels adjacent to their cabins. Additionally, recreationists tend to bring valuable vehicles, campers, and ATVs to the area, which increases the dollar value of the community during the fire season.

The communities of Dixie and Orogrande are at high risk of experiencing a wildland fire, and being negatively affected by one. Homes built on steep slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Dense and dying forest conditions on the steep slopes rising from the community centers would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increase potential ignition sources. Preparing a home or cabin prior to a wildfire event will significantly increase its chance of survival.

MITIGATION ACTIVITIES

Beyond the homes, cost effective forest management efforts must be considered to slow the approach of a fire that threatens Dixie and Orogrande. Forest conditions in this area typically consist of dense canopies of mature trees, dead and dying lodgepole pine, and steep slopes. All of these factors combine to create potentially extreme fire conditions.

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designating and posting of escape routes would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information. Additionally, consideration of forming a fire department would be prudent.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Recreational facilities near the community should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Elk City, Newsome, and Red River

Elk City is located within the USDI Bureau of Land Management's Elk City Management Area (ECMA). The ECMA is located in North Central Idaho, approximately fifty-two miles east of Grangeville, Idaho. The area encompasses approximately 111,177 acres of mixed land ownership comprised of 11.8% USDI Bureau of Land Management (13,173 acres), 78.4% USDA Forest Service (87,121 acres), and 9.8% private (10,884 acres). The community of Elk City is located in the heart of the management area with a population of approximately 450 people. The USDI Bureau of Land Management's ECMA is isolated from other USDI Bureau of Land Management administered lands due to being surrounded by Nez Perce National Forest jurisdiction. This part of Idaho County is almost solely dependent on the timber economy of the region.

The old Newsome town site, which is now mostly recreational cabins and campgrounds, is located on Forest Road 1858 about six miles north of State Route 14 and approximately ten miles northwest of Elk City. Newsome is part of the Old Elk City Wagon Road historic tour.

Red River consists of scattered homes, ranches, and other structures along the Red River Road from State Route 14 all the way to Red River Hot Springs. The Red River Ranger District sits at the intersection of the Red River Road and Jack Mountain Road adjacent to Red River. Besides the ranger station and its outbuildings, there are also several government housing structures and private homes in this area. Red River Hot Springs lies at the culmination of the Red River Road and consists of a pool area and several small rental cabins as well as a campground. There are four designated campgrounds spread out along Red River Road; however, there are numerous undeveloped camp sites along this corridor and on many of the secondary roads.

FIRE POTENTIAL

Fuels Assessment

Elk City sits in a small valley near the headwaters of the South Fork of the Clearwater River. Although much of the valley is characterized by a riparian meadow ecosystem, the surrounding mountainsides are dominated by forestland. Forest species in the Elk City Management Area are adapted to moderate to high elevations ranging from 3,615 feet along the river (west of Elk City) to 8,938 feet on the Buffalo Hump summit (southeast of Orogrande). Forest tree species in this region include; Douglas-fir, ponderosa pine, western larch, lodgepole pine, grand fir, subalpine fir, western white pine, western red cedar, western hemlock, and a variety of hardwood species. Over the past several decades, extensive harvesting operations have created a mosaic pattern of forest stands at different stages of re-growth ranging from seedlings to old growth. This pattern in conjunction with the road systems create numerous opportunities to develop fuel breaks and anchor points to assist in suppression of uncontrolled wildfires.

One factor that is substantially increasing the potential for high intensity stand replacing fires is the ongoing mortality associated with the mountain pine beetle. Due to a variety of factors, lodgepole pine in the Elk City Management Area (ECMA) are dying from bark beetle attacks. The mountain pine beetle (*Dendroctonus ponderosae*) attacks individual trees that are weakened from other factors such as age, root rot, overcrowding, and environmental stress. The wide extent of mature lodgepole pine in the region, combined with overcrowded stand conditions, has resulted in wide expanses of successful mountain pine beetle attacks in the ECMA.

Stands of dying lodgepole pine represent a significant risk to the Elk City community. In several stands, the mortality is over 40% of the standing trees and increasing. The substantial amounts of dead and down fuels from the mountain pine beetle attacks coupled with the abundance of dense ladder fuels has

substantially increased the potential fire intensity and resistance to control and the risk to the homes in the Elk City region.

The Red River and Newsome areas are facing the same fuels issues as Elk City. Dying trees due to mountain pine beetle and overcrowded forest conditions are drastically increasing the fuel hazard in these areas. For the most part, homes in the Red River area were built adjacent to the river corridor in the bottom of the valley with timber extending in all directions. There are several large meadows near the Red River Ranger Station that may provide somewhat of a fuel break and a safety zone for area residents. Newsome sits in the bottom of a timbered basin where several streams come together to form Newsome Creek. Due to the topography, a fire in this area would likely exhibit extreme fire behavior and be very difficult and dangerous to suppress. Both the Red River and the Newsome areas have limited access; thus, further exacerbating the already high risk fire conditions.

Fires in these fuel types are highly variable, ranging from low intensity surface fires to very destructive, stand replacing wildfires. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions.

Ignition Profile

Both natural and human caused fires occur in these areas. The high density of recreational and industrial activity and the intense use of mechanized equipment in logging operations increase potential ignition sources significantly (although loggers usually have the means to extinguish small starts). Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources. Contact between power lines and trees can spark fires, especially during windy conditions. Propane tanks next to homes can cause explosions and put homeowners and firefighters at increased risk. Landslides along the South Fork of the Clearwater River also have the potential to take down power lines causing an ignition. The occurrence of arson fires each year is rising. So far, local fire emergency resources have controlled these fires before they caused serious damage and threatened lives or property.

Lightning events are common across Idaho County; but are especially common in the mountainous regions encompassed by the Nez Perce National Forest. The cured grasses and dry forest habitat types that dominate the area surrounding Elk City are very receptive to ignition.

The abundance of human and natural ignition sources and the expansive stands of dead or dying lodgepole pine increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS-EGRESS

The primary access into Elk City is by State Highway 14. This two-lane highway follows the path of the South Fork of the Clearwater River and is very narrow and winding. This roadway is the sole paved route between Elk City and other population centers in Idaho County. The majority of this roadway abuts timber-type fuels and steep slopes. The river canyon is narrow enough that a fire on either side could restrict access due to extreme heat and fumes. In the event of a wildfire along the river, it is likely that this escape route would become impassable; thus, fire professionals in the area will need to identify this risk early on in order to initiate a safe evacuation on this road system.

There are numerous forest roads in the area that may serve as a potential escape routes depending on the location of the fire. However, these roads typically travel through heavy forest fuels and lead to even more remote locations. Forest Road 443 or the Selway River Road, which leads to the Selway River, is

the most direct alternative route. In order to function as an escape route, this roadway should be cleared of hazardous vegetation, signed, and frequently maintained.

Forest Road 1858 is the only developed road into the Newsome area. This well-maintained gravel route extends from State Route 14 north until it intersects Lookout Butte Road, which is also a good gravel road. There are several dirt roads in the area; however, these are generally four-wheel drive access only and would not support emergency vehicles. The Forest Road 1858 corridor abuts timber type fuels except for a few cleared areas for campsites and an occasional small meadow.

The Red River Road is the only maintained gravel road from the Red River Ranger Station east to the Hot Springs. There are several gravel roads that would eventually lead back to Highway 14 west of the Ranger Station; nevertheless, the Red River Road would be the most direct path and therefore, should be the designated escape route. The Red River Road abuts timber fuels along most of its path; however, there are large meadows along the road near the Ranger Station. The Ranger Station has also cleared a small area around its structures, which it maintains as green lawns.

INFRASTRUCTURE

Tourism is an important component of Elk City's economy. Warm weather tends to bring campers, hikers, and other recreationalists into this part of the Nez Perce National Forest, while during the winter months snowmobilers flood the area. The Red River Hot Springs, approximately 15 miles east of Elk City attracts tourists as well as local patrons. There are several recreational cabins in the Newsome area that many owners use year-round.

The Elk City community is on a citizen-owned water system that draws its water from Elk Creek. The water is stored in a large cistern above the community and uses both a pumping system and a gravity feed. Generators have been purchased to keep the water flowing during power outages as well as during a fire situation. Installation is anticipated for completion in November 2009. Sanitation could be a problem over an extended period and use of a community water system may need to be prioritized.

The Elk Creek Watershed consists primarily of lodgepole pine, Douglas-fir, and true fir stands. Much of this drainage has been logged over the years with little subsequent management. There are several acres of dense pine/fir regeneration stands intermixed with multi-layered stands of Douglas-fir, pine, true firs, and several western larch and Engelmann spruce. These slopes have a high risk of crown fire spread. Potential impacts of a large stand-replacing fire in this area could negatively affect the community of Elk City via potential flooding, erosion, and impacts to water quality.

Homeowners in the Red River and Newsome areas rely on personal wells. Several recreational homes do not have running water. Propane, rather than electricity, is used by many residents in the greater Elk City, Newsome, and Red River area.

Avista Utilities' power poles run along the South Fork of the Clearwater River from Grangeville to Elk City. Most of this line crosses over Nez Perce National Forest system lands. Although most of the trees have been cleared from the corridor, Avista has been unable to clear the path down to grass due to environmental constraints. The brush and other fuels remaining beneath the power lines increase the potential risk of an ignition from sparks or arcing. If cleared, the power line corridor could serve as a fuel break through parts of the National Forest.

FIRE PROTECTION

The Elk City Volunteer Fire Department is responsible for structural and wildland fire protection for the community of Elk City. They also respond, when able, to fires in Orogrande, Red River, Newsome, Junction Flats, Mallard Creek, Fall Creek, Upper American River, and all of the surrounding areas. There is one fire station in the area located on Sweeny Road in Elk City. This is an all-volunteer department with a total of twelve firefighters. The number one concern for this department is wildland and structural

fire protection, but due to the nature of the area, the majority of their responses have been wildland fires in the grasslands or forested environments. The Elk City Volunteer Fire Department has a good working relationship with the Forest Service. Currently, this department is dispatched by the Idaho County Sheriff's Office in Grangeville.

The response time for the Elk City Volunteer Fire Department varies due to a large coverage area and limited road access. Many of their calls are in remote areas. The first members to respond go in the small, faster truck, while the other members follow in the larger truck. Once on scene, the small truck refills the large truck with water. Currently, the Elk City Volunteer Fire Department is in the process of procuring a 2,200-gallon tanker that can go on scene with a full load of water. This will allow the department to be on scene with over 3,000 gallons of water between all trucks.

COMMUNITY ASSESSMENT

The communities of Elk City, Newsome, and Red River are at high risk of experiencing a wildland fire. Homes built on steep slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Dry grasses on the steep slopes would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increase potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival. An extensive program of thinning and slash removal is needed in and around these communities. Large clear cuts in the 1970's and 1980's have resulted in thick stands of dog hair lodgepole pine that need to be managed. Recent mountain pine beetle infestations have caused large-scale mortality of lodgepole in the greater area. Unhealthy forest conditions are contributing to the fire risk in Elk City and the surrounding communities.

According to the USDA Forest Service, within the township of Elk City, an average of 79% of all fires suppressed were kept within 0.25 acres in size in the last 5 years (2000-2004). The five-year average of all wildfires within the Red River Ranger District suppression jurisdiction is 99.5% controlled at less than 0.10 acres. Because of reduced suppression funding and deterioration of forest conditions on private and federal lands, the likelihood of escaped wildfire is dramatically increasing.

The location of the primary access route, State Route 14, in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the South Fork of the Clearwater River would funnel hot gases and fumes through the canyon. Intense heat, sparks, or firebrands could easily light the opposite side; thus, compounding the threat. Additionally, there are no alternate escape routes available to residents. Two large meadows at the Elk City town site could serve as safety zones if needed. Meadows near Red River could also serve this purpose in an emergency. It is suggested that those citizens who are ill or elderly be scheduled for an immediate airlift out of the area during a fire.

Many landowners in the greater Elk City area are grazing livestock around homes, in pastures, and in the forest-range interface. These livestock serve to eat the fine, porous grasses and shrubs, trample fine woody fuels, and keep the ladder fuels trimmed and thus reduce the fire risk in this interface area. Although this practice helps reduce the fire risk in this area, many other mitigation activities would significantly improve the survivability of this community in the event of a wildland fire.

MITIGATION ACTIVITIES

Many homeowners have initiated Firewise projects around their properties. These projects typically focus on creating a fire defensible space around homes by clearing away trees, brush, weeds, and other burnable vegetation. A large part of the Firewise program concentrates on educating landowners about specific hazards that may be increasing their home's fire risk such as wood stacks, construction materials, hazard trees, and propane tanks. These types of educational programs are encouraged and should be continued, especially in highly prone areas like Elk City, Newsome, and Red River.

Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens Elk City and the surrounding communities. The gravest threat to Elk City is from the southwest. Forest conditions in this area typically consist of dense forest canopies of mature trees, dead and dying lodgepole pine, and steep southerly and westerly slopes. All of these factors combine to create fire conditions that would be nearly impossible to stop in the case of low humidity, moderate to high winds, and a single ignition to the southwest of the community.

The Whiskey South II proposed project is designed to treat approximately 915 acres of public land to improve forest health, long-term stand viability that would reduce the potential and extent of high intensity wildfires on USDI Bureau of Land Management and adjacent lands. We strongly support these management activities.

There are over 50 square miles of high risk landscapes adjacent to Elk City. The USDI Bureau of Land Management and the Forest Service manage these lands. The fire risk is extreme and is due to a combination of crowded forests, a high percentage of lodgepole pine susceptible to and experiencing mountain pine beetle mortality, steep slopes, and southerly and westerly aspects. Lack of logging activity has contributed to extreme fire risks and overly crowded forests. During periods of high fire activity following lightning bursts, the probability of successfully suppressing all ignitions is decreasing proportionately with the increased resistance to control. While the typical wind direction is southwesterly, it is not uncommon for east winds to occur. This was the case on the Slims Fire. In this case, homes in the Elk City area would be difficult to protect. Aggressive forest management in this area is strongly urged for the federal land management agencies. In general, management should strive to thin overcrowded forests favoring Douglas-fir, western larch, and ponderosa pine as mature leave trees. Lodgepole pine and grand fir should be targeted for removal in these areas. Both the USDA Forest Service and the USDI Bureau of Land Management have several proposed fuel treatment projects in the greater Elk City area. These projects are highly recommended and supported.

Development of community evacuation plans and safe refuge areas is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Community safety zones must be established in the event of compromised evacuation. Efforts should be made to educate homeowners.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Homeowners should be urged to use fire resistant siding, roofing, and decking to improve their fire protection.

Recreational facilities near the community and along the South Fork of the Clearwater River corridor should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns or other activities that would reduce surface and ground fuel loads. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and around the community, around homes and long power line corridors, and strictly enforcing fire-use regulations.

Elk City has also prepared a Fire Plan that addresses prevention, planning, and fire mitigation actions, available through the fire department.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Kamiah

Kamiah is located at the junction of U.S. Highway 12 and State Highways 162 and 64 approximately seven miles north of Kooskia. Although many of the local businesses and infrastructure associated with the community are on the western bank of the Clearwater River, which is part of Lewis County, there are also many structures and significant infrastructure on the eastern bank in Idaho County. As Kamiah grows, more and more homes are being built along the steep slopes of the river canyon. Particularly noteworthy is the abundance of homes along the Beaver Slide Road, the Tom Taha Grade Road, and the Woodland Road. The economy in this part of the County is more focused on the lumber and tourism industries than agriculture.

FIRE POTENTIAL

Fuels Assessment

The Idaho County portion of Kamiah is spread along the base of the west aspect slope that defines the Clearwater River canyon. This slope is characterized by very patchy timber intermixed with grass and pasture lands. Drier habitat species such as ponderosa pine and Douglas-fir grow in open stands on this steep slope. Fires in this fuel type were historically frequent, but generally burned at low to moderate intensities. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions. More moist and dense forest types are found in the Tom Taha Creek drainage. Douglas-fir, ponderosa pine, grand fir, and western red cedar with an abundance of ladder fuels in the understory are common along the creek and extending upwards on the north and south aspect slopes. Fires in these fuels are less frequent, but typically burn at much higher intensities than open forest stands.

The timber component of the system becomes much more continuous to the north and east, but transitions to a grassland habitat to the west. Fires in these grassland ecosystems cure early in the summer and become increasingly prone to ignition.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational and industrial activity near the river and the intense use of mechanized equipment for farming and logging increase potential ignition sources significantly. The use of equipment near cured grasses sparked the 2003 Milepost 59 Fire, which burned over 8,000 acres in the Clearwater River canyon five miles north of Kamiah. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can spark fires, especially during windy conditions. The occurrence of arson fires each year is rising. To date, local fire emergency resources have controlled these fires before they caused serious damage and threatened lives or property.

Lightning events are common across Idaho County; however, ignitions due to down strikes occur more frequently in mountainous areas. The cured grasses that cover the steep slopes of the Clearwater River canyon and the dry forest habitat types that dominate much of the area surrounding Kamiah are very receptive to ignition.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low

humidity, and strong winds can quickly lead to fast-moving, destructive wildfires regardless of whether the event occurs in forest or rangeland fuels.

INGRESS-EGRESS

The primary access into Kamiah is by U.S. Highway 12, part of the Lewis and Clark Trail. This two lane highway follows the path of the Clearwater River and can be very narrow and winding. State Highway 162 enters Kamiah from the southwest and is a narrow two lane highway that provides the quickest route from the Camas Prairie. Both Highway 12 and 162 could function as escape routes; however, it is possible that one or both would become impassable in the event of a fire. Sections of these roadways abut timber-type fuels and steep slopes. The Clearwater River canyon near Kamiah is narrow enough in several places that a fire on either side could shut down Highway 12 due to extreme heat and fumes. If both routes are disabled, there are several secondary roads on the Idaho County side of the river that could function as escape routes including Woodland Road and Tom Taha Road.

State Highway 64, also known as the Kamiah-Nez Perce Grade, is a very narrow and winding, primarily gravel, single lane road that climbs the steep canyon wall to the Camas Prairie above. This is not an adequate escape route. Not only does it lack suitable turnouts and guard rails, but there is also a history of ignitions along the roadway.

INFRASTRUCTURE

Kamiah has both a municipal surface water system and ground water sources. Landowners outside of the city water district are generally supplied by personal or multiple home wells. The Kamiah Watershed could potentially be negatively impacted by a wildfire event; however, ground water sources would not likely be affected by a wildfire event.

High tension power lines run along the southwestern side of the community. Sections of these transmission lines cross over forest ecosystems. These lines have a moderate potential of sparking an ignition, particularly during severe wind events. Efforts should be made to ensure power line corridors are kept clear of fuels.

One of the key components of the economy in Kamiah is the existence of Empire Lumber Company and a few small sawmills. The wood products industry has been one of the chief employers in this area for many decades. The loss of productive timber ground because of a large wildfire may affect the mill's ability to continue operating efficiently, especially in today's shrinking log markets.

Camas Prairie Railroad still transports logs and a few other products between Kamiah and Lewiston. The track mimics the path of the Clearwater River along its eastern bank. This transportation route heavily influences Kamiah's economy. There have been no recent fire starts due to the passage of the train, yet the potential of ignition from sparks or hot brake shoes exists.

Tourism is also an important component of Kamiah's economy. Travelers seeking adventure along the Lewis and Clark Trail pass through Kamiah on U.S. 12. Lodging, dining, and other recreational facilities have become relatively dependent on the flow of travelers during the warmer months. Restricted access due to wildfires may negatively affect this cash flow.

FIRE PROTECTION

Structural fire protection is provided to Kamiah and the surrounding areas by the Kamiah City and Rural Fire Protection District. The Idaho Department of Lands-Maggie Creek District, USDA Forest Service, and the Nez Perce Tribe offer wildland fire protection.

COMMUNITY ASSESSMENT

The community of Kamiah is at moderate to high risk of experiencing a wildland fire, which has been recently demonstrated by the 2003 Milepost 59 Fire. Homes built on steep slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Dry grasses on the steep slopes rising from the community center would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increase potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival.

The location of the town site in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the river would funnel hot gases and fumes through the canyon. Intense heat, sparks, or fire brands could easily light the opposite side; thus, compounding the threat. Additionally, there are only a few safe escape routes available to residents.

MITIGATION ACTIVITIES

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape route signage would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Recreational facilities near the community and along the Clearwater River corridor should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Kooskia and Stites

The towns of Kooskia and Stites are located three miles from each other on State Highway 13. Kooskia is located at the confluence of the Middle Fork and the South Fork of the Clearwater River. Stites is located three miles upstream on the South Fork. The elevation in Kooskia is 1,260 feet, and Stites is approximately 60 feet higher. Both communities are located in the valley bottom immediately adjacent to the South Fork of the Clearwater River. Kooskia has a population in town of 675 that triples outside the city limit. Stites has a population of 226 that increases only slightly outside the city limit.

FIRE POTENTIAL

Fuels Assessment

Much of the landscape immediately surrounding Kooskia and Stites is dominated by grasses and shrubs with a few open stands of ponderosa pine and Douglas-fir randomly interspersed. Heavier timber conditions can be found on the more northerly and east slopes and in moist draws. Several of these areas are adjacent to the Kooskia and Stites city limits creating a significant wildland-urban interface fuel hazard. Grand fir and Douglas-fir with a small cedar component are common in these areas

Due to the steeper topography of the river corridor, fires in the light grass fuels would be expected to move very rapidly, especially under the influence of up canyon winds. The transition of native fuels to agricultural or pastureland around homes serves to break up fuel continuity and slow the spread. Additionally, fires in cultivated fields can be more quickly controlled by fuel modification.

Fires in denser fuel types are highly variable ranging from low intensity surface fires to very destructive; stand replacing wildfires depending on the fuel build up, topography, and local weather. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational and industrial activity and the intense use of mechanized equipment in farming and logging operations increase potential ignition sources significantly. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can spark fires, especially during windy conditions. Tribal firework stands carry a substantial supply of fireworks; thus, increasing the use of these particularly around the Fourth of July. These stands are also a significant fuel hazard in themselves.

Lightning events are common across Idaho County, but are especially common in the mountainous regions east of Kooskia and Stites. The cured grasses and dry forest habitat types that dominate the area surrounding these communities are very receptive to ignition.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS-EGRESS

Kooskia is located at the junction of State Highways 13 and 12, both of which are two lane highways. Stites is accessed by traveling south from Kooskia on State Route 13. These highways follow the path of

the river corridor and can be narrow and windy in several areas. These roadways are the sole paved routes between Kooskia and Stites and other population centers in Idaho County. Although much of these passages are bordered by light grass fuels, the river canyon is narrow enough that a fire on either side could restrict access due to extreme heat and fumes. In the event of a wildfire along the river, it is likely that this escape route would become impassable.

The most direct alternative escape route is the Winona Grade Road leading up to the Camas Prairie; however, this road is only suitable for high clearance vehicles and is located partially in a draw that has heavy fuel loadings and could be hazardous during a fire. There are numerous other secondary roads in the area that may serve as potential escape routes depending on the location of the fire.

INFRASTRUCTURE

One of the key components of the economy in Kooskia and Stites is the existence of Clearwater Forest Industries. The wood products industry has been one of the chief employers in this area for many decades. The loss of productive timber ground because of a large wildfire may affect the industry's ability to continue operating efficiently, especially in today's shrinking log markets.

The Clearwater Valley High School and Junior High School campus is located in the rural area adjacent to Clearwater Forest Industries along State Route 13.

Tourism is also an important component of Kooskia's economy. Travelers seeking adventure along the Lewis and Clark Trail pass through Kooskia on U.S. 12. Lodging, dining, and other recreational facilities have become relatively dependent on the flow of travelers during the warmer months. Warm weather also tends to bring campers, hikers, and other recreationalists into the area. Restricted access due to wildfires may negatively affect this cash flow.

Camas Prairie Railroad still transports logs and a few other products between Kooskia and Lewiston. The track mimics the path of the Clearwater River along its eastern bank. There has been no recent fire starts due to the passage of the train, yet the potential of ignition from sparks or hot brake shoes exists.

The Stites municipal water system has two wells that are located adjacent to the wildland interface on the east side of the community of Stites. The Kooskia municipal water system has four wells. Wells #1 and #2 are along the Middle Fork of the Clearwater River off Beach Drive. Well #3 is on Stewart Drive adjacent to the timbered north facing slope of Mount Stewart and Well #4 sits on the corner of the city park at Fourth Avenue and Front Street.

A set of power supply lines parallel the South Fork of the Clearwater River from the power substation on Depot Street in Kooskia. These cross an east aspect slope that is partly timbered and could be threatened by fire.

FIRE PROTECTION

The Kooskia Fire Department and Stites Volunteer Fire Department provide local fire protection and primary response. These departments have Mutual aid agreements with each other, BPC Rural Fire District and the Idaho Department of lands. The local departments have primary responsibility for structural fire protection. The Idaho Department of Lands has primary responsibility of wildland fire suppression. The local departments provide initial wildland response in the area they cover. The Kooskia Fire Department station is located at 4th and Front Streets in Kooskia and has six bays housing seven vehicles. The Stites Volunteer Fire Department operates out of a station located on Main Street in Stites. Both departments are equipped for both structural and wildland fire suppression.

COMMUNITY ASSESSMENT

Like many valley bottom communities, Kooskia and Stites are not considered to be at high risk of wildfire due to the lack of heavy fuels and a readily available water source. However, residences located on the steeper slopes surrounding both towns have an increased risk for wildfire loss. A huge contributing factor is the lack of good access. Roads accessing these hillsides are primarily located in narrow draws, which may act as a funnel for heat and gases during a wildfire.

Generally speaking, homes east of the South Fork of the Clearwater River, have a higher fire risk. Structures are scattered on nearby slopes extending from the valley floor to the ridge top. Many of these slopes have aspects oriented south to west, further increasing the risk of loss due to rapidly spreading wildfires.

The location of the primary access routes in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the river would funnel hot gases and fumes through the canyon. Intense heat, sparks, or fire brands could easily light the opposite side; thus, compounding the threat. Additionally, there are only a few alternate escape routes available to residents.

Many landowners in the Kooskia-Stites area are grazing cattle, horses, and other livestock around homes, in pastures, and in the forest-range interface. These animals serve to eat the fine, porous grasses and shrubs, trample fine woody fuels, and keep the ladder fuels trimmed and thus reduce the fire risk in this interface area. Although this practice helps deflate the fire risk in this area, many other mitigation activities would significantly improve the survivability of this community in the event of a wildland fire.

MITIGATION ACTIVITIES

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape route signage would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Recreational facilities near the community and along the Middle Fork and the South Fork of the Clearwater River should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Lowell, Syringa and Selway River Corridor to O'Hara Bridge

The small community of Lowell is located at the junction of the Lochsa and Selway Rivers along U.S. Highway 12. Lowell consists of a small cluster of homes, an RV park, a café, and a small motel. Three Rivers Resort is on the opposite side of the Lochsa River and offers additional rooms for rent, camping, rafting, restaurant, and a small store. Syringa is approximately seven miles west of Lowell also along the Highway 12 corridor. There are only a few permanent homes and a roadside café remaining at the town site. Up the Selway River to just past the O'Hara Bridge, there is a small community of homes and the USDA Forest Service Fenn Ranger Station. The Middle Fork of the Clearwater River drainage including the Lochsa and Selway Rivers near Lowell and Syringa is federally recognized as a Wild and Scenic River. The Middle Fork of the Clearwater River and continuing up the Lochsa River is the boundary between the Clearwater National Forest (north side) and the Nez Perce National Forest (south side).

FIRE POTENTIAL

Fuels Assessment

Lowell, Syringa, and the Selway River corridor communities sit at the bottom of the river drainages with steep slopes rising from both sides. The southeast and northwest aspects surrounding Lowell and the north and south aspects rising from Syringa and the Selway communities are dominated by relatively moist forest types. Western red cedar and Engelmann spruce are commonly found in draws and frost pockets, while a healthy mixture of Douglas-fir, grand fir, ponderosa pine, lodgepole pine, western white pine, and western larch dominate the overstory on most slope faces. On rockier gradients, where soils are less developed, ninebark, ocean spray, and other brush species are common. In several areas, the closed canopy of the overstory limits regeneration or other vegetative growth in the understory. In other areas; however, the understory is over laden with dense brush, conifer regeneration, and hardwoods.

Fires in these fuel types are highly variable, ranging from low intensity surface fires to very destructive, stand replacing wildfires. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational activity increases potential ignition sources significantly. Off-road vehicles, debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can spark fires, especially during windy conditions.

Lightning events are common across Idaho County; but are especially common in the mountainous regions encompassed by National Forest system lands. In the late summer and early fall, the cured grasses and drier forest conditions are very receptive to ignition.

The abundance of human and natural ignition sources and the nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS-EGRESS

The primary access into these communities is by U.S. Highway 12 from Kooskia or Missoula Montana. This two-lane highway follows the path of the Middle Fork of the Clearwater River and continues up the Lochsa. This road is very narrow and windy and abuts timber-type fuels and steep slopes. The river canyon is narrow enough that a fire on either side could restrict access due to extreme heat and fumes. In the event of a wildfire along the river, it is likely that this escape route would become impassable. U.S. Highway 12 is the sole escape route between these communities and less hazardous areas.

There are a few forest roads in the area that may serve as a potential escape routes depending on the location of the fire. However, these roads typically travel through heavy forest fuels and lead to even more remote locations. The Selway River Road, which leads to Selway Falls and eventually to Elk City is the most direct alternative route from Lowell. Currently, this road and several private driveways in the area lack weight rating and other vital information at bridge crossings. Not only does this slow emergency response personnel, but it is also a safety issue for residents and visitors utilizing the roadway, especially those with heavy loads or trailers. The Smith Creek Road, which heads into the Clearwater National Forest from near Syringa, could also be used as an escape route in the event of a fire. In order to function as escape routes, these roadways should be signed and frequently maintained.

Homes on the south side of the river (opposite the highway) are typically accessed by long, dirt driveways from a bridge that may be several miles away. Residents of these homes commonly park on the highway and ride a cable cart across the river to their property. Due to the lack of safe access and close proximity to forest fuels, these homes are at very high fire risk.

INFRASTRUCTURE

As part of the Lewis and Clark Trail and the close proximity of the Clearwater and Nez Perce National Forests, the economy in both communities is dependent on travelers and tourists. Warm weather tends to bring campers, hikers, rafters, and other recreationalists into the Middle Fork of the Clearwater River drainage. The Three Rivers Resort at Lowell also brings in a large number of rafters, kayakers, and other vacationers. Highway 12 can become very congested during the summer months due to tourist traffic; however, during the winter, these areas are relatively vacant due to the hazardous driving conditions on this stretch of the highway.

The communities of Syringa and Lowell and homeowners in the surrounding areas have personal wells or multiple home wells. These water resources are not likely to be severely affected during a wildland fire.

Public power transmission lines have been strung from Kooskia to homes and businesses in the Lowell, Syringa, and Selway River corridor areas; however, many residents also rely on propane as either a primary or secondary power source. In a few areas, particularly on private property these power lines are in direct contact with trees or other vegetation.

FIRE PROTECTION

Local fire district coverage is provided by the Kooskia Volunteer Fire Department for structural fire (closest station is located in Kooskia). Due to the distance from the station, response times are variable; however, they can reach up to 30 to 45 minutes for very remote areas. During the winter (wildland fire off-season), the only available suppression equipment is based in Kooskia.

Primary wildland fire coverage is provided by the USDA Forest Service, which has seasonal crew and equipment stationed at the Fenn Ranger Station about five miles up the Selway River Road from Lowell. The Idaho Department of Lands also provides limited wildland fire coverage.

COMMUNITY ASSESSMENT

The communities of Lowell, Syringa, and the Selway River corridor are at high risk of experiencing a wildland fire. Homes built on mid and upper slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Brush and other understory vegetation on the steep slopes rising from these communities would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increase potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival.

The location of the primary access route in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the river would funnel hot gases and fumes through the canyon. Intense heat, sparks, or fire brands could easily light the opposite side; thus, compounding the threat. Additionally, there are only a few alternate escape routes available to residents and tourists.

A number of landowners in the Middle Fork of the Clearwater River drainage have decreased the fire risk to their property by conducting thinning, pruning, and slashing operations around structures. Others graze livestock in pastures surrounding the home site. Both management methods help create a defensible space around the structures, which drastically reduces the risk of a wildfire threatening the home.

MITIGATION ACTIVITIES

Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens Lowell, Syringa, or the Selway corridor communities. Forest conditions in this area typically consist of dense forest canopies with a brushy understory component on steep slopes. All of these factors combine to create fire conditions that may be very difficult to control.

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of a compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information.

Recreational facilities near the community and along the Middle Fork of the Clearwater River corridor and the Lochsa and Selway Rivers should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Mount Idaho

Mt. Idaho is located two miles southeast of Grangeville and is situated at the very edge of the Camas Prairie. Terrain of the town site is predominantly rolling hills, but quickly drops off to the east and southeast into the break lands overlooking the South Fork of the Clearwater River, 1,500 feet below. There are many homes located on and along the top of these steep slopes.

FIRE POTENTIAL

Fuels Assessment

Mount Idaho is located in the transition zone between the grasslands of the Camas Prairie and forestlands. Fuels surrounding the town site are primarily open ponderosa pine and Douglas-fir stands, with a grass and brush understory. Vegetation on the steeper slopes to the east and south is dominated by ponderosa pine/Douglas-fir stands, which become denser, with an increased fir component, on north facing slopes and in drainages. Under extreme weather conditions, these stands may lend to greater risk of crown fire and rapid spread upslope.

Fire risk in the steep canyon lands just east of the community is dramatically increased due to the abundance of ignition sources and steep topography. Concern has developed over recent harvest activities on private property adjacent to USDA Forest Service system lands above the Mount Idaho Grade. Inadequate slash disposal on these steep slopes lends to a serious threat of wildland fire, especially to structures directly upslope along the Cove Road.

Ignition Profile

Both natural and human caused ignitions occur around the community of Mount Idaho. The community center is more prone to human caused ignitions than lightning strikes due to the flat topography and agricultural development; however, lightning strikes occur frequently in the state and federal forestlands to the south and east of the population center. Annual field burning, debris fires, and vehicle use are much more common ignition sources. Stubble fires seldom escape landowner's boundaries, but there are a few such incidents each year. These fires are generally easily suppressed by modifying the vegetation and homes are rarely threatened.

Vehicle use on- and off-road is also a significant source of ignitions. Not only do sparks from vehicles ignite fuels along roadways, but fires are also commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pickups are used regularly in farming operations.

INGRESS-EGRESS

The primary access to Mount Idaho is via the Mount Idaho Road from Grangeville or the Mount Idaho Grade from State Route 14 along the South Fork of the Clearwater River. These are both two-lane, paved roadways. The Mount Idaho Road from Grangeville is bordered by agricultural and pastureland and is at little threat to wildland fire. Due to its location along the steep canyon wall, the Mount Idaho Grade has increased risk of becoming threatened by fire, especially fire originating along State Route 14. Fuels along the grade are typically cured grasses with scattered ponderosa pine and Douglas-fir stands. There are also several gravel secondary routes that could serve as potential escape routes including Cove Road, Poor Farm Road, and Whitetail Drive. The Cove Road is the only access route for residents in the Cove Road area. Several sections of this passageway abut timber-type fuels, which significantly increase the fire risk; however, Cove Road connects to Forest Road 279 (Cove Creek Road) providing a thru road to the river throughout the fire season.

INFRASTRUCTURE

Residents of Mount Idaho rely on personal or multiple home wells. These water resources are not likely to be severely affected by wildland fire; however, the power supply to the pumps that draw the water from the wells could easily be interrupted or damaged by fire.

Residents living in the Cove Road area currently do not have access to landline telephone connections; however, they do have phone service through a local cellular phone service.

FIRE PROTECTION

The Grangeville Rural Fire Department provides structural protection in Mount Idaho, but their district only extends approximately one mile to the east. There is currently a gap in fire coverage between the Harpster Fire District and the Grangeville Rural Fire District. This results in both the Golden Hills Subdivision and the Cove Road area being without structural protection.

The USDA Forest Service and the Idaho Department of Lands provide wildland fire protection. The USDI Bureau of Land Management is not responsible for wildland fire suppression in Idaho County; however, they do have limited abilities to respond if requested.

COMMUNITY ASSESSMENT

Residents of the Mount Idaho area have moderate to high risk of experiencing a wildland fire due to the close proximity of forestlands and steep topography. Therefore, it is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to such an event.

As the community grows, more and more homes are being built in the wildland urban interface, particularly south and east of town. Many of these new homes abut forest-type fuels and are accessed by one-way in and one-way out driveways, which dramatically increases the likelihood of loss of life or property in the event of a wildland fire. These homes and other buildings are at much higher risk of experiencing a fire.

Many homes have been built along the rim of the western canyon wall of the South Fork of the Clearwater River. These homes are at very high risk due to the rapid rate of fire spread upslope that would be expected in the event of a fire in the canyon. These homes generally have poor access and would be difficult to protect in a wildfire situation.

The primary fire risk is associated with the abundance of human activity and the use of machinery near dry fuels. The receptive nature of these fuels increases the likelihood of a fire start. Most homeowners maintain an adequate defensible space around structures by watering their yards and mowing grass and weeds.

MITIGATION ACTIVITIES

Grazing generally works positively towards reducing the fine fuels in the vegetation types surrounding Mount Idaho, particularly in the open forest stands with grass and brush in the understory. Many landowners already graze livestock in areas that would otherwise be more susceptible to carrying a wildland fire. Grazing is a relatively inexpensive fire mitigation tool that typically works very well with little negative impact on the land.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Powell

Powell is a small community located in the Clearwater National Forest on the upper end of the Lochsa River. The main cluster of structures is adjacent to the USDA Forest Service Powell Ranger Station. This area includes the USDA Forest Service compound, private residences, an Idaho Department of Transportation maintenance shed and associated residences, and the Lochsa Lodge. The Lochsa Lodge is a private business including a restaurant, bar, store, and rental cabins. The community of Powell has a transient population consisting of various seasonal employees at both the ranger station and the Lochsa Lodge, tourists, loggers, and many other forest users. A major highway, U.S. Highway 12, a route from Missoula, Montana to Lewiston, Idaho passes directly through the community.

FIRE POTENTIAL

Fuels Assessment

Powell sits in the river bottom in the upper end of the Lochsa River drainage with moderate to steep slopes rising from both sides. The area around the community is dominated by relatively moist forest types. Western red cedar, grand fir, Engelmann spruce, and Douglas-fir are predominate in this area. There are drier sites with lodgepole pine and subalpine fir in the higher elevations. Alder, shiny leaf ceanothus, snowberry, and fools huckleberry are common brush species. The timber stands vary from heavily logged to fully stocked and mature.

Fires in these fuel types are highly variable, ranging from low intensity surface fires to very destructive, stand replacing wildfires. Fire suppression over the past few decades has led to increased brush, regeneration, and other surface fuels in the understory, which can lead to more intense fires. Torching, crowning, and spot fires tend to occur more frequently under these conditions. This area has a history of frequent fires including a significant number that have grown to large size.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational activity increases potential ignition sources significantly. Off-road vehicles, debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area.

Lightning events are common across Idaho County; but are especially common in the mountainous regions encompassed by National Forest system lands. This area has one of the higher incidences of lightning caused fires in the county. In the late summer and early fall, the cured grasses and drier forest conditions are very receptive to ignition.

The abundance of human and natural ignition sources and the nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity, and strong winds can quickly lead to fast-moving, destructive wildfires.

INGRESS EGRESS

The primary access into Powell is by U.S. Highway 12 from Kooskia or Missoula. This two lane highway follows the path of the Middle Fork of the Clearwater River and continues up the Lochsa. Highway 12 is very narrow and windy resulting in congestion during the summer months due to tourist traffic and becoming hazardous in the winter due to weather. The majority of the roadway abuts timber-type fuels and steep slopes. The river canyon is narrow enough that a fire on either side could restrict

access due to extreme heat and fumes. In the event of a wildfire along the river, it is likely that this escape route would become impassable. U.S. Highway 12 is the sole escape route between Powell and less hazardous areas.

There are a few Forest Roads in the area that may serve as a potential escape routes depending on the location of the fire. However, these roads typically travel through heavy forest fuels and lead to even more remote locations. In many cases, these roads may not be passable after an ice storm or severe wind event.

INFRASTRUCTURE

Due to its close proximity to the Clearwater and Nez Perce National Forests and its historical significance as part of the Lewis and Clark Trail, the economy of this community is heavily dependent on travelers and tourists. Warm weather tends to bring campers, hikers, rafters, and other recreationalists into the Lochsa River drainage. The Lochsa Lodge also brings in a large number of vacationers. During the winter, this area is heavily used by cross country skiers and snowmobilers recreating in the Lolo Pass area.

The water system in the Powell area is fed by a spring and provides very limited water for firefighting purposes. Public power transmission lines from the Missoula area are the primary power source for most residents. These are extremely vulnerable to both weather events and fire. Communication is primarily by buried phone lines, which are typically only vulnerable at the junction boxes. Both the Forest Service and local citizens have high quality radio systems with excellent coverage. In both cases, these systems depend on repeaters located in fire lookouts that are vulnerable to fire and lightning.

FIRE PROTECTION

The USDA Forest Service fire crew based at the Powell Ranger Station provides wildland fire protection during the summer fire season. They have approximately 16 to 20 personnel and two wildland engines. Structural fire protection is available from the Frenchtown, Montana Fire Department; however, due to the long response time and limited resources, effectiveness of this system is limited. Powell does have its own volunteer EMS unit.

COMMUNITY ASSESSMENT

The community of Powell is at high risk of experiencing a wildland fire. Homes built with timber directly abutting or overhanging structures are at the highest risk. Fires in the timber fuel types present in this area are generally much more intense and difficult to control than rangeland fires. Brush and other understory vegetation and heavy timber on the steep slopes rising from these communities would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational and other human activities in the area drastically increases potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival.

The location of the primary access route in the bottom of a narrow canyon exacerbates already hazardous landscape characteristics. A fire on either side of the river would funnel hot gases and fumes through the canyon. Intense heat, sparks, or fire brands could easily light the opposite side; thus, compounding the threat. Additionally, there are only a few alternate escape routes available to residents and tourists.

MITIGATION ACTIVITIES

Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens Powell. Forest conditions in this area typically consist of dense forest canopies with a brushy understory component on steep slopes. All of these factors combine to create fire conditions that may be very difficult to control. The USDA Forest Service has recently completed fuel reduction projects around

the community to help reduce the fire hazard, but more needs to be done in order to increase the safety of Powell residents and visitors.

Development of a community evacuation plan is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents and tourists. A community safety zone should also be established in the event of a compromised evacuation. Efforts should be made to educate homeowners through existing homeowner's associations or creation of such organizations to act as conduits for this information.

Recreational facilities near the community and along the Lochsa River corridor should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

Woodland, Pardee, Caribel, and Glenwood

The small community of Woodland is located near the western tip of the flat topped ridge between the Clearwater River and the Lolo Creek drainage. The Friends of Woodland Church marks the center of town; however, most residents are scattered randomly throughout the area. Much of the ridge top is dominated by converted hay fields and pasture ground with patches and stringers of forestland along the perimeter.

Pardee, Caribel, and Glenwood are remnant communities. Pardee sprang up alongside the Camas Prairie Railroad tracks running on the eastern side of the Clearwater River southwest of Woodland to serve area miners and other pioneers. The old Pardee town site is currently owned by the USDI Bureau of Land Management with only an interpretive sign and an aging silo marking its location. A small subdivision is located just upstream of the original Pardee town site. Residents in this area are very isolated with an incredibly narrow, winding road as their sole access route. The Caribel town site was once located on the same ridge, but approximately 11 miles southeast of Woodland on the Woodland Road. A few homes remain in the area; however, there is no definitive community center. Much of this area has been cleared for agricultural purposes, yet forest vegetation remains in the nearby Tom Taha drainage and on the steeper slopes leading down to Lolo Creek on the north side of Woodland Road. The remnant community of Glenwood is found on the Glenwood/Tom Taha Road approximately eight miles east of Caribel and 14 miles east of Kamiah near the summit of the Tom Taha Grade. There are several residents in this area, although an old schoolhouse is all that remains of the community center. Several landowners have cleared acreage for agricultural purposes; however, most of this area is covered by forestlands. The Clearwater National Forest boundary lies about three miles to the east, while the Idaho Department of Lands manages much of the area to the south.

FIRE POTENTIAL

Fuels Assessment

Many homes in the Woodland, Pardee, Caribel, and Glenwood areas have defensible space around structures in the form of pasture for livestock or small farm fields. A fire start in a field or pasture can generally be quickly controlled by modifying vegetation and creating fuel breaks. Nevertheless, fires in this type of light, flashy fuels will tend to spread very rapidly leaving little time to protect structures.

Due to their location on the ridge top, a fire occurrence on either the northeast aspect rising from Lolo Creek or the southwest aspect coming from the Clearwater River side will threaten these communities. Woodland has an increased risk of fire due to the urban development in the Clearwater River breaks area south and west of the community. This slope is characterized by dry open ponderosa pine stands with a grass understory. The main Woodland Road accesses many homes and private drives as it winds its way up to the Woodland town site. Although most homeowners have cleared a defensible space, several structures are nestled into wooded, higher risk areas. Fires in these fuel types would be expected to move very rapidly upslope, but burn at lower intensities. This fuel type is very flashy and easily influenced by weather patterns making suppression efforts difficult and potentially dangerous for firefighters. Timbered areas can burn very intensely, throwing fire brands and creating rolling embers that ignite spot fires. Fire starts due to vehicles, ATV's, cigarettes, and debris burning is becoming more common in this area.

The south slope of the Lolo Creek drainage, the Tom Taha Creek drainage, and forestlands surrounding Glenwood are dominated by Douglas-fir with ponderosa pine and grand fir intermixed. Western red cedar and Engelmann spruce can also be found in frost pockets. The understory in these areas is variable; however, thick patches of ninebark, ocean spray, and other brush species are common. Ladder fuels caused by thick regeneration at various stages of development increase the risk of catastrophic fire in these habitat types. Enhanced vertical and horizontal fuel continuity can lead to larger fires with

increased occurrences of crowning and torching. These hazardous fuel complexes coupled with dry summers and numerous ignition sources significantly increase the probability of an intense and destructive wildfire.

Ignition Profile

Both natural and human caused fires occur in this area. The high density of recreational and industrial activity near the river and the intense use of mechanized equipment for farming and logging increase potential ignition sources significantly. The use of equipment near cured grasses sparked the 2003 Milepost 59 Fire, which burned over 8,000 acres in the Clearwater River canyon five miles north of Kamiah. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are just a few of the countless potential human ignition sources in the area. Contact between power lines and trees can spark fires, especially during windy conditions. The occurrence of arson fires each year is rising. To date, local fire emergency resources have controlled these fires before they caused serious damage and threatened lives or property.

Lightning events are common across Idaho County; however, ignitions due to down strikes occur more frequently in mountainous areas. The cured grasses that cover the steep slopes of the Clearwater River canyon and the forest habitat types that dominate much of the area surrounding Woodland, Pardee, Caribel, and Glenwood are very receptive to ignition.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire. Fire characteristics will depend on fuel types and moisture levels, as well as on weather conditions at the time of ignition. Fires during periods of drought with high temperatures, low humidity and strong winds can quickly lead to fast-moving, destructive wildfires regardless of whether the event occurs in forest or rangeland fuels.

INGRESS-EGRESS

The primary access into Woodland is via the Woodland Road from Kamiah. This is a relatively steep two-lane paved grade with several turnouts. Much of this roadway is bordered by agricultural fields or grasslands; thus, the risk of this route becoming impassable for an extended amount of time is unlikely under normal fire conditions. The Woodland Grade Road traveling the opposite direction to Greer could serve as an alternate escape route for residents on the ridge; however, this road is less desirable due to the narrow roadbed, tight switchbacks, and sheer steepness. Additionally, this area is dominated by a dry forest habitat type. Emergency evacuation on the Woodland Grade to Greer would be very slow and dangerous.

The Woodland Road traveling east from Woodland to Caribel and eventually Glenwood is a well maintained gravel route. Although there are a few patches of timber, this roadway follows the ridgeline through predominately agricultural and pastureland. This section of the Woodland Road ties into the main Woodland Road to Kamiah on the west side and the Tom Taha/Glenwood Road on the east side. Since it is the sole thru road connecting the central region of the ridge, this would be the primary escape route for many residents.

The sole road that accesses Pardee residents is very narrow with many switchbacks. Although residents may be able to escape on this road, it is unlikely that most fire suppression vehicles would be able to descend in an emergency event. Furthermore, there are very few places where two vehicles could pass each other. In the event of a fire in the Pardee area, evacuation as well as fire suppression by air or boat would probably be more suitable depending on the location of the fire.

The Tom Taha/Glenwood Grade Road from Glenwood to Kamiah is a paved two-lane road. This path is relatively steep with several switchbacks making rapid emergency evacuation dangerous. Additionally, this grade was built in a timbered draw making suppression efforts difficult. Flames, smoke, and

hazardous fumes would likely funnel through this narrow drainage, significantly increasing the hazard. In the event of a fire in this draw, it is highly probable that this escape route would be cut off. The Beaver Slide Road and the Kidder Ridge Road are alternative routes that depart from the Tom Taha Grade about four miles west of Glenwood. The Beaver Slide Road descends into Kamiah just south of the Tom Taha Grade. This very steep, narrow, and winding road is not a safe escape route. The Kidder Ridge Road heads south along Kidder Ridge before dropping down into Kooskia. This gravel route could serve as an alternate escape route with additional maintenance, guard rails, turn outs, and signing.

INFRASTRUCTURE

Residents of the Woodland, Pardee, Caribel, and Glenwood rely on personal wells. These water resources would not likely be affected by wildfire. There are also several springs and ponds dotting the landscape, which commonly are used to water livestock. These water resources may be impacted by wildfire (sedimentation, increased surface runoff, etc.), but it is improbable that the damage would be severe or long-term.

Public power transmission lines run along the ridge top and roadways to each of the communities. Sections of these transmission lines cross over forest ecosystems. These lines have a moderate potential of sparking an ignition, particularly during severe wind events. Efforts should be made to ensure power line corridors are kept clear of fuels.

The economy in this region is dependent on agriculture and the timber industry. A few small sawmills near Kamiah have employed many residents of Woodland, Pardee, Caribel, and Glenwood for many decades. The loss of productive timber ground because of a large wildfire may affect the mill's ability to continue operating efficiently, especially in today's shrinking log markets.

Camas Prairie Railroad still transports logs and a few other products between Kooskia and Lewiston. The track mimics the path of the Clearwater River along its eastern bank. There have been no recent fire starts due to the passage of the train, yet the potential of ignition from sparks or hot brake shoes exists.

FIRE PROTECTION

The Glenwood-Caribel Volunteer Fire District provides fire protection to Glenwood, Caribel, and the surrounding areas. The Carrot Ridge Volunteer Fire Department provides structural protection to the community of Woodland. The Idaho Department of Lands-Maggie Creek District, USDA Forest Service, and the Nez Perce Tribe offer wildland fire protection to Woodland, Pardee, Caribel, Glenwood, and the surrounding area.

COMMUNITY ASSESSMENT

The communities of Woodland, Pardee, Caribel, and Glenwood are at moderate to high risk of experiencing a wildland fire, which has been recently demonstrated by the 2003 Milepost 59 Fire. Homes built on steep slopes or with timber directly abutting or overhanging structures are at the highest risk. Fires in these timber fuel types are generally much more intense and difficult to control than rangeland fires. Dry grasses on the steep slopes rising from the Clearwater River would support very rapidly spreading wildfires, leaving little time for residents to escape. Additionally, the abundance of recreational, industrial, and other human activities in the area drastically increase potential ignition sources. Preparing a home prior to a wildfire event will significantly increase its chance of survival.

The location of Woodland, Caribel, and Glenwood along the ridge top exacerbates already hazardous landscape characteristics. A fire on either side, from the Clearwater River or from Lolo Creek, could quickly spread upslope and threaten homes. Additionally, there are only a few safe escape routes available to residents. Pardee residents have a much higher risk due to the lack of a safe escape route and the difficulty of access for firefighters.

MITIGATION ACTIVITIES

Very few of the roads around Woodland, Pardee, Caribel, and Glenwood have road names posted. This could lead to confusion and lost time in an emergency. All roads should have road names posted. Development of community evacuation plans is necessary to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. A community safety zone should also be established in the event of compromised evacuation. Efforts should be made to educate homeowners through existing homeowners associations or creation of such organizations to act as conduits for this information. Development of the access road into Pardee to accommodate emergency vehicles and two-way traffic would drastically improve the safety of residents. It is very important that homeowners in the Pardee area have a preset and agreed upon evacuation and safety plan for emergencies.

Other specific mitigation activities are likely to include improvement of emergency water supplies and management of trees and vegetation along roads and power line right-of-ways. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting controlled burns. Other actions that would reduce the fire hazard would be thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations.

Please see Section 5.4 *Wildfire Mitigation Activities Applicable to All Communities* for additional recommended mitigation.

4.4 Fire Departments' Firefighting Resources and Capabilities

Rural and city fire district personnel are often the first responders during emergencies. In addition to house fire protection, they are called for wildland fires, floods, landslides, and other events. Many individuals in Idaho County serve fire protection districts in various capacities. The Resources and Capabilities of the Fire Departments represented in the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

4.5 Wildland Fire Districts' Firefighting Resources and Capabilities

The Resources and Capabilities of the Wildland Fire Districts represented in the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

4.6 Issues Facing Idaho County Fire Protection

Because of the large area encompassing Idaho County, the issues facing successful fire protection are diverse, ranging from concerns about continued rapid growth to home accessibility issues to watershed issues to obtaining insurance for non-profit fire departments. Discussion of these issues follows.

4.6.1.1 *Continued Rapid Growth*

Growth will continue to present the greatest challenge to fire management in the urban interface over the long term. As of June 2007, there are 150 new subdivisions or housing developments (several are multiple phases of the same development) planned throughout Idaho County.

The dramatic increase in demand for homes throughout Idaho County has resulted in significant changes in land use patterns. Many agricultural lands and private non-industrial forest lands have been sold and subdivided over the last few decades, pushing residential development further into the timberlands. This trend will continue, as forestlands and rangelands are sold for real estate development, having a dramatic effect on the ability of emergency resources to maintain current levels of fire protection without considerable increases in funding for equipment, personnel, and training. Indeed, many emergency response resources in Idaho County are already at a critical threshold. Further increases in protection responsibility will come at the expense of preparedness, as emergency resources are increasingly spread over an expanding protection area.

4.6.1.2 *Elk City and Red River Development*

There are several new housing developments planned in the Elk City and Red River area. Many of these developments are being planned along the National Forest boundary and are typically all or partially forested. The declining health of many of the lodgepole and mixed conifer stands in the Elk City township and surrounding area have become a major wildfire hazard due to overcrowding and insect-caused mortality. The increasing popularity of the Elk City and Red River areas as a recreational destination further exacerbates the potential risk for wildfire. The growing housing density coupled with the increasing recreational traffic spread over a large coverage area puts a significant burden on the local volunteer fire department as well as the federal agencies responsible for wildland fire protection. Further complicating the situation is the inevitable lack of access. The Elk City and Red River areas are very rural, which adds to their appeal; however, State Highway 14 is the only paved, direct access into the

area. This two-lane highway follows the path of the South Fork of the Clearwater River and is very narrow and winding. Furthermore, many of the housing development, both old and new, are accessed by one-way in, one-way out driveways bordered by forest.

There have been several efforts to improve forest health and thereby decrease the potential wildfire risk in the Elk City and Red River areas; however, new developments and home builders should be made aware of the inherent fire risk and take the appropriate actions to protect their property and families. The Elk City Township and surrounding forestlands can and will eventually burn; thus, residents should be prepared to deal with the potential consequences and have safety measures in place ahead of time.

4.6.2 Grangeville Watershed

The community of Grangeville is dependent on a controlled surface runoff from the Three Mile Creek Watershed. At one time, the city obtained their water from the Three Mile Creek Drainage, now all of the domestic water for the community comes from wells. The city has contained the creek in channels and a tunnel that runs under several down town businesses. A severe wildfire in this watershed could cause serious injury to this resource by removing vegetation, creating ash and sediments, and impairing soil properties. Fire mitigation treatments prior to a fire event are a high priority and are imperative to conserving the functionality of the watershed following a wildland fire. An assessment of the Watershed was completed in September of 2009, and fuel mitigation recommendations are forthcoming.

4.6.3 Elk City Watershed

Most of the community of Elk City is dependent on surface runoff from the Elk Creek Watershed as its primary source of water. This is a citizen-owned water system that draws its resources from Elk Creek. The water is stored in a large cistern above the community and uses both a pumping system and a gravity feed. Generators have been purchased to keep the water flowing during power outages as well as during a fire situation. Installation is anticipated for completion in November 2009. A severe wildfire in this watershed could cause serious injury to this resource by removing vegetation, creating ash and sediments, and impairing soil properties. Fire mitigation treatments prior to a fire event are a high priority and are imperative to conserving the functionality of the watershed following a wildland fire.

4.6.4 Grangeville – Elk City Power Supply

The power line system from Grangeville to Elk City and surrounding communities is out of date and does not provide a reliable source of power for residents tapped into this grid. The poles maintaining the system are wooden and provide low elevation lift to the wires. In order to alleviate this issue, residents feel replacing the wooden poles with taller metal poles would decrease their risk to fire as well as provide better service to residents using this system. Additionally, fuels treatments under the power lines should be conducted to provide a fuel break and make the lines more likely to sustain a wildfire.

4.6.4.1 *Elk City Forest Health Issues*

In the heart of Central Idaho's backcountry lies a single township, thirty-six square miles, surrounded by the Nez Perce National Forest. Once a center for mining, prospecting and the businesses associated with those activities, the community of Elk City occupies perhaps a third of this township. One legacy of the area's history as a mining district is that the USDI Bureau of Land Management now cares for the public lands within the township, managing approximately 12,500 acres. Another legacy is the rest of the area is in private ownership, the result of mining claims that were patented and thereby granted to individuals or mining companies.

Since the early 1980's, a major outbreak of mountain pine beetle has been progressing through forestlands surrounding the township and is now well established in the lodgepole within the township itself. The

cycle in which older lodgepole pine are killed by beetles, replaced by fire, and the burned areas regenerated with more lodgepole is widely recognized. Each year, additional trees die from the beetle attacks, and the dead trees with their dry needles await only dry conditions and an ignition source to create serious wildfires that will be virtually impossible to control.

History is confirmed by the preponderance of lodgepole and other early seral species that currently occupy the forested sites in a classic fire type pattern. On the ridges above the South Fork Clearwater River and in the southwest corner of the township, for example, lodgepole stands were found to be over 100 years old. Where past fires were most intense, nearly pure stands of lodgepole or, in other cases, western larch, occupy the land. Where the fires burned with lower severity, larger trees and those that are less fire resistant were spared the impact of the flames.

The nearly pure stands of lodgepole pine and the presence in mixed conifer stands are both a testament to the fire history of much of the township and an indicator of future fire occurrences. Recent fire suppression has been successful, as there have been no significant fires within the township since 1940. However, it can be argued that suppression has merely postponed the inevitable. Fire suppression, along with timber harvest, have altered what would have been the historic mosaic of varying forest types, age classes, and fire risk across the landscape. When fuels build up and conditions allow, there could be high intensity fires that will defy control efforts. This situation should not be viewed as an aberration, as the area has both lethal, mixed, and even low frequency historic fire regimes. Nevertheless, the norm may no longer be acceptable, given the level of human development within the landscape.

Unless there is an unusually cold winter or two, control of the beetle epidemic and mitigation of the fire hazard they create will be dependent upon human actions. Control strategies boil down to thinning lodgepole stands and disposing of the slash. Fortunately, the forestlands surrounding Elk City township have Douglas-fir, larch, ponderosa pine, and grand fir trees interspersed with lodgepole or adjoining lodgepole stands, so that the stands can be selectively logged for the lodgepole, leaving fire and beetle resistant tree species with sufficient numbers of trees to maintain aesthetic values.

There is a dire need to find acceptable ways to mitigate unnaturally high fire hazards, particularly around populated areas and to include the local community and other stakeholders in deciding future management directions. As the Federal agencies move to implement recommendations of this Plan, it is critical that all stakeholders participate in the development process. Agencies, working with the county, tribe, and other local governments, as well as the local community and preservation groups, can collaboratively strive to implement the goals of this plan and the National Fire Plan.

The challenge for land managers in the greater Elk City area is to pay heed to the fire history and to current vegetative conditions and fuel loads, and then mitigate the unacceptably high fire risk. History acts as a credible predictor of fire occurrence, but the size and intensity, and the risk that the inevitable fires pose to human values can be manageable.

4.6.5 Fire Behavior Issues for Communities Located in Valleys and River Bottoms

Several Idaho County communities have been built within narrow valleys and river corridors. Smoke and toxic fumes created by wildland fires typically funnel through these corridors by the up or down canyon winds and changing air pressures. Residents of communities such as Riggins, Kooskia, Stites, Elk City, and several others could be severely affected by these dangerous fumes and superheated air currents. In extreme cases, this type of fire behavior could result in the need for a complete evacuation of a community and area residents. This type of evacuation is a complex task that rural fire departments and other emergency response personnel should consider as part of their response plan.

4.6.6 Accessibility

Fire Chiefs throughout the County have identified home accessibility issues as a primary concern in several parts of Idaho County. It appears as though many homes and driveways have been constructed without regard to access requirements of large emergency vehicles. Lack of accessibility precludes engagement by suppression resources. Many homes within fire protection districts in Idaho County effectively have no fire protection simply because access is not possible or is potentially dangerous. Enforcement of the International Fire Code, regarding road and driveway construction standards for fire apparatus would prevent accessibility issues in new developments.

4.6.7 Communication

Currently, emergencies throughout Idaho County are dispatched through the Idaho County Sheriff's Office in Grangeville. Due to the ruggedness of terrain and the sheer size of the County, many areas do not have adequate communication with the Sheriff's Office or each other. This is particularly evident in the Salmon River canyon around Riggins. Outdated or inconsistent radio equipment between fire districts and other fire response agencies is also hindering the interoperability and communication process. Recently, all of the federal agencies have begun switching to narrow band radios. These are significantly more expensive than the wide band radios currently used by most rural and city fire districts and other local emergency services. Until all emergency service departments are able to outfit themselves with the new radios, communication between the two systems may be complicated. Communication is essential in a wildfire or any other emergency; thus, it should be a high priority to improve communicative abilities countywide.

4.6.8 Lack of Insurance for Not-for-Profit Fire Departments

Currently, most of the fire departments in Idaho County are not-for-profit organizations (all departments except Grangeville Rural Fire District, Cottonwood Volunteer Fire Department, Kamiah City and Rural Fire Protection District, and Harpster Volunteer Fire District) deriving their income from subscribers, which makes them responsible for having their own insurance coverage. Many departments cannot afford such a large expense without outside help. Thus, Idaho County Commissioners are encouraged to support, encourage, and help these organizations gain insurance coverage to protect the organizations and their firefighters, and continue providing fire protection service.

4.7 Success Stories in Idaho County

4.7.1 Idaho State Fire Plan Working Group 2008 Annual Report

The Idaho State Fire Plan Working Group (ISFPWG) is a multi-agency collaborative body charged with assisting counties with their County Wildfire Protection Plans and their associated countywide working groups, dissemination of information, and oversight and prioritization of grant assistance programs in order to facilitate the implementation of the National Fire Plan in Idaho.

Their annual reports provide current information on implementation of the County Wildfire Protection Plans, and the 2008 Annual Report marks the progress of Idaho's wildland fire community in preparing for fires and protecting communities (available at http://www.idahofireplan.org). Homeowners, rural fire departments, counties, state and federal fire agencies, and others are working together to prepare for wildfires. From 2001 to 2008, Idaho has accomplished approximately 1.7 million acres of hazardous fuels reduction. County Wildfire Protection Plans (CWPPs) are in place in all 44 counties, with active updates ongoing. National Fire Plan grants have protected over 13,000 homes and structures, and more than $33 million has been invested in firefighting resources.

In 2009, the Idaho State Fire Plan Working Group will continue to support counties in their efforts to assess and reduce risk. The State Working Group will support priority fuels reduction and restoration work that crosses ownerships and builds on previous work.

Highlights from Idaho County identified in the 2008 Report include the Upper Red River Project and the Fire Squirts Summer Camp.

UPPER RED RIVER PROJECT

In 2008, Idaho County completed 1.75 miles of fuel break and home defensible space projects around 95 structures on the Upper Red River Project. Four other projects are ready to start as soon as the snow leaves in the spring of 2009. The greatest challenge in implementing the Upper Red River project has been contacting the absentee landowners and obtaining their approval for the work to proceed. More than half the project is complete, and the remainder is scheduled to be completed in 2009.

FIRE SQUIRTS SUMMER CAMP

The USDA Forest Service partnered with the USDI Bureau of Land Management, Framing Our Community (an Elk City community non-profit), and local school districts to provide a summer opportunity for children in Idaho County to learn about fire. The Fire Squirts program is a fun, educational week-long camp that teaches children ages 8 to 14 about fire ecology, fire history, fire behavior, fire prevention, and fire suppression.

Through interactive sessions, creative artwork, laboratory experiments, and dramatic play, students learned about the fire triangle, ecological cycles, fuels treatments, defensible space, and map and compass skills. Students dressed up in firefighter and smokejumper protective equipment to learn firsthand about tools and gear, engines and parachutes, and even implemented suppression tactics on a practice fire. The children also visited nearby homes that had been impacted by a recent wildfire to learn about defensible space. They "played with fire" in laboratory experiments that demonstrated how fuel composition, wind, and topography influence fire behavior.

The Fire Squirts program has been offered annually by the Nez Perce National Forest since 2000. Interagency partnerships have allowed this program to expand to more than one location per year and to enhance the curriculum. With Community Assistance funding, the USDI Bureau of Land Management Cottonwood Field Office has provided support to this program through an Assistance Agreement with Framing Our Community. Instructors included Nez Perce National Forest employees from the Clearwater and Salmon River Ranger District fire programs as well as Grangeville Air Center Smokejumpers.

In the past, Idaho County and its communities been very successful at securing grants to improve the County's resilience to wildland fire. Idaho County has received approximately $1,262,380 from 2005 through 2008 through the State of Idaho and the NFA Community Fire Protection Grants.

4.7.2 Clearwater Fire Academy

The Clearwater Fire Chief's Association has successfully implemented the Clearwater Fire Academy, which is a three-day firefighting (structural and wildland) school open to all departments and agencies in the region. Courses cover a number of topics ranging from specific structural firefighting issues to basic wildland firefighting. The Academy has been very well attended and is an excellent example of departments and agencies working together to provide quality training at a lower cost to everyone.

4.7.3 Completed Grant Projects

Several Idaho County organizations have completed various types of fuel mitigation projects. Tables 4-14 through 4-17 provide a summary of these projects. Some of the projects have completed and ongoing

components. These projects are displayed here and in the next section. Please see the *Acronyms and Glossary* in Chapter 6 for an explanation of the funding agency acronyms.

Table 4-14. 2005 Idaho County National Fire Funds Plan.

Assistance Recipient	Funding Agency	2005 Funds	Project Description
Kooskia FD	BIA RFA	$21,366.00	Fire Prevention & Education
Framing Our Community	BLM CAR	$30,000.00	WUI Program Support
Stites FD	BLM RFA	$619.00	Equipment
Kooskia FD	FEMA AFG	$104,500.00	Vehicle Acquisition
Kooskia FD	IDL/FS VFA	$5,662.85	PPE/Communications
Salmon River RFD	IDL/FS VFA	$11,590.00	PPE/Communications
Idaho County - Cove Road	IDL/FS CFP	$35,325.00	Hazardous Fuels Treatment
Idaho County - Red River	IDL/FS CFP	$10,900.00	Hazardous Fuels Treatment
Idaho County - Syringa	IDL/FS CFP	$54,775.00	Hazardous Fuels Treatment
Idaho County - Elk City	IDL/BLM PF	$30,725.00	Hazardous Fuels Treatment
2005 Total		**$305,462.85**	

Table 4-15. 2006 Idaho County National Fire Funds Plan.

Assistance Recipient	Funding Agency	2006 Funds	Project Description
Idaho County - Secesh II	IDL/FS CFP	$41,800.00	Hazardous Fuels Treatment
Idaho County - Glenwood-Caribel	IDL/FS SFA	$134,000.00	Hazardous Fuels Treatment
Idaho County - South Fork	IDL/FS SFA	$54,000.00	Hazardous Fuels Treatment
Ferdinand Fire Department	IDL/FS VFA	$3,504.60	Firefighting Equipment
Grangeville Rural Fire Department	IDL/FS VFA	$3,084.00	Firefighting Equipment
Harpster Fire Protection District	IDL/FS VFA	$13,276.00	Firefighting Equipment
Keuterville Cowboy Wildland Firefighters	IDL/FS VFA	$3,700.00	Firefighting Equipment
Salmon River Rural Fire Department	IDL/FS VFA	$1,395.00	Firefighting Equipment
Stites Fire Department	IDL/FS VFA	$1,442.00	Firefighting Equipment
Harpster Fire Protection District	BIA RFA	$9,202.00	Radios, computer, projector
Glenwood-Caribel Volunteer Fire District	BIA RFA	$13,699.00	Training and PPE
Cottonwood Rural Fire Department	BIA RFA	$5,426.00	PPE and Pagers
White Bird Fire Department	IFCA FFLP	$1,000.00	Laptop
City of Riggins	FEMA AFG	$41,505.00	Operations & Safety
Cottonwood Rural Fire Department	FEMA AFG	$14,250.00	Operations & Safety
Ferdinand Fire Department	FEMA AFG	$15,039.00	Operations & Safety
Salmon River Rural Fire Department	BLM RFA	$9,144.00	PPE, Communications & Equipment
2006 Total		**$365,466.60**	

Table 4-16. 2007 Idaho County National Fire Funds Plan.

Assistance Recipient	Funding Agency	2007 Funds	Project Description
Framing Our Community	FS EA	$88,900.00	Sort Yard
Framing Our Community Inc.	IDL/FS CFP	$20,000.00	Living With Fire Video
Idaho County	IDL/FS CFP	$82,500.00	Upper Red River
Idaho County	IDL/FS CFP	$34,448.00	Warren, Salmon River
Idaho County	IDL/FS SFA	$75,000.00	Countywide I
Cottonwood RFD	IDL/FS VFA	$585.00	Equipment
Glenwood-Caribel Volunteer Fire District	IDL/FS VFA	$6,700.00	P25 Compliant Radios and Personal Protective Equipment
Kooskia FD	IDL/FS VFA	$2,000.00	
2007 Total		**$310,133.00**	

Table 4-17. 2008 Idaho County National Fire Funds Plan.

Assistance Recipient	Funding Agency	2008 Funds	Project Description
Ridge Runner Fire Department	BIA RFA	$2,440	PPE and equipment
Cottonwood RFD	BIA RFA	$3,716	PPE
Carrot Ridge VFD	BIA RFA	$4,590	Equipment, communications, training
Kooskia Fire Department	BIA RFA	$2,574	PPE
Harpster VFD	BIA RFA	$7,168	PPE
Glenwood-Caribel Volunteer Fire District	BIA RFA	$9,415	PPE and equipment
Clearwater RC&D	BLM CAR	$5,000	Idaho County Fire Mitigation Coordinator
Nez Perce NF	BLM CAR	$20,000	Salmon River homeowner assessments
Clearwater RC&D	BLM CAR	$5,000	Harpster RFD RedZone
Framing Our Community	BLM CAR	$5,000	Homeowner Assessments
Framing Our Community	BLM CAR	$2,000	"Are We Safe From Fire" video, additional costs
Framing Our Community	BLM CAR	$3,000	Educational Outreach
Framing Our Community	BLM CAR	$5,000	Fire Squirts Ed Program
Cottonwood Fire Dept.	BLM RFA	$6,120	Communications - P25 compliant radios
Keuterville Wildland Firefighters	BLM RFA	$12,240	Communications - P25 compliant radios
Grangeville RFD	FEMA AFG	$5,510	Equipment
Idaho County	IDL/FS SFA	$156,000	Fire Safe - Salmon River RedZone, White Water Wilderness Ranch, Upper Salmon River II, Elk City
Cottonwood RFD	IDL/FS VFA	$3,041	2 Shelters and 2 Radios
Elk City VFD	IDL/FS VFA	$2,200	2 Radios
Glenwood-Caribel Volunteer Fire District	IDL/FS VFA	$3,000	Shelters & Radios
Grangeville RFPD	IDL/FS VFA	$3,498	Radios
Harpster VFD	IDL/FS VFA	$696	Foam Mixer and First Aid Kits

Assistance Recipient	Funding Agency	2008 Funds	Project Description
Kooskia FD	IDL/FS VFA	$1,122	PPE and Equipment
Ridge Runner Fire Department	IDL/FS VFA	$5,984	PPE
Salmon River RFD	IDL/FS VFA	$5,000	Equipment
White Bird FD	IDL/FS VFA	$2,000	Shelters and Pike Poles
2008 Total		**$281,314**	

4.7.4 Ongoing Grant Projects

Several Idaho County organizations are currently working on various types of fuel mitigation projects through grant programs. Table 4-18 provides a summary of these projects.

Table 4-18. Active Grant Programs

Project #	Program Name	Original Amount	Balance
07SAFP-06	Idaho County-Countywide	$75,000	$0
06SAFP-05	Idaho County-Glenwood Caribel	$55,576	$0
06SAFP-13	Idaho County- Countywide II (from Glenwood Caribel)	$78,424	$251
06NFA4-04	Idaho County-Secesh II	$41,800	$35,710
07NFA4-04	Idaho County-Warren-Salmon River	$34,448	$12,057
07NFA105	Upper Red River	$82,500	$23,942
08SAFP12	Salmon River Rural	$17,400	$8,900
08SFAP12	White Water Ranch	$35,000	$180
08SAFP12	Upper Salmon River	$65,750	$28,450
08SAFP12	Elk City	$30,500	$3,906
09NFA102	Powell Fuel Break	$60,000	$60,000
Totals		**$576,398**	**$173,396**

4.7.5 Creation of the Glenwood-Caribel Volunteer Fire District

Prior to 2005, the communities of Glenwood and Caribel and homes in the surrounding area were not covered by any formal structural or wildland fire protection district. In April of 2005, landowners and residents in these areas took action to create a new fire district in order to provide fire protection resources and personnel to the citizens of Glenwood, Caribel, and the surrounding areas. The Glenwood-Caribel Volunteer Fire District (GCVFD) provides both structure and wildland firefighting support to a large area (42 square miles). The topographical features range from flat farmland to deep, difficult to access canyons. Large areas of cultivated farmland, thick-forested areas, and dense underbrush, with numerous homes dispersed throughout, provide a challenge to effective firefighting. Sections of State land, National forest, tribal lands, and large areas private forest add to the complexity of fire protection.

Through grant funding and private donations, this rural fire department has built a small fire station, acquired a used pumper truck, as well as two 1,200-gallon tenders, a 2,500-gallon tender, and two brush trucks. These vehicles are well equipped and are maintained by the volunteers. In addition, a Quick Response Unit has been established for the Glenwood-Caribel-Woodland areas, with two response vehicles, seven Basic EMTs, and one Advanced EMT. The Quick Response Units (QRUs) are equipped to provide non-transport emergency service until the arrival of an ambulance. Mutual Aid Agreements with other structural and wildland fire departments and agencies in the area provide additional support.

4.7.6 Creation of the South Fork of the Clearwater River Volunteer Fire Department

Currently, the Elk City Volunteer Fire Department not only provides structural fire protection to the community of Elk City, they also respond to fires in the small, remote communities of Newsome, Orogrande, Fall Creek, Mallard Creek, Red River Hot Springs, and Red River. The level of protection the Elk City Volunteer Fire Department can provide to these communities is dependent on current resources and generally decreases as the distance to these areas increases. Response times to many of these locations could reach up to two or three hours depending on road conditions. In order to mitigate this risk, it is recommended that six fire brigades; the Newsome Brigade; the Fall Creek Brigade; the Mallard Creek Brigade; the Red River Brigade; the Red River Hot Springs Brigade; and the Orogrande Brigade; be formed as appendages to the existing Elk City Volunteer Fire Department to inclusively be called the South Fork of the Clearwater River Volunteer Fire Department. This Department would have a basic set of equipment including a portable pump, fire hose, sprinkler system, hand tools, and several volunteers within each brigade's boundaries in order to provide immediate first response. The main branch of the Elk City Volunteer Fire Department would also be dispatched to provide back up and refilling capabilities to the brigade.

4.7.7 The Salmon River Home Assessment Collaboration Project (Between the Salmon River Ranger District and the Salmon River Rural Fire Department)

Over the past year, there have been 152 structural/educational assessments that have taken place in the Salmon River Canyon. The Salmon River Rural Fire Department, the Salmon River Ranger District of the Nez Perce National Forest, and the New Meadows Ranger District of the Payette National Forest coordinated these efforts.

4.7.8 RedZone Software Distribution and Training.

Since 2006, several volunteer fire departments and land management agencies acquired the RedZone software, through the Community Assistance dollars of the Bureau of Land Management and the assistance of the Clearwater RC&D, who generously facilitated the purchases and distribution. RedZone is an easy to use, intuitive, and professional mapping software for first responders. To date, only three fire departments have not purchased RedZone (Secesh, BPC, and Ridge Runner), and the County is attempting to purchase a license for all the Departments, and exploring opportunities to manage the data.

The purchase of RedZone has allowed the Volunteer Fire Departments to collect wildland urban interface data that can be used by the local departments, as well as the county, for their suppression and fuels planning efforts.

Again, through the assistance of the BLM and the Clearwater RC&D, the county was able to facilitate one-day RedZone training with the designer and company owner, Clark Woodward, followed by local field sessions, allowing new users of the software to become more comfortable with the technical use, as well as the assessment process.

Work is in progress to make RedZone available at the County level to all the fire organizations. The County would maintain the database.

4.7.9 North Central Idaho Fire Prevention Cooperative.

The North Central Idaho Fire Prevention Cooperative is taking tentative steps forward, with five counties participating (including Idaho County). As of 2009, the cooperative encompasses five counties. While still in the development stages, the group has established a board with representatives from each county.

The organization has also defined projects and programs to target over the next year, with the goal of two programs per county. Educational outreach messages related to both wildland and structural fire issues will be presented.

Both the Bureau of Land Management and the Nez Perce Tribe have pledged Community Assistance dollars to promote fire education messages. There are several representatives from Idaho County working on this effort from the Idaho Department of Lands (Maggie Creek and Craigmont), USDA Forest Service (Nez Perce and Clearwater National Forest), and Volunteer Fire Departments (White Bird Fire Department and Grangeville Fire Department). However, input and advice from the *Fire Mitigation Working Group* and the Fire Chiefs Associations to this education-focused group would be greatly appreciated.

4.7.10 Whitewater Wilderness Ranch as a FireWise Community

The Salmon River Ranger District is actively working with the Whitewater Wilderness Ranch subdivision in Pollock to become a nationally recognized FireWise community, and they received this designation in the fall of 2009. Assessments for the subdivision are complete, and the board for this subdivision has been active in developing an emergency response plan, as well as working with the Idaho County Fire Mitigation Coordinator on a plan to implement a shaded fuel break between upper subdivision boundary and the Forest Service system lands. There are also active, ongoing efforts to work with homeowners on fire mitigation issues around individual homes. Harry Steele, the FireWise Coordinator for the state will be assisting in these efforts.

4.7.11 Fire Education Camps for Children in Idaho County

For the past two seasons, agencies have been working collaboratively to facilitate fire education camps for children in Idaho County. Camps have been established in Kooskia, Elk City, White Bird, Grangeville, and Riggins. Curriculum revolves around fire ecology, fire suppression and management, and defensible space. Organizations involved include USDI Bureau of Land Management, USDA Forest Service, Idaho Department of Lands, Nez Perce Tribe, and Framing Our Community.

4.8 Lessons Learned or Questions for the Future

4.8.1 Managing Assessment Data

A more unified approach to collecting and housing structural assessment data is needed. There are several entities in the county collecting information. However, we need more consistency on uploading this data with the county and, possibly with a secondary source. It is recommended that we store back up data with the interagency dispatch offices in Grangeville. If needed, the information can then be used by fire management teams that may be called to Idaho County for large wildfire events. We could agree upon scheduled times throughout the year to send our information to the dispatch office.

4.8.2 Coordinating Educational Programs

Each organization or group has educational programs and outreach that they participate in each year. With the new cooperative moving forward, are there any coordination or outreach and education opportunities on which the working group would like to focus?

4.8.3 Coordinating RedZone Training

It may be beneficial to coordinate RedZone trainings.

Chapter 5: Treatment Recommendations

5 Overview

In this chapter, you will find the administration and implementation strategy, including prioritization of mitigation activities, possible mitigation activities, WUI safety and policy activities, people and structures activities, infrastructure activities, resource and capability enhancements, and regional land management recommendations.

5.1 Administration and Implementation Strategy

Critical to the implementation of this Wildfire Mitigation Plan will be the identification of and implementation of, an integrated schedule of treatments targeted at preventing death, structure and infrastructure damage, and unique ecosystems damage. Since there are many land management agencies and thousands of private landowners in Idaho County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of compliance will be observed across all ownerships.

Idaho County encourages the philosophy of disaster prevention in normal day-to-day operations. By implementing plan activities through existing programs and resources, the cost of mitigation is often a small portion of the overall cost of a project's design or program.

The federal land management agencies in Idaho County, specifically the USDA Forest Service and USDI Bureau of Land Management, participated in this planning process and have contributed to its development. Where available, their schedule of land treatments have been considered in this planning process to better facilitate a correlation between their identified planning efforts and the efforts of Idaho County.

All risk assessments were made based on the conditions existing during 2004 and 2005, thus, the recommendations in this section have been made in light of those conditions. However, the components of risk and the preparedness of the county's resources are not static. It will be necessary to fine-tune this plan's recommendations annually to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

As part of the policy of Idaho County in relation to this planning document, this entire ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** should be reviewed annually at a special meeting of the Idaho County Commissioners, open to the public and involving all municipalities and jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. It is the responsibility of the County Commissioners Office through the County Disaster Manager to organize an annual meeting of the *Fire Mitigation Working Group* to review existing projects, add new ones, and discuss new wildfire related issues in the county. A written review of the plan should be prepared (or arranged) by the Chairman of the County Commissioners, detailing plans for the year's activities, and made available to the general public ahead of the meeting (in accord with the Idaho Open Public Meeting Laws). Amendments to the plan should be detailed at this meeting, documented, and attached to the formal plan as an amendment to the Wildfire Mitigation Plan. Re-evaluation of this plan should be made on the fifth anniversary of its acceptance, and every five-year period following.

The planning committee convened to review the WUI Wildfire Mitigation Plan in 2007 and again in 2009 to provide a status report for each of the projects listed below, to identify new projects, and to discuss relevant topics to Idaho County wildfire mitigation. Several of the recommendations from the 2005 Plan and the 2007 Addendum have been completed, some are still on-going, and some have yet to begin. The following tables reflect the status of each project.

5.2 Prioritization of Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan Activities

Prioritization of projects will occur at the county, city, agency, and private levels. Differing prioritization processes will occur, however, the county and cities will adopt the following prioritization process, as indicated through the adoption of this plan by each municipality.

The prioritization process will include a special emphasis on cost-benefit analysis review. The process will reflect a key component in funding decision is a determination that the project will provide an equivalent or more in benefits over the life of the project when compared with the costs. County and local jurisdictions will administer project, with overall coordination provided by the County Disaster Management Coordinator.

County Commissioners and the elected officials of all jurisdictions will evaluate opportunities and establish their own unique priorities to accomplish mitigation activities where existing funds and resources are available and there is community interest in implementing mitigation measures. If no federal funding is used in these situations, the prioritization process may be less formal. Often the types of projects that the County can afford to do on their own are in relation to improved codes and standards, departmental planning and preparedness, and education. These types of projects may not meet the traditional project model, selection criteria, and benefit-cost model. The County will consider all pre-disaster mitigation proposals brought before the County Commissioners by department heads, city officials, fire districts, and local civic groups.

When federal or state funding is available for hazard mitigation, there are usually requirements that establish a rigorous benefit-cost analysis as a guiding criterion in establishing project priorities. The County will understand the basic federal grant program criteria which will drive the identification, selection, and funding of the most competitive and worthy mitigation projects. FEMA's three grant programs (the post-disaster Hazard Mitigation Grant Program, the pre-disaster Flood Mitigation Assistance, and the pre-disaster Mitigation grant programs) that offer federal mitigation funding to state and local governments all include the benefit-cost and repetitive loss selection criteria.

The prioritization of projects will occur annually and be facilitated by the County Disaster Management Coordinator and the County Wildfire Mitigation Coordinator to include the County Commissioner's Office, City Mayors and Councils, Fire District Chiefs and Commissioners, agency representatives (USDA Forest Service, USDI Bureau of Land Management, State Lands, etc.) and the Nez Perce Tribe. The prioritization of projects will be based on the selection of projects that create a balanced approach to pre-disaster mitigation and recognize the hierarchy of treatment priorities, as follows (highest first):

- People and Structures
- Infrastructure
- Local and Regional Economy
- Traditional Way of Life
- Ecosystems

PRIORITIZATION METHOD

The planning committee uses a numerical scoring system to prioritize projects. This prioritization serves as a guide for the county when developing mitigation activities. This project prioritization scheme has been designed to rank projects on a case-by-case basis. In many cases, a very good project in a lower priority category could outrank a mediocre project in a higher priority. The County mitigation program does not want to restrict funding to only those projects that meet the high priorities because what may be a high priority for a specific community may not be a high priority at the county level. Regardless, the

project may be just what the community needs to mitigate disaster. The flexibility to fund a variety of diverse projects based on varying reasons and criteria is a necessity for a functional mitigation program at the County and community level.

To implement this "case-by-case" concept, the planning committee has developed a more detailed process for evaluating and prioritizing projects. Any type of project, whether county or site specific, will be prioritized in this more formal manner.

To prioritize projects, a general scoring system has been developed. This prioritization scheme has been used in statewide all hazard mitigations plans. These factors range from cost-benefit ratios, to details on the hazard being mitigated, to environmental impacts.

Since planning projects (i.e. hazardous fuel treatments) are somewhat different from non-planning projects (i.e. preparedness) when it comes to reviewing them, different criteria will be considered, depending on the type of project.

The factors for the non-planning projects include:

- Cost/Benefit
- Population Benefit
- Property Benefit
- Economic Benefit
- Project Feasibility (environmentally, politically, socially)
- Hazard Magnitude/Frequency
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development
- Potential project effectiveness and sustainability

The factors for the planning projects include:

- Cost/Benefit
- Vulnerability of the community or communities
- Potential for repetitive loss reduction
- Potential to mitigate hazards to future development

Since certain factors are considered more critical than others are, two ranking scales have been developed. A scale of 1 to 10, 10 being the best, has been used for cost, population benefit, property benefit, economic benefit, and vulnerability of the community. Project feasibility, hazard magnitude/frequency, potential for repetitive loss reduction, potential to mitigate hazards to future development, and potential project effectiveness and sustainability are all rated on a 1 to 5 scale, with five being the best. The highest possible score for a non-planning project is 65 and for a planning project is 30.

The guidelines for ranking each factor follow.

Benefit / Cost

The analysis process will include summaries as appropriate for each project, but will include benefit/cost analysis results. Projects with a negative benefit/cost analysis result will be ranked as a zero. Projects with a positive Benefit/Cost analysis will receive a score equal to the projects Benefit/Cost Analysis results divided by 10. Therefore, a project with a Benefit/Cost ratio of 50:1 would receive five points; a project with a Benefit/Cost ratio of 100:1 (or higher) would receive the maximum points of ten.

Population Benefit

Population Benefit relates to the ability of the project to prevent the loss of life or injuries. A ranking of 10 has the potential to impact over 3,000 people. A ranking of five has the potential to impact 100 people, and a ranking of one will not impact the population. In a number of cases, a project may not

directly provide population benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly affects the population, but should not be considered to have no population benefit.

Property Benefit

Property Benefit relates to the prevention of physical losses to structures, infrastructure, and personal property. These losses can be attributed to potential dollar losses. Similar to cost, a ranking of 10 has the potential to save over $1,000,000 in losses, a ranking of five has the potential to save roughly $100,000 in losses, and a ranking of one only has the potential to save less than $100 in losses. In a number of cases, a project may not directly provide property benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly affects property, but should not be considered to have no property benefit.

Economic Benefit

Economic Benefit is related to the savings from mitigation to the economy. This benefit includes reduction of losses in revenues, jobs, and facility shut downs. Since this benefit can be difficult to evaluate, a ranking of 10 would prevent a total economic collapse, a ranking of five could prevent losses to about half the economy, and a ranking of one would not prevent any economic losses. In a number of cases, a project may not directly provide economic benefits, but may lead to actions that do, such as in the case of a study. Those projects will not receive as high of a rating as one that directly affects the economy, but should not be considered to have no economic benefit.

Vulnerability of the Community

For planning projects, the vulnerability of the community is considered. A community that has a high vulnerability with respect to other jurisdictions to the hazard or hazards being studied or planned for will receive a higher score. To promote planning participation by the smaller or less vulnerable communities in the state, the score will be based on the other communities being considered for planning grants. A community that is the most vulnerable will receive a score of 10, and one that is the least, a score of 1.

Project Feasibility (Environmental, Political and Social)

Project Feasibility relates to the likelihood that such a project could be completed. Projects with low feasibility would include projects with significant environmental concerns or public opposition. A project with high feasibility has public and political support without environmental concerns. Those projects with very high feasibility would receive a ranking of five and those with very low would receive a ranking of one.

Hazard Magnitude/Frequency

The Hazard Magnitude/Frequency rating is a combination of the recurrence period and magnitude of a hazard. The severity of the hazard being mitigated and the frequency of that event must both be considered. For example, a project mitigating a 10-year event that causes significant damage would receive a higher rating than one that mitigates a 500-year event that causes minimal damage. For a ranking of five, the project mitigates a high frequency, high magnitude event. A one ranking is for a low frequency, low magnitude event. Note that only the damages being mitigated should be considered here, not the entire losses from that event.

Potential for Repetitive Loss Reduction

Those projects that mitigate repetitive losses receive priority consideration here. Common sense dictates that losses that occur frequently will continue to do so until the hazard is mitigated. Projects that will reduce losses that have occurred more than three times receive a rating of five. Those that do not address repetitive losses receive a rating of one. Proposed actions that can have a direct impact on the vulnerability of future development are given additional consideration. If hazards can be mitigated on the

onset of the development, the County will be less vulnerable in the future. Projects that will have a significant effect on all future development receive a rating of five. Those that do not affect development should receive a rating of one.

Potential Project Effectiveness and Sustainability

Two important aspects of all projects are effectiveness and sustainability. For a project to be worthwhile, it needs to be effective and actually mitigate the hazard. A project that is questionable in its effectiveness will score lower in this category. Sustainability is the ability for the project to be maintained. Can the project sustain itself after grant funding is spent? Is maintenance required? If so, are or will the resources be in place to maintain the project. An action that is highly effective and sustainable will receive a ranking of five. A project with effectiveness that is highly questionable and not easily sustained should receive a ranking of one.

Final Ranking

Upon ranking a project in each of these categories, a total score can be derived by adding together each of the scores. The project can then be ranked high, medium, or low based on the following non-planning project thresholds.

- ***High:*** 40-65
- ***Medium:*** 25-39
- ***Low:*** 9-25

5.3 Identification of High Risk Areas and Potential Projects

During the planning committee meetings, a number of areas were identified as being at high risk of wildfire. The following areas have been identified on maps to be included in the plan as proposed treatment areas.

5.3.1 Home Defensible Space Projects

The planning committee identified the following areas specifically as needing fuels treatments around homes. Two different categories of treatment are recommended, proposed defensible space/fuels mitigation treatment and homeowner education and weeds eradication.

These projects could consist of individual home site assessments conducted by professionals to identify needed actions to help homeowners prepare for wildland fires. The assessments generally benefit the homeowner by providing specific wildfire information and preventative measures that they can take to improve the safety of their homes and families. If the homeowner agrees to these recommendations, a professional contractor would then complete the defensible space project. Individual home projects vary, but usually consist of brush clearing, very selective tree removal, pruning, slash removal, and weed eradication. These projects along are included in Table B-2 in *Appendix 2009* in this Volume.

DEFENSIBLE SPACE/FUELS MITIGATION TREATMENT

Powell/Lolo Pass Area

- Many structures in this area need defensible space/ fuel mitigation treatments. Areas include State Fish Hatchery, State Highway Department facility, and USDA Forest Service Ranger Station.

Kooskia/Stites Area

- Timbered areas next to town
- Clear Creek breaks, north aspect

- Upper Clear Creek area
- Button Bench east aspect on edge of Kamiah Fire District
- Slopes along Highway 12
- Kooskia area, high habitation areas such as subdivisions
- Harpster, west of river
- Harris Ridge
- Kidder Ridge
- Stites Canyon
- Rabbit Creek
- Button Beach

Grangeville Area

- Old Fish Hatchery area
- Harpster Grade/Mount Idaho Grade Loop
- Old White Bird Grade Subdivisions
- Happy Hollow/Grangeville-Salmon Road
- Cove Road area

Burgdorf/Warren Area

- Burgdorf town site
- Warren town site
- Secesh and other homes along Warren Wagon Road

Harpster Area

- Urban interface areas west of Harpster to USDA Forest Service boundary south.
- Wall Creek area
- Sally Ann Creek/Silt Creek Estates
- Sears Creek Area

Syringa

- High value homes along Highway 12 in the Wild and Scenic River Corridor.
- Sutter Creek (Milepost 79 to Syringa).

Ridge Runner Fire Department Area

- Leitch Creek Subdivision
- Big Cedar/Crane Hill Area
- Big Horse Canyon/The Horn

HOMEOWNER EDUCATION AND WEEDS ERADICATION

White Bird Area

- Twin Rivers Subdivision

5.3.2 Road Improvement and Fuels Treatment Projects

The following are specific roadways identified by the planning committee as needing construction improvements and hazardous fuels treatments in the timbered areas adjacent to the road corridor. These projects would create a more fire resistant buffer, which not only helps slow a wildfire, but also helps keep the ingress/egress routes open for emergency vehicles and evacuation purposes.

These projects are highly variable, but usually consist of thinning to a predetermined distance above and below the road, pruning, and clearing brush and other ladder fuels. Construction improvements generally include widening the drivable surface, creating turnouts, upgrading bridges and cattle guards, and enhancing the surface. These projects are included in Table B.2 in *Appendix 2009* in this Volume.

Kamiah Area

- Woodland Grade
- Adams Grade
- Tom Taha Grade
- Beaver Slide

Grangeville Area

- Harpster Grade/Mount Idaho Grade Loop
- Cove Road
- Butcher Creek

Burgdorf/Warren Area

- French Creek Road (Forest Road 246)
- Warren Wagon Road from Burgdorf to Warren

Kooskia Area

- Kidder Ridge Road
- Harris Ridge Road
- Sutter Creek Road
- Wilson Road
- Red Fir Road
- Trenary Road
- Crane Hill Road
- Big Cedar Road
- Long Bluff Road
- Mulledy Road
- Clear Creek Road
- Sally Ann Creek Road
- Leitch Creek Road

Woodland Area

- Pardee Corner Roads, adjacent to USDI Bureau of Land Management lands qualify for partnership funds
- Carrot Ridge Road (used in past as alternate emergency bypass route)

Elk City Area

- State Highway 14 from Elk City to Mount Idaho
- Forest Road 1858 from Newsome to Highway 14
- Crooked River Road from Highway 14 to Orogrande
- Dixie Road from Elk City to Dixie
- Red River Road from Dixie Road to Red River Hot Springs
- Jack Mountain Road from Dixie Road through Big Mallard Creek Road

5.3.3 Elk City Region

The committee participants felt strongly that the proposed USDI Bureau of Land Management and USDA Forest Service projects detailed in Sections 5.9 and B.5 of Appendix 2009 were critical to their ability to sustain wildfire defense activities in the Elk City region. They expressed their overwhelming support for those projects to be implemented. The following summarizes their support for a variety of projects.

- High priority support for the Eastside Township project by the USDI Bureau of Land Management;
- High priority support for the Whiskey South II project by the USDI Bureau of Land Management;
- High priority support for the Transportation Corridors project by the USDI Bureau of Land Management;
- High priority support for the American and Crooked River project by the USDA Forest Service;
- High priority support for the Red Pines project by the USDA Forest Service; and
- High priority support for the Dixie Fuelbreak project by the USDA Forest Service.

Residents identified the need for a Forest Service fuel treatment project in the areas surrounding Dixie to build on the treatments completed by the Forest Service and area residents. This would be a mechanical treatment extending beyond the community borders to the ridge tops. These areas were marked on maps and will be included in the mapping section of the plan.

Residents also identified another Forest Service proposed treatment area northwest of Elk City along the Old Wagon Trail Road in the direction of Newsome. This area was identified as part of the Elk City Watershed and is currently experiencing mountain pine beetle losses. Mechanical treatments in this area combined with prescribed burning to achieve wildfire resilience and forest health was identified as a need by the community.

An area to the east and north of the Elk City Township that is currently a part of the roadless area was identified by residents, but not included as treatment area by the Forest Service. This region extends to the edge of the recent Slims Fire. Participants felt that mechanical treatments, which tie the recent burn edge to other treatments adjacent to the Elk City Township, are needed to provide protection in the case of a wildfire.

5.4 Wildfire Mitigation Activities Applicable to all Communities

There are three basic opportunities for reducing the loss of homes and lives to fires. Although there are many single actions that can be taken, in general, mitigation activities can be lumped into one of the following categories:

- ***Prevention***
- ***Education***
- ***Readiness***

Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gains to the public benefit will be an important component of decisions. Maintaining private property rights will continue to be one of the guiding principles of this plan's implementation.

PREVENTION

Prevention Campaigns

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to prevent human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional "Smokey Bear" type campaigns that spread the message passively through signage can be quite effective. Comprehensible signs that remind folks of the dangers of careless use of fireworks, burning when windy and leaving unattended campfires can be quite effective. The low cost associated with posting of a few signs is inconsequential compared to the potential cost of fighting a fire.

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed to the reduction in human-caused ignitions by running a weekly "run blotter," similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a weekly "tip of the week" to reduce the threat from wildland and structure fires. The federal government has been a champion of prevention, and could provide ideas for such tips. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary devices. Such a campaign would require coordination and cooperation with local media outlets. However, the effort is likely to be worth the efforts, costs, and risks associated with fighting unwanted fires.

A five county prevention Coop was formed in 2009 to plan and implement a coordinated prevention effort in the central Idaho area. The prevention coop consists of City, State, and Federal Agencies, the Nez Perce Tribe and rural fire districts to provide uniformity in the prevention message.

Fire Reporting

Fires cannot be suppressed until they are detected and reported. As the number and popularity of cellular phones has increased, expansion of the "#FIRE" program throughout Idaho may provide an effective means for turning the passing motorist into a detection resource. Additionally, the Forest Service has several mountain-top lookouts posted strategically around the County to help detect fires at an early stage. Several federal and state agencies also fly aerial detection flights, which generally cover more than their respective jurisdictions.

Burn Permits

The issues associated with debris burning during certain times of the year are difficult to negotiate and enforce. However, there are significant risks associated with the use of fire adjacent to expanses of flammable vegetation under certain scenarios. Fire departments typically observe the State of Idaho closed fire season between May 10 and October 20. During this time, an individual seeking to conduct any type of burn shall obtain a permit, which prescribes the conditions under which the burn can be conducted and the resources that need to be on hand to suppress the fire from a State of Idaho fire warden. Although this is a statewide regulation, compliance and enforcement has been variable between fire districts. Tackling this issue is difficult. Typically, the duty falls to the chief within whichever fire protection district the burning is planned. However, this leads to an increased burden on the fire chiefs, who are already juggling other department commitments with obligations to work and to home. There is also considerable confusion on the part of the public as to when a permit is necessary and the procedure for which to obtain the permit. The best-intentioned citizen may unknowingly break this law for a lack of understanding. Clearly, there is a need to coordinate this process and educate the public on when a permit is needed and the necessary channels to obtain a permit.

The Nez Perce Tribe is now issuing air quality permits for all property owners on the reservation on a year around basis, and fire safety permits are issued from May 10 thru Oct 20. This permitting system allows them to manage the air quality on the reservation.

The Nez Perce Tribe is now issuing burning permits for all property owners on the reservation on a year around basis. This permitting system allows them to manage the air quality on the reservation.

Home site and Community Evaluations and Creation of Defensible Space

Individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Likewise, community wide assessments and creation of defensible space will lower risks of entire communities.

Current management of the vegetation surrounding homes and communities can provide protection; however, maintaining a clean, green zone within 100 feet of structures to reduce the potential loss of life and property is recommended.

Assessing individual homes and communities in the outlying areas can address the issue of escape routes and home defensibility characteristics. Educating the homeowners in techniques for protecting their homes is critical in these hot, dry environments.

The use of the RedZone software and inventorying the residences in each rural fire district began in 2008 and is currently in progress across the County. The main bottleneck in completing the inventory is the time it takes for the rural fire districts to do the inventory with an all volunteer group. Hiring a team to complete the inventories would be one solution, however, it is advantageous for the rural districts to visit each property and get to know the residents.

Travel Corridor Fuel Breaks

Ignition points are likely to continue to be concentrated along the roads and railway lines that run through the county. These travel routes have historically served as the primary source of human-caused ignitions, particularly along U.S. Highway 95. Passage with a mower parallel to an access route can provide an adequate control line under normal fire conditions. Other alternatives include planting more fire-resistant vegetation along roadsides or installing permanent fuel breaks in order to reduce the potential for ignitions originating from the highway to spread into the surrounding lands.

Power Line Corridor Fuel breaks

The treatment opportunities specified for travel corridor fuel breaks apply equally for power line corridors. The obvious difference between the two is that the focus area is not an area parallel to and adjacent to the road, but instead focuses on the area immediately below the infrastructure element. Fuel reduction projects under the high tension power lines are strongly recommended.

Rural Addressing

The county is currently updating its rural addressing system. It is very important for road names and house numbers to be readily visible to firefighters who are often unfamiliar with an area. The ability for all emergency services quickly and concisely to locate homes is critical in responding to fires. Addresses need to be clearly marked on the home, not just a mailbox that may be many hundreds of feet or yards from a home. Also numbering should be sequential to facilitate easy location as fire personnel are moving up and down roadways.

Once physical addresses are established and marked, accurate county maps showing the location of the named roads and addresses need to be available on short notice to fire crews. The ability to get local crews possession of accurate maps will significantly help fire management teams to plan for structural protection, and to implement those plans.

Accessibility to Emergency Apparatus

Also of vital importance is the accessibility of the home to emergency apparatus. If the home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event. In many cases, homes'

survivability can be greatly enhanced by following a few simple guidelines to increase accessibility such as widening or pruning driveways and creating a turnaround area for large vehicles.

Building Codes to Protect Residents from Effects of Wildfire

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Ensuring that there are adequate water resources available for emergency use and that new roads and driveways are accessible to emergency apparatus will become increasingly important as the community expands.

Regional Land Management Recommendations for Private, State, and Federal Landowners

Individuals, organizations, and agencies are encouraged to follow regional land management recommendations.

Treatment of Structural Ignitability

Measures that homeowners and communities can take to reduce the ignitability of structures throughout the area can be found in the publication "Safer from the Start" available at www.firewise.org.

EDUCATION

Once a fire has started and is moving toward homes or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of land surrounding the home as to whether the home will survive the passing fire front. Also of vital importance is the accessibility of the home to emergency apparatus. If the home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event.

The majority of the uncultivated vegetation in Idaho County is comprised of grass and brush rangeland. Although these fuels are very flammable and can support very fast moving fires, fires in these fuel types tend to be of relatively low intensity. In many cases, homes can easily be protected by following a few simple guidelines that reduce the ignitability of the home. There are multiple programs such as FIREWISE detailing precautions that should be taken in order to reduce the threat to homes, such as clearing cured grass and weeds away from structures and establishing a green zone around the home. Education needs to be followed up by action. Any education programs should include an implementation plan. Ideally, funds would be made available to assist financially the landowner making the necessary changes to the home.

Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Idaho County must be made aware that home defensibility starts with the home. Once a fire has started and is moving toward homes or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. "Are we safe from fire" CD is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.

The survey of the public conducted during the preparation of this WUI Fire Mitigation Plan indicated that approximately 49% of the respondents are interested in participating in this type of activity.

READINESS

Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, rural fire departments are the first to respond and have the best opportunity to halt the spread of a wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of departments through funding and equipment acquisition and training can

improve response times and subsequently reduce the potential for resource loss. The creation of new fire districts may be warranted.

In order to assure a quick and efficient response to an event, emergency responders need to know specifically where emergency services are needed. Continued improvement and updating of the rural addressing system is necessary to maximize the effectiveness of a response.

5.5 WUI Safety and Policy Improvement Activities

Wildfire mitigation efforts must be supported by a set of policies and regulations at the county level that set a solid foundation for safety and consistency. The WUI Safety and Policy Improvement Activities for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

5.6 People and Structure Protection Activities

The protection of people and structures are tied closely as the loss of life in the event of a wildland fire is generally linked to a person who could not, or did not, flee a structure threatened by a wildfire. The other potential incident is a firefighter who suffers the loss of life during the combating of a fire. The People and Structure Protection Activities for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

5.7 Infrastructure Protection Activities

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supplies that service a region or a surrounding area. All of these components are important to the North Central Idaho area and to Idaho County specifically. The Infrastructure Protection Activities for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

5.8 Resource and Capability Enhancement Activities

There are a number of resource and capability enhancements identified by the rural and wildland firefighting districts in Idaho County. The needs identified by the districts are consistent with improving the ability to respond to emergencies in the WUI, and are fully supported by the planning committee. The Resource and Capability Enhancement Activities for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

5.9 Regional Land Management Recommendations

Reference has been given to the role that forestry, grazing and agriculture have in promoting wildfire mitigation services through active management. Idaho County is a rural county by any measure, dominated by wide expanses of forest and rangelands intermixed with communities and rural houses. The Regional Land Management Recommendations for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan*** can be found in *Appendix 2009* in this Volume. This section has been moved to

an appendix to facilitate periodic updates of the ***Mitigation Plan*** without having to disrupt the flow of the document.

Chapter 6: Supporting Information

6 Overview

This chapter provides supporting information for the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***, and includes a list of people who prepared this document, the glossary, and the literature cited.

6.1 List of Preparers

The following personnel participated in the formulation, compilation, editing, and analysis for this assessment (Table 6-1).

Table 6-1. List of Preparers

Name	Affiliation	Role
Jerry Zumalt	Idaho County Disaster Management	Coordinator, Project Leadership
Kevin Kehoe	Idaho County Fire Chief's Association, Harpster Fire Protection District	Coordinator, Project Leadership
Suzanne Acton, M.S.	Elkhorn Environmental	Environmental Analyst, Natural Resource Manager, Fire & Fuels Specialist
William E. Schlosser, Ph.D.	Northwest Management, Inc.	Author, Project Co-Manager, GIS Analyst, Natural Resource Economist, Hazard Mitigation Specialist, Regional Planner
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Vaiden E. Bloch, M.S.	Northwest Management, Inc.	GIS Analyst
Greg Bassler, M.S.	Northwest Management, Inc.	Roads Engineer, Timber Sale Layout & Harvest Manager

6.2 Acronyms and Glossary

BLM CAR - BLM Communities-at-Risk (Community Assistance Funding)

BLM RFA - BLM Rural Fire Assistance

BIA CA - Bureau of Indian Affairs Community Assistance

BIA RFA - BIA Rural Fire Assistance

IDL/FS VFA - Volunteer Fire Assistance

IDL/FS CFP - Community Fire Protection (formerly Steven's funds)

IDL/FS SFA - State Fire Adjacent (Western States WUI Grant Program)

IDL/BLM - Partnership Funds

FS EA - US Forest Service Economic Assistance Program (primarily for woody biomass)

FEMA AFG - Assistance to Firefighters Grant

IFCA FFLP - Idaho Fire Chiefs Association Fire Fighter's License Plate Fund

Anadromous - Fish species that hatch in fresh water, migrate to the ocean, mature there, and return to fresh water to reproduce (Salmon & Steelhead).

Appropriate Management Response - Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Biological Assessment - Information document prepared by or under the direction of the Federal agency in compliance with U.S. Fish and Wildlife standards. The document analyzes potential effects of the proposed action on listed and proposed threatened and endangered species and proposed critical habitat that may be present in the action area.

Backfiring - When attack is indirect, intentionally setting fire to fuels inside the control line to contain a rapidly spreading fire. Backfiring provides a wide defense perimeter, and may be further employed to change the force of the convection column.

Blackline - Denotes a condition where the fire line has been established by removal of vegetation by burning.

Burning Out - When attack is direct, intentionally setting fire to fuels inside the control line to strengthen the line. Burning out is usually done by the crew boss as a part of line construction; the control line is considered incomplete unless there is no fuel between the fire and the line.

Canyon Grassland - Ecological community in which the prevailing or characteristic plants are grasses and similar plants extending from the canyon rim to the river's edge.

Confine - Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.

Contingency Plans: Provides for the timely recognition of approaching critical fire situations and for timely decisions establishing priorities to resolve those situations.

Control Line - An inclusive term for all constructed or natural fire barriers and treated fire edge used to control a fire.

Crew - An organized group of firefighters under the leadership of a crew boss or other designated official.

Crown Fire - A fire that advances from top to top of trees or shrubs more or less independently of the surface fire. Sometimes crown fires are classed as either running or dependent, to distinguish the degree of independence from the surface fire.

Disturbance - An event that affects the successional development of a plant community (examples: fire, insects, wind throw, timber harvest).

Disturbed Grassland - Grassland dominated by noxious weeds and other exotic species. Greater than 30% exotic cover.

Diversity - The relative distribution and abundance of different plant and animal communities and species within an area.

Drainage Order - Systematic ordering of the network of stream branches, (e.g., each non-branching channel segment is designated a first order stream, streams which only receive first order segments are termed second order streams).

Duff - The partially decomposed organic material of the forest floor beneath the litter of freshly fallen twigs, needles, and leaves.

Ecosystem - An interacting system of interdependent organisms and the physical set of conditions upon which they are dependent and by which they are influenced.

Ecosystem Stability - The ability of the ecosystem to maintain or return to its steady state after an external interference.

Ecotone - The area influenced by the transition between plant communities or between successional stages or vegetative conditions within a plant community.

Energy Release Component - The Energy Release Component is defined as the potential available energy per square foot of flaming fire at the head of the fire and is expressed in units of BTUs per square foot.

Equivalent Clear-cut Area (ECA) - An indicator of watershed condition, which is calculated from the total amount of crown removal that has occurred from harvesting, road building, and other activities based on the current state of vegetative recovery.

Exotic Plant Species - Plant species that are introduced and not native to the area.

Fire Adapted Ecosystem - An arrangement of populations that have made long-term genetic changes in response to the presence of fire in the environment.

Fire Behavior - The manner in which a fire reacts to the influences of fuel, weather, and topography.

Fire Behavior Forecast - Fire behavior predictions prepared for each shift by a fire behavior analysis to meet planning needs of fire overhead organization. The forecast interprets fire calculations made, describes expected fire behavior by areas of the fire, with special emphasis on personnel safety, and identifies hazards due to fire for ground and aircraft activities.

Fire Behavior Prediction Model - A set of mathematical equations that can be used to predict certain aspects of fire behavior when provided with an assessment of fuel and environmental conditions.

Fire Danger - A general term used to express an assessment of fixed and variable factors such as fire risk, fuels, weather, and topography, which influence whether fires will start, spread, and do damage; also the degree of control difficulty to be expected.

Fire Ecology - The scientific study of fire's effects on the environment, the interrelationships of plants, and the animals that live in such habitats.

Fire Exclusion - The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

Fire Intensity Level - The rate of heat release (BTU/second) per unit of fire front. Four foot flame lengths or less are generally associated with low intensity burns and four to six foot flame lengths generally correspond to "moderate" intensity fire effects. High intensity flame lengths are usually greater than eight feet and pose multiple control problems.

Fire Prone Landscapes – The expression of an area's propensity to burn in a wildfire based on common denominators such as plant cover type, canopy closure, aspect, slope, road density, stream density, wind patterns, position on the hillside, and other factors.

Fireline - A loose term for any cleared strip used in control of a fire. That portion of a control line from which flammable materials have been removed by scraping or digging down to the mineral soil.

Fire Management - The integration of fire protection, prescribed fire and fire ecology into land use planning, administration, decision making, and other land management activities.

Fire Management Plan (FMP) - A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. This plan is supplemented by operational procedures such as preparedness, preplanned dispatch, burn plans, and prevention. The fire implementation schedule that documents the fire management program in the approved forest plan alternative.

Fire Management Unit (FMU) - Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent unit. FMU's are delineated in FMP's. These units may have dominant management objectives and preselected strategies assigned to accomplish these objectives.

Fire Occurrence - The number of wildland fires started in a given area over a given period. (Usually expressed as number per million acres.)

Fire Prevention - An active program in conjunction with other agencies to protect human life, prevent modification of the ecosystem by human-caused wildfires, and prevent damage to cultural resources or physical facilities. Activities directed at reducing fire occurrence, including public education, law enforcement, personal contact, and reduction of fire risks and hazards.

Fire Regime - The fire pattern across the landscape, characterized by occurrence interval and relative intensity. Fire regimes result from a unique combination of climate and vegetation. Fire regimes exist on a continuum from short-interval, low-intensity (stand maintenance) fires to long-interval, high-intensity (stand replacement) fires.

Fire Retardant - Any substance that by chemical or physical action reduces flammability of combustibles.

Fire Return Interval - The number of years between two successive fires documented in a designated area.

Fire Risk - The potential that a wildfire will start and spread rapidly as determined by the presence and activities of causative agents.

Fire Severity - The effects of fire on resources displayed in terms of benefit or loss.

Foothills Grassland - Grass and forb co-dominated dry meadows and ridges. Principle habitat type series: bluebunch wheatgrass and Idaho fescue.

Fuel - The materials that are burned in a fire: duff, litter, grass, dead branch wood, snags, logs, etc.

Fuel Break - A natural or manmade change in fuel characteristics that affects fire behavior so that fires burning into them can be more readily controlled.

Fuel Loading - Amount of dead fuel present on a particular site at a given time; the percentage of it available for combustion changes with the season.

Fuel Model - Characterization of the different types of wildland fuels (trees, brush, grass, etc.) and their arrangement, used to predict fire behavior.

Fuel Type - An identifiable association of fuel elements of distinctive species; form, size, arrangement, or other characteristics, that will cause a predictable rate of fire spread or difficulty of control, under specified weather conditions.

Fuels Management - Manipulation or reduction of fuels to meet protection and management objectives, while preserving and enhancing environmental quality.

Gap Analysis Program (GAP) - Regional assessments of the conservation status of native vertebrate species and natural land cover types and to facilitate the application of this information to land management activities. This is accomplished through the following five objectives:

1. Map the land cover of the United States.
2. Map predicted distributions of vertebrate species for the U.S.
3. Document the representation of vertebrate species and land cover types in areas managed for the long-term maintenance of biodiversity.
4. Provide this information to the public and those entities charged with land use research, policy, planning, and management.
5. Build institutional cooperation in the application of this information to state and regional management activities.

Habitat - A place that provides seasonal or year-round food, water, shelter, and other environmental conditions for an organism, community, or population of plants or animals.

Heavy Fuels - Fuels of a large diameter, such as snags, logs, and large limb wood, which ignite and are consumed more slowly than flash fuels.

Hydrologic Unit Code - A coding system developed by the U. S. Geological Service to identify geographic boundaries of watersheds of various sizes.

Hydrophobic - Resistance to wetting exhibited by several soils, also called water repellency. The phenomena may occur naturally or may be fire-induced. It may be determined by water drop penetration time, equilibrium liquid-contact angles, solid-air surface tension indices, or the characterization of dynamic wetting angles during infiltration.

Human-Caused Fires - Refers to fires ignited accidentally (from campfires or smoking) and by arsonists; does not include fires ignited intentionally by fire management personnel to fulfill approved, documented management objectives (prescribed fires).

Intensity - The rate of heat energy released during combustion per unit length of fire edge.

Inversion - Atmospheric condition in which temperature increases with altitude.

Ladder Fuels - Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

Landsat Imagery - Land remote sensing, the collection of data, which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites.

Landscape - All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land which the eye can comprehend in a single view, including all its natural characteristics.

Lethal - Relating to or causing death; extremely harmful.

Lethal Fires - A descriptor of fire response and effect in forested ecosystems of high-severity or severe fire that burns through the overstory and understory. These fires typically consume large woody surface fuels and may consume the entire duff layer, essentially destroying the stand.

Litter - The top layer of the forest floor composed of loose debris, including dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

Maximum Manageable Area - The boundary beyond which fire spread is completely unacceptable.

Metavolcanic - Volcanic rock that has undergone changes due to pressure and temperature.

Minimum Impact Suppression Strategy (MIST) - "Light on the Land." Use of minimum amount of forces necessary to effectively achieve the fire management protection objectives consistent with land and resource management objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects when determining how to implement an appropriate suppression response.

Mitigation - Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

Monitoring Team - Two or more individuals sent to a fire to observe, measure, and report its behavior, its effect on resources, and its adherence to or deviation from its prescription.

National Environmental Policy Act (NEPA) - This act declared a national policy to encourage productive and enjoyable harmony between humans and their environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and will stimulate the health and welfare of humankind; to enrich the understanding of important ecological systems and natural resources; and to establish a Council on Environmental Quality.

National Fire Management Analysis System (NFMAS) - The fire management analysis process, which provides input to forest planning and forest and regional fire program development and budgeting.

Native - Indigenous; living naturally within a given area.

Natural Ignition - A wildland fire ignited by a natural event such as lightning or volcanoes.

Noncommercial Thinning - Thinning by fire or mechanical methods of pre-commercial or commercial size timber, without recovering value, to meet MFP standards relating to the protection/enhancement of adjacent forest or other resource values.

Notice of Availability - A notice of Availability published in the Federal Register stating that an EIS has been prepared and is available for review and comment (for draft) and identifying where copies are available.

Notice of Intent - A Notice of Intent published in the Federal Register stating that an EIS will be prepared and considered. This notice will describe the proposed action and possible alternatives, the proposed scoping process, and the name and address of whom to contact concerning questions about the proposed action and EIS.

Noxious Weeds - Rapidly spreading plants that have been designated "noxious" by law, which can cause a variety of major ecological impacts to both agricultural and wild lands.

Planned Ignition - A wildland fire ignited by management actions to meet specific objectives.

Prescribed Fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescription - A set of measurable criteria that guides the selection of appropriate management strategies and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Programmatic Biological Assessment - Assesses the effects of the fire management programs on federally listed species, not the individual projects that are implemented under these programs. A determination of effect on listed species is made for the programs, which is a valid assessment of the potential effects of the projects completed under these programs, if the projects are consistent with the design criteria and monitoring and reporting requirement contained in the project description and summaries.

Reburn - Subsequent burning of an area in which fire has previously burned but has left flammable fuel that ignites when burning conditions are more favorable.

Riparian Habitat Conservation Areas (RHCA) - Portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCAs include traditional riparian corridors, wetlands, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris, and nutrient delivery systems.

Riparian Management Objectives (RMO) - Quantifiable measures of stream and streamside conditions that define good fish habitat and serve as indicators against which attainment or progress toward attainment of goals will be measured.

Road Density - The volume of roads in a given area (mile/square mile).

Scoping - Identifying at an early stage the significant environmental issues deserving of study and de-emphasizing insignificant issues, narrowing the scope of the environmental analysis accordingly.

Seral - Refers to the stages that plant communities go through during succession. Developmental stages have characteristic structure and plant species composition.

Serotinous - Storage of coniferous seeds in closed cones in the canopy of the tree. Serotinous cones of lodgepole pine do not open until subjected to temperatures of 113 to 122 degrees Fahrenheit causing the melting of the resin bond that seals the cone scales.

Stand Replacing Fire - A fire that kills most or all of a stand.

Sub-basin - A drainage area of approximately 800,000 to 1,000,000 acres, equivalent to a 4th - field Hydrologic Unit Code.

Surface Fire - Fire that moves through duff, litter, woody dead and down, and standing shrubs, as opposed to a crown fire.

Watershed - The region draining into a river, river system, or body of water.

Wetline - Denotes a condition where the fire line has been established by wetting down the vegetation.

Wildland Fire - Any non-structure fire, other than prescribed fire, that occurs in the wildland.

Wildland Fire Implementation Plan (WFIP) - A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire being managed for resource benefits. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires

managed for resource benefits will have two to three stages of the WFIP completed while other fires that receive a suppression response may only have a portion of Stage I completed).

Wildland Fire Situation Analysis (WFSA) - A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

Wildland Fire Use - The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in FMP's. Operational management is described in the WFIP. Wildland fire use is not to be confused with "fire use", which is a broader term encompassing more than just wildland fires.

Wildland Fire Use for Resource Benefit (WFURB) - A wildland fire ignited by a natural process (lightning), under specific conditions, relating to an acceptable range of fire behavior and managed to achieve specific resource objectives.

Wildland Urban Interface – Please see Chapter 3, Section 3.10 for a definition of WUI for this ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***.

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Appendix 2009

Appendix 2009 is a new section of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan.*** The purpose of this appendix is to contain the information that periodically changes in an appendix, so to facilitate updating the ***Mitigation Plan*** with relative ease. The Idaho County Working Group anticipates updates for subsequent years to be contained in subsequent appendices.

In this appendix, you will find Firefighting Resources and Capabilities for Fire Departments and Wildland Fire Districts, and Treatment Recommendations.

A Resources and Capabilities

This section of the appendix contains current information for 2009 for Fire Departments' and Wildland Fire Districts' Firefighting Resources and Capabilities. This section supplements and continues Chapter 4 of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***.

A.1 Fire Departments' Firefighting Resources and Capabilities

Rural and city fire district personnel are often the first responders during emergencies. In addition to house fire protection, they are called for wildland fires, floods, landslides, and other events. Many individuals in Idaho County serve fire protection districts in various capacities. The following is a summary of these departments and their resources.

The Firefighting Resources and Capabilities information provided in this section were summarized from information provided by the Rural Fire Chiefs or Representatives of the Wildland Firefighting Agencies listed. Each organization completed a survey with written responses. These summaries include their perceptions and informational narratives.

The fire departments and fire districts throughout both Idaho and Lewis Counties are intertwined with mutual aid agreements. These agreements work in conjunction with the memorandum of understandings that these organizations maintain with the Idaho Department of Lands.

Recent changes regarding Idaho Department of Lands Fire Service Organization equipment and personnel certification requirements for local fire service entities will ultimately serve to strengthen all of these organizations. The National Fire Protection Association also sets forth specific guidelines for all equipment and apparatus. It is the goal of all the fire departments and districts listed within this *Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan* to comply with these guidelines. Implementation of these programs over a reasonable span of time will allow the departments and districts the ability to comply, and yet still have the flexibility to be able to afford to implement these programs through both grant assistance and local financial aid.

A.1.1 BPC Volunteer Rural Fire Department

CONTACT INFORMATION

Chief: Doug Sutton
Address: 171 Clearwater Main Street, Clearwater, ID 83552
Phone: 208-926-0169
Email: dnsutton2@yahoo.com

DISTRICT SUMMARY

Battle Ridge, Pleasant Valley, and Clearwater (BPC) Volunteer Rural Fire Department is a community based volunteer organization housed in a 32 by 40 foot building, and is managed by a Board of Directors. BPC responds to structural and wildland fires. Currently, the incident capacity is one single family dwelling or two wildland fires less than ten acres, and the recovery requirements take approximately three hours.

CURRENT RESOURCES AND NEEDS

The following table displays a full list of the department's equipment and needs.

Table A- 1. BPC Volunteer Rural Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Basic Member	Trained in structural and wildland fire	14	0	Four basic members are trained for structural fires, while ten basic members are trained for wildland fires
	Intermediate Member	Higher experience level	12	0	Four Intermediate members are trained for structural fires, and eight intermediate members are trained for wildland fires
	Advanced Member	Leadership/Instructor	0	X	
	ICS Capability	Incident Command System	15	9	I-100 and I-200
Training	Basic Wildland Training		0	8	Provided by IDL
	Basic Structural Training		0	8+	
	First Aid Training		0	18	
	Haz Mat Training		0	3	
	Basic Safety Training		0	13	
	Advanced Safety Training	Flash over training	0	4	
Protective Equipment	Shirts	Nomex	5	10	
	Pants	Nomex	4	12	
	Boots	Leather	0	15	
	Gloves	Leather	0	15	
	Hard Hats		8	7	
	Goggles	Wildland	2	13	

Item		Description	Existing	Needed	Details
	Headlamps		12	12	
	Fire Shelters		8	10	
	Full Turnout		8	8	Existing equipment needs to be replaced
	Breathing Apparatus		6	6	Existing equipment needs to be replaced
Hand Tools	Shovels		6	6	
	Pulaski's		6	6	
	McLeod's		0	6	
	Chainsaw	Stihl 044 28" bar	0	2	
Communications	Mobile Radios	GE	3	0	
	Mobile Radios	Midland	1	0	
	Portable Radios	Bendex- King	4	0	
	Hand-held Radios	Vertex	5	5	With chargers
	Dispatch	Idaho County Sheriff	1	0	24 hours/day, 7 days/week - radio or telephone
Vehicles	Structural Engine	1976 Chevrolet Class I, 7750 gpm, 700 gal	1	0	
	Wildland Engine	1976 3/4 ton 200 gal , 35 gpm	1	1	Need new wildland engine
	Wildland Engine	1972 6X6, 1,650 gal, 35 gpm @ 200 psi	1	0	
	Wildland Engine	4X4 1 ton pick-up with 500 gal tank, fully equipped	0	1	
	Water Tender	1684 Military 6 wheel drive, 2,00 gal with 4" pump and 1 1/2" pump	1	0	
	Aid-unit	1995 Class 1 Ford Wheeled Coach	1	0	
Other Equipment	Tank	2500 gal Fold-a-Tank	0	1	
	Portable Pump	Hale 450 gpm	0	1	
	Blower Fan	gas operated	0	1	
	Flares		0	2 cases	
	Portable Pump	Mark III	0	1	
	Foam Equipment	20020 Venturi Type	1	2	
Structures	Fire Station	At north end of district to house two units	0	1	

A.1.2 Carrot Ridge Volunteer Fire Department

CONTACT INFORMATION

Chief: Andrew Pucket
Address: Kamiah, Idaho
Phone: 208-935-2267
Email: acpukett@wildblue.net

DISTRICT SUMMARY

Carrot Ridge Volunteer Fire Department is a community based volunteer organization managed by a Board of Directors and housed in two insulated sheds. Carrot Ridge responds to wildland fires and structural fires upon request. Currently the incident capacity is three incidents and the recovery requirements take between one and two hours.

CURRENT RESOURCES AND NEEDS

The following table displays a full list of the department's equipment and needs.

Table A- 2. Carrot Ridge Volunteer Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Basic Member	A few members have received limited wildfire training	35-50	0	Farmer/neighbor organization
Training	Basic Wildland Training	More basic fire training in initial attack	0	X	Provided by IDL or private agency
	Basic Agricultural Training		0	X	
	First Aid Training		0	X	
	ICS Capability	Incident Command System	Unavailable	Unavailable	
Protective Equipment	Shirts	Nomex	15	0	
	Pants	Nomex	15	0	
	Boots	Leather	0	0	Use personal
	Gloves	Leather	0	20 pair	Use personal
	Hard Hats		0	20	Use personal
	Goggles		0	0	Use personal
	Headlamps		0	20	
	Fire Shelters		0	15	
Hand Tools	Shovels		0	22	Adequate supply
	Pulaski's		0	18	Adequate supply
	McLeod's		0	16	Adequate supply
	Chainsaw		0	0	Use personal
	Hand-held radios		2	2	
	Dispatch		1	0	Phone tree
Vehicles	Truck	1986 Dodge 4x4 Crew Cab, 250 -gallon tank with pump	1	0	
Other Equipment	Water tank	8000-10,000-gallon tank	2	0	

Item		Description	Existing	Needed	Details
	Water tank	4000-6000-gallon tank	1	0	Filled in summer only
	Trailers	250-gallon metal tank mounted on trailer with pump	2	0	

A.1.3 Cottonwood City Volunteer Fire Department and Rural Fire District

CONTACT INFORMATION

Chief: Rod Behler
Address: 1205 Lewiston Street, Cottonwood, ID 83522
Phone: 208-962-3171
Email: cottonwd@idaho.net

DISTRICT SUMMARY

Cottonwood Volunteer Fire Department and Rural Fire District are based in the City of Cottonwood and are managed by the Fire Chief who reports to the City Council and the Rural District Board of Commissioners. Cottonwood responds to approximately 30 structural, wildland, and agricultural fires, as well as rescue and vehicle extrication incidents per year. The incident capacity is two incidents and the recovery requirement is from 15 minutes to 1 hour.

The Cottonwood City Department has Mutual Aid Agreements with the Cities of Grangeville and Ferdinand. The Rural Department has an agreement with Idaho Department of Lands.

CURRENT RESOURCES AND NEEDS

The following table displays a full list of the department's equipment and needs.

Table A- 3. Cottonwood Volunteer Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Basic Member	Completed Essentials of Firefighting, ICS, NIMS, Hazmat, 1st Aid/CPR training	16	3-5	Need volunteers
	Intermediate Member	Experience plus advanced training	2	0	
	Advanced Member	Experience with Leadership and Management training	4	0	
Training	Basic Wildland Training	S-130, S-190, Pack Test	9	3	
	Basic Structural Training	Essentials of Firefighting, ICS, NIMS, Hazmat, 1st Aid/CPR	20	2	New members will be provided training as soon as available
	Advanced Structural Training	Live Fire Training (Flashover Trailer, HAMMER facility, etc.)	13	9	Can only be provided from outside funding source
	First Aid Training	Department requirement	21	1	Provided by Department.
	Basic Safety Training	Ongoing	22	0	Provided by Department.
	Advanced Safety Training		2	0	
	Haz Mat Training	First Responder	21	1	Provided by Department
	ICS Capability	Incident Command System	Unavailable	Unavailable	
Protective	Shirts	Nomex	0	25	

Item		Description	Existing	Needed	Details
Equipment	Pants	Nomex	0	25	
	Coveralls	Nomex	20	0	
	Boots	Leather	0	25	
	Boots	Bunker	22	20	Several are up to 20 years old, worn out
	Gloves	Leather	22	15	Structural
	Gloves	Leather	20	25	Wildland
	Structural Turnouts	Bunker gear, coats & pants	22	15	Replace old, damaged & worn-out
	Hard Hats	Structural	22	18	Replace 15 year old helmets, worn out & damaged
	Hard Hats	Wildland	20	10	
	Goggles	Wildland	20	10	
	Headlamps	Wildland	0	30	
	Fire Shelters	Wildland	4	20	
	Breathing Apparatus	SCBA	12	6	Outdated, need upgrade, need more
Hand Tools	Shovels		5	X	
	Axes		4	X	
	Pulaski		1	X	
	Swatters		1	X	
	McLeod		2	X	
	Chainsaw		3	X	
Communications	Portable Radios	Vertex	20	5	VHF handheld, currently not P25 compliant
	Mobile Radios	Vertex	5	0	VHF truck mounted, currently not P25 compliant
	Dispatch	Idaho County Sheriff	1	0	
	Base Station	Fire Station	0	1	
Vehicles	Type 1 Structural Engine	1988 FMC Pumper, 500 gallon tank, 1250 gpm pump, foam equipped	1	0	
	Type 1 Structural Engine	1992 Beck Ottawa, 500 gallon tank, 1250 gpm pump, foam equipped	1	0	
	Type 1 Structural & Wildland Engine	1995 Int'l, 600 gallon tank, 500 gpm pump, foam equipped, draft capable	1	1	Needs to be rebuilt or replaced with a crew cab engine capable of carrying four firefighters
	Type 2 Tactical Tender	1997 Freightliner, 2,000 gallon tank, 500 gpm pump, foam equipped, draft capable	1	0	
	Type 3 Tactical Tender	1964 Kaiser Army 2½ ton 6x6, 1300 gal tank, gpm pump	1	0	

Item		Description	Existing	Needed	Details
	Crash/Rescue	1987 Chevy, crew cab 4x4 pickup	1	0	
Other Equipment	Portable Tank	2,100 gal	1	0	
	Portable Tank	1,500 gal	1	0	
	Pos. Press. Gas Fan		2	0	
	Thermal Imager	Scott Eagle	2	0	
	Portable Monitor Nozzle		1	0	
	Water Curtain Nozzle		2	0	

A.1.4 Dixie Volunteer Fire Department

CONTACT INFORMATION

Chief: Andy Hairston (Treasurer)
Address: PO Box 127, Peck, ID 83545
Phone: (208) 486-6149
Email: N/A

DISTRICT SUMMARY

The Dixie Volunteer Fire Department is a community based volunteer organization and is managed by a Board of Directors. Dixie responds to structural and wildland fires. Currently the incident capacity is one incident and the recovery requirements to fill the tanker with water.

CURRENT RESOURCES AND NEEDS

The following table displays a full list of the department's equipment and needs.

Table A- 4. Dixie Volunteer Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Member		X	0	All members are volunteers and most are only part time residents
	Intermediate Member		0	4	Need trained members
	Advanced Member		0	2	Need advanced trained members
Training	Basic Wildland Training		0	X	
	Basic Structural Training		0	X	
	First Aid Training		0	X	
	Haz-Mat Training		0	X	
	Basic Safety Training		0	X	
	Advanced Safety Training	Flash over training	0	X	
	ICS Capability	Incident Command System	Unavailable	Unavailable	
Protective Equipment	Shirts	Nomex	5	5	
	Pants	Nomex	5	5	
	Gloves	Leather	10	5	
	Hard Hats		10	5	
	Goggles	Wildland	10	10	
	Headlamps		0	15	
	Fire Shelters		10	10	
	Shovels and axes		25	0	
	Fire Extinguishers		6	0	
	Chainsaw	Stihl 036	3	0	

Item		Description	Existing	Needed	Details
Communications	Mobile Radios		0	5	
	Portable Radios		0	5	
	Base Station		0	2	
	Dispatch		0	2	
Vehicles	Structural Engine	1953 Ford	1	0	Used for wildland fires
	Structural Engine	1940s 2½-ton tanker	1	0	Used for wildland fires
Other Equipment	Slip Tank	With pump	2	0	
	Pump	2" pump	2	0	

A.1.5 Elk City Volunteer Fire Department

CONTACT INFORMATION

Chief: Loren Anderson
Address: P.O. Box 311 or 101 Sweeny Hill Road, Elk City, ID 83525
Phone: 208-842-2466
Email: chocolateelk@yahoo.com

DISTRICT SUMMARY

Elk City Volunteer Fire Department is responsible for structural and wildland fire protection for the City of Elk City. They also respond, when able, to fires in Orogrande, Red River Area, Junction Flats, Upper American River, and all surrounding areas. There is one fire station located at 101 Sweeny Hill Road, Elk City, Idaho (located in Elk City). This all-volunteer department with a total of 12 firefighters number one concern is structural fire protection, but due to the nature of our area the majority of our responses have been wildland fires in the grasslands or forested environments (with large stands of dead or dying trees, our job gets more difficult by the day.) We are capable of handling most types of fires including structural or wildland fires. We have a working agreement with the USDA Forest Service to help handle larger and more complex fires.

PRIORITY AREAS

Residential Growth

The Upper American River area has been experiencing significant residential growth, a large number of new residents being retirees. Many of these homes are constructed of improper building materials, and are located in "high risk" areas. The ability to defend this area will be difficult with one decent (but inadequate) road leading in and out. Many structures are located in among the dead and dying timber.

Communications

Communications in our area are much improved from prior years, but are still far from perfect. In certain areas, our county dispatch and other agencies are impossible to understand or contact. There is hope of a tower in the future to improve our communications, as the satellite and radio phone work sporadically, and cell phones do not work at all in our location.

Firefighting Vehicles

Due to very limited funding, the age and capabilities of the firefighting vehicles in our department have become a concern. In certain situations, the USDA Forest Service arrives with their equipment, but there is no guarantee. During the winter, they are not available, and in the summer, they can be committed to other fires.

Burn Permit Regulations

Weed and trash burning without forethought, and burning during the permit season have the potential to cause fires.

RESOURCES AND CAPABILITIES

We have 12 volunteers in our department, with two military surplus trucks acquired from the Idaho Department of Lands (1967 Kaiser 4x4 Jeep and 1966 6x6 Kaiser Jeep pumpers). We currently have 12 handheld radios, wildland clothing, and miscellaneous tools. The following table displays a full list of the department's equipment.

Table A- 5. Elk City Volunteer Fire Department's Resources.

Resource	Item	Quantity
Personnel	ICS Capability (Incident Command System) I-100 and I-200	4
Vehicles	6x6 Structure truck	1
	4x4 Brush truck	1
	Crown pumper	1
	Equipment van	1
	Tankers: 2,100 gallon and 1,000 gallon	2
Miscellaneous Equipment	Miscellaneous pumps	3
	Honda generator 5000k	1
	Halogen 4 head light standards	4
	100 foot extension cords	4
	20-24 foot extension ladder	1
Personnel Equipment	Wildland helmets	12
	Hoods	13
	Sets of wildland clothing pants/shirts	12
	Each, shovels, picks, etc.	6
	New SCBA	3
	Structure gloves, pairs	12
	Bunker boots, pairs	Many

NEEDS

Our needs at this time are:

- Newer, faster trucks that can traverse the snow and mud
- Hardline hoses
- Two 200 feet drop tanks with 1000 gallon hose reels
- 300 feet of 1½ " hose
- 300 ft of 2½ " hose
- Larger capacity pump (500 gpm)
- Good training videos
- Building materials to finish our building including: R19 insulation for a 2000 square foot building, lumber, plywood, metal roofing, and siding

A.1.6 Glenwood-Caribel Volunteer Fire District

CONTACT INFORMATION

Chief: Dee Gillins
Address: 1207 Glenwood Road, Kamiah, Idaho 83536
Phone: 208-935-0334
Email: gcchief@wildblue.net

DISTRICT SUMMARY

The Glenwood-Caribel Volunteer Fire District (GCVFD) was created in April of 2005 with the specific intent of providing fire protection to the residents of Glenwood, Caribel, and the surrounding areas, which had previously been unprotected. The Board of Directors is dedicated to the improvement of fire protection coverage through the acquisition and maintenance of adequate equipment, and the recruitment and training of sufficient personnel to ensure that this coverage continues.

The Glenwood-Caribel Volunteer Fire District provides both structural and wildland fire protection for approximately 42 square miles of timbered and grassland areas in the hills east of Kamiah. The topographical features of this area range from flat farmland to deep, difficult to access canyons. Large areas of cultivated farmland, thick-forested areas, and dense underbrush, with numerous homes dispersed throughout, provide a challenge to effective firefighting. State, National Forest, tribal and large areas of private lands add to the complexity of fire protection in the District.

The GCVFD is an active participant of the Idaho County Mutual Aid Agreement, which is a reciprocal agreement among all participating fire organizations within Idaho County. We have a Memorandums of Understanding with the Idaho Department of Lands.

PRIORITY AREAS

Fire Station Upgrades

Additions to the structure to house our apparatus and equipment adequately are part of our plans. A well, a septic system, a meeting/training room, and restrooms/shower facilities are also needed. We hope that this station house, when completed, would be used as a community center as well.

Firefighting Water Sources

There are currently eight to ten sites throughout the district that have been identified for “dry hydrant” locations, which will be implemented as funding for these projects becomes available. There is not a hydrant system in the area, so the numerous ponds and reservoirs located throughout the district are our only source of water. A well to provide water at the Fire Station is needed.

Equipment Upgrades

Through grant funding and private donations, this rural fire department has built a small fire station, acquired a used pumper truck, as well as two 1,200-gallon tenders, a 2,500-gallon tender, and two brush trucks. We plan to upgrade our equipment as newer equipment and apparatus becomes available.

Residential Growth

Residential Growth is an immediate concern as we are getting a number of new homes in the area and many are located in “high risk” areas. The ability to defend this huge area with only limited access creates a level of difficulty for us. Our goal is to spread out our resources in order to have at least one vehicle and three firefighters in any given area. This obviously puts a strain on the resources we have available.

Burn Permit Regulations

Burn permits within the district are currently administered by the Idaho Department of Lands, Maggie Creek Supervisory District.

Mitigation

GCVFD has had a number of residents participate in the Wildfire Mitigation Plan sponsored by the Idaho County Disaster Management office. The district recently completed defensible space surveys of many of the residences of the area, and the information is being inputted into the RedZone program. Currently about 75% of the district has been surveyed, and additional surveys are in progress.

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the Department.

Table A- 6. Glenwood-Caribel Volunteer Fire District's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Member		24	0	Monthly training meetings in house
Training	Basic Wildland Training	Wildland Fire Safety Training	14	10	Yearly IDL Refresher Course
	Basic Structural Training	Clearwater Fire Academy LCSC Idaho State Fire Academy	21	3	FF-PPE, SCBA, Ventilation, ENG OPS, Wildland Urban Interface Intermediate Wildland training
	First Aid Training		11	X	Five EMTs w/3 additional students testing
	Haz Mat Training		0	X	
	Basic Safety Training	Continuous Process	24	X	
	Advanced Safety Training	Continuous process	5	19	
	Incident Command System (ICS) I-100		18	6	
	Incident Command System (ICS) I-200		3	12	
Protective Equipment	Shirts	Nomex	15 (Used)	10	Wildland
	Pants	Nomex	15 (Used)	10	Wildland
	Coveralls	Nomex	0	0	Wildland
	Boots	Leather	0	24	Wildland
	Gloves	Leather	10 (Used)	20	Wildland
	Hard Hats		15	10	Wildland
	Goggles	Wildland	15	10	Wildland
	Full Turnout		6 (New) 21 (Used)	18	Structure
	Fire Shelters		9 (New)	3	Wildland
	MSA and Scott SCBA		11 (Used)	6	Structure
Hand Tools	Shovels		14	6	Wildland
	Pulaskis		9	6	Wildland

Item		Description	Existing	Needed	Details
	McLeods		5	5	Wildland
	Fire Rakes		0	7	Wildland
	Fire Swatter		4	6	Wildland
	Axes		1	4	Structure
	Brush hooks		4	4	Wildland
Communications	Handheld Portable Radios	Non P25 Compliant	24	4	
	Handheld Portable Radios	P25 Compliant	4	24	
	Mobile Radios	P25 Compliant	2	7	
	Mobile Radios	Non P25 Compliant	4	0	
	Base Station	P25 Compliant	0	1	
	Dispatch	Idaho County Sheriff Countywide Repeater Network	1	0	24 hours/day, 7 days/week - phone tree
Vehicles	Wildland Engine FSO WE 6	1986 Chevy Diesel Pickup w/200 gallon pump unit & foam eductor	1	0	GCVFD Owned/Wildland
	Wildland Engine FSO WE 5	1992 Ford Pickup 600 gallon, pump unit, and foam proportioner and nozzle	1	0	GCVFD Owned Wildland/Structure
	Water Tender FSO WT2	1986 Kaiser Diesel Truck 2500 gallon with 5 HP pump, and pump with reel	1	0	IDL Loan Program Wildland/Structure
	Water Tender FSO WT3	1986 American General Diesel, 1200 gallon and 350 gpm pump	1	0	IDL Loan program Structure/Wildland
	Water Truck/Fire Suppression FSO WT3	1988 International 1200 gallon tank with /250 gpm fill pump	1	0	IDL Loan program Structure/Wildland
	Structure Engine FSO E2	1986 Chevy with 750 gpm pump and 500 gallon tank	1	0	GCVFD owned Structure; currently out of commission; With ladders and limited hose and nozzles
	QRU	1994 Chevy Wheeled coach	1	0	GCVFD owned EMS response vehicle-responds with up to four EMTs
	EMS Response Vehicle	1984 Chevy Blazer	1	0	GCVFD owned
Other Equipment	Chainsaw	Husky 359 20" bar	2	4	Wildland/Structure
	Portable Tank	Collapsible 2,500 gal	2	1	Wildland/Structure
	10 # Dry Chemical Fire Extinguisher	Trucks & Station	2	4	Structure/Wildland
	5# Dry Chemical fire extinguishers	Truck	3	3	Structure/Wildland
	Water Back Packs		10	10	Wildland

Item		Description	Existing	Needed	Details
	First Aid Kits	Trucks & Station	6	4	Wildland/Structure
	Extrication Equipment	QRU	1	0	Combo-tool and vehicle stabilization; Motor vehicle
Facilities	Fire Station Facility	Facility for four vehicles	1	0	See narrative above

A.1.7 Grangeville City Fire Department and Rural Fire District

CONTACT INFORMATION

Chief: Dan Tackett
Address: 845 East Main Street, Grangeville, Idaho 83530
Phone: (208) 983-2851; (208) 983-0491 (Work); or (208) 983-2664 (Home)
Email: tacketts@connectwireless.us

DISTRICT SUMMARY

The Grangeville City/Rural Fire District is a city based volunteer organization housed in a space rented from the City, and is managed by the Fire Chief, who reports to the Board of Fire Commissioners. Grangeville responds to structural, agricultural and wildland fires. Currently the incident capacity is two incidents, and the recovery requirements take between one-half to one hour.

CURRENT RESOURCES AND NEEDS

The following table displays a full list of the department's equipment and needs.

Table A- 7. Grangeville Fire Department and Rural Fire District's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Volunteers	Completed "Essentials of Firefighting" course and various other training	20	0	Need volunteers with willingness to serve, train, and respond to fires - this is currently the #1 need
Training	Basic Wildland Training	Update existing training	0	X	Provided by IDL or private agency
	Basic Structural Training	Ongoing	0	X	
	Haz Mat Training	Update existing training	0	X	
	Basic Safety Training	Ongoing	0	X	
	ICS Capability	Incident Command System	Unavailable	Unavailable	
Protective Equipment	Shirts	Nomex	0	20	
	Pants	Nomex	0	20	
	Boots	Leather	0	20	
	Gloves	Leather	X	20	
	Hard Hats		X	20	
	Goggles	Wildland	0	20	
	Structural Gloves		30	20	
	Headlamps		0	20	
	Fire Shelters		0	20	
	Full Turnouts		23	20	Need five per year until all are updated
	Breathing Apparatus	ISI SCBA	16	5	
	Shovels		4	10	
	Pulaski's		X	10	
	Axes		5	10	

Item		Description	Existing	Needed	Details
	Water Back Packs		3	6	
	Chainsaw	Stihl	2	2	
Communications	Mobile Radios	Vertex	3	0	
	Pagers	Motorola	20	0	
	Base Station	Idaho County Sheriff	1	0	
	Repeaters		4	0	Through Sheriff's office
	Dispatch	Idaho County Sheriff	1	0	24 hours/day, 7 days/week
Vehicles	Engine	1986 Ford F-350 Attack	1	0	City and Rural
	Engine	International/Central States pumper 750 gallons	1	0	Rural
	Water Tender/Engine	4,000 gallons	1	0	Rural
	Engine	1972 AL Pioneer	1	1	City; Needs Replacing
	Engine	1996 Pierce Sabre	1	0	City
Other Equipment	Foam Equipment	Foam capability	4	0	
	Portable Pump	2.5”	1	0	
	Snap Tank	3000 gallon capacity	1	0	

A.1.8 Harpster Fire Protection District

CONTACT INFORMATION

Chief: Melvin Gribble
Address: 113 Newsome Street, Harpster, ID 83552
Phone: (208) 983-2098 or (208) 983-0263 or (208) 983-1785
Email: Kck01@qroidaho.net

DISTRICT SUMMARY

The Harpster Fire Protection District (HFPD) was created by voter initiative in 2007, evolving from the previously established Harpster Fire Protection District. It is the goal of the present Board of Commissioners to maintain and improve both equipment and personnel.

HFPD provides firefighting support in an area of approximately twenty square miles comprising unique topographic features. The terrain in many locations is rugged and difficult to access. Cultivated land and open pastures, stands of trees, dense underbrush surround many of the rural residences. Nez Perce National Forest system lands and dense stands of trees most often surround open fields.

Burn permits within the district are currently administered through the Idaho Department of Lands, Maggie Creek Supervisory Unit.

The HFPD is currently a participant of the Idaho County Mutual Aid Agreement, which is a reciprocal agreement amongst all participating fire organizations within Idaho County. The district also maintains a Memorandum of Understanding with the Idaho Department of Lands for mutual aid with this agency.

The district has had a number of residents participate in the Wildfire Mitigation Plan sponsored by the Idaho County Disaster Management office. In addition to this effort, the district is actively gathering and inputting residential data for the RedZone program. Less than 10% of residences have been RedZone surveyed.

RESOURCES, CAPABILITIES, AND NEEDS

The following table displays a full list of the department's resources and needs.

Table A- 8. Harpster Fire Protection District's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Member		22	0	Bi-Monthly training meetings in house and Kooskia FD
Training	Basic Wildland Training	Wildland Fire Safety Training	7	X	Yearly IDL Refresher Course
	Basic Structural Training	Clearwater Fire Academy LCSC	6	X	FF-PPE, SCBA, Ventilation, ENG OPS, Wildland Urban Interface
	First Aid Training		0	X	This needs to be a priority item
	Haz Mat Training		0	X	
	Basic Safety Training	Continuous Process	0	X	
	Advanced Safety Training		0	X	
	ICS Capability	Incident Command System 100/200	15/15	7/7	

Item		Description	Existing	Needed	Details
Protective Equipment	Shirts	Nomex	15 Used / Surplus	10	Wildland
	Pants	Nomex	15 Used / Surplus	10	Wildland
	Coveralls	Nomex	9 New	0	Wildland
	Boots	Leather	0	12	Wildland
	Gloves	Leather	15 New 10 Used	0	Wildland Structure
	Hard Hats		9 New 5 Used	0	Wildland
	Goggles	Wildland	19	0	Wildland
	Full Turnout		5 New 7 Used	7	Structure
	Fire Shelters		9 New	3	Wildland
	SCBA		3 New 6 Used	6	Structure
Communications	Handheld Portable Radios	Non P25 Compliant	10	0	
	Mobile Radios	P25 Compliant	2	3	
	Mobile Radios	Non P25 Compliant	8	0	
	Base Station	P25 Compliant	1	0	
	Dispatch	Idaho County Sheriff Countywide Repeater Network	1	0	24 hours/day, 7 days/week - phone tree
Vehicles	Wildland Engine FSO WE 6	1985 Chevy Diesel Pickup w/200 gallon pump unit and foam eductors	1	1	IDL Loan Program; Wildland/Structure
	Wildland Engine FSO WE 6	1974 Ford Pickup w/200 gallon pump unit and foam generator	1	0	HVFD Owned; Wildland/Structure
	Water Tender	1977 GMC Diesel Truck 2500 gallon with 5 HP pump	1	0	IDL Loan Program; Wildland/Structure
	Structural Engine FSO E2	1974 Van Pelt I-H Diesel	1	0	HVFD Owned; Wildland/Structure
	Towed Trailer	300 gallon pump unit with 5 HP pump	1	0	Towed by POV; Wildland/Structure
Other Equipment	Shovels		18	0	Wildland
	Pulaskis		13	4	Wildland
	McLeods		8	4	Wildland
	Fire Rakes		5	7	Wildland
	Fire Swatter		0	12	Wildland
	Axes		1	11	Wildland Structure
	Chainsaw	Stihl 036 20" bar	1	4	Wildland/Structure
	Portable Tank	Collapsible 2,500 gallon	1	0	Wildland/Structure

Item		Description	Existing	Needed	Details
	10 Pound Dry Chemical Fire Extinguishers	Trucks and Station	7	0	Wildland/Structure
	Water Back Packs		6	4	Wildland
	First Aid Kits	Trucks and Station	6	0	Wildland/Structure

OUTLOOK

Future facilities improvements include the addition of an office/training room and the drilling of a well to provide water both for engine refill and on site restrooms. Currently engine personnel draft water from the South Fork of the Clearwater River as this is the only water available. The district is currently outfitted with a relatively complete set of engines and apparatus. However, as newer equipment and apparatus may become available, trading up to newer equipment will aggressively be addressed. Specifically, the pump on the tender needs to be increased in capacity. There are a number of sites throughout the district, which lend themselves to the formation of "dry hydrants," which will be addressed as funding becomes available.

A.1.9 Kamiah City and Rural Fire Protection District

CONTACT INFORMATION

Chief: Dan Musgrave
Address: 515 Main Street, Kamiah, Idaho 83536
Phone: (208) 935-0935 and (208) 935-0265
Email: kfvd@qroidaho.net or musgrave5@msn.com

DISTRICT SUMMARY

Kamiah Fire City and Rural Fire Protection District is a city based volunteer organization housed in one building and is managed by the City of Kamiah and the rural fire district commissioners. The district is approximately 25 square miles and has approximately 30 volunteer firefighters. Kamiah City and Rural Fire Protection District responds to structural, agricultural and wildland fires. Currently the incident capability is two incidents and the recovery requirements take between three and four hours.

PRIORITY AREAS

Residential Growth

The district is bordered by two different counties: (1) Lewis County – estimates suggest a two to four percent growth rate in the next five years; (2) Idaho County – estimates suggest a three to five percent growth rate in the next five years.

Communications

The Kamiah City and Rural Fire Protection District is presently in negotiation with three other counties for a joint Fire Channel Repeater solely for fire incident communications.

Burn Permit Regulations

Permits are negotiated by the EPA through the Nez Perce Tribal Office and the Department of Lands for the State of Idaho.

Effective Mitigation Strategies

The Kamiah City and Rural Fire Protection District has submitted a grant application to the Nez Perce Tribe for funds for the purchase of the Red Zone Program. Additionally, we are exploring opportunities and programs for fuel reduction in our urban interface areas, and are seeking recommendations for subdivision placements and development

Education and Training

The Kamiah City and Rural Fire Protection District's education and training is ongoing to enable the Department to respond to all fire needs that occur locally and in our urban interface areas. We are constantly searching for grant opportunities to further that education and training goal.

Cooperative Agreements

Kamiah City and Rural Fire Protection District has mutual aid agreements with Idaho Department of Lands and with the City of Kamiah. We are in the process of committing to mutual aid agreements with fire departments in the surrounding area to strengthen our firefighting capabilities in our community and the neighboring ones.

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the Department.

Table A- 9. Kamiah City and Rural Fire Protection District's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Basic Member		24	6	
Training	Basic Wildland Training		0	X	
	Basic Structural Training		0	X	
	First Aid Training		0	X	
	Haz-Mat Training		0	X	
	Basic Safety Training		0	X	
	Advanced Safety Training		0	X	
	ICS Capability (I-100)	Incident Command System	28	2	
	ICS Capability (I-200)	Incident Command System	4	26	
Protective Equipment	Shirts	Nomex	6	24	Need newer
	Pants	Nomex	6	24	Need newer
	Coveralls	Nomex	0	25	
	Boots	Leather	0	20	
	Gloves	Leather	6	24	
	Hard Hats		6	24	
	Goggles	Wildland	11	19	
	Headlamps		0	30	
	Fire Shelters		0	25	Current are out of service
	Breathing Apparatus		15	5	
Hand Tools	Shovels		10	10	
	Pulaski's		10	10	
	McLeod's		3	17	
	Back Pack pumps		2	8	need newer
	Chainsaw	Stihl 026 20" bar	1	2	
	Chainsaw	044 28" bar	0	1	
Communications	Portable Radios	Motorola	8	16	
	Mobile Radios	Motorola	4	1	
	Base Station	At fire station	1	0	
	Dispatch	Lewis County Sheriff	1	0	24 hours/day, 7 day/week
Vehicles	Structural Engine	1978 Chevrolet pumper, 150 gallon, 1,000 gpm	1	1	Need newer that will hold crew of 5-6
	Structural Engine	1979 Chevrolet pumper, 1,000 gallon, 1,000 gpm	1	1	Need newer that will hold crew of 5-6
	Wildland Engine	1999 Chevrolet Type	1	0	

Item		Description	Existing	Needed	Details
		6, 250 gallon, 100 gpm			
	Water Tender	1970s Kenworth, 4,000 gallon	1	0	
	Utility Vehicle	4X4	1	1	Command and communications
	Ambulance	1995 wheel coach Type 3	1	0	At least one ambulance rolls on every fire
	Ambulance	1999 wheel coach Type 3	1	0	At least one ambulance rolls on every fire
	Ambulance	1983 Van	1	0	At least one ambulance rolls on every fire
Other Equipment	Tank	1500 gallon Fold-a-Tank	1	0	
	Thermal Imaging Tool		0	1	
	Generator		2	0	
	Flares		0	2 cases	
	Portable Pump	Hale 450 gpm	0	1	
	Flares		0	2 cases	
	Foam Equipment	Injection type	1	0	Installed on Type 6 engine

FUTURE CONSIDERATIONS

We will need to continue to update and replace our firefighting equipment to keep up with growing depends in our urban interface areas.

We need to continue to pursue our discussions and commitments to mutual aid agreements with all our neighboring community Fire Departments to ensure a successful response to a fire disaster in each community.

We need to expand our knowledge and training in regards to fuel reduction and firefighting tactics to better protect and serve our expected urban growth in the years to come.

We need to find new ways to recruit more volunteer members to our Department to better protect and serve our community.

We need the ability to secure grant funds or discover other programs willing to donate funds to further our education, training, and equipment needs.

In addition, we need to provide additional training seminars centrally located in our area so our volunteers can attend, participate, and gain the vital information and techniques needed to be an effective firefighter.

A.1.10Kooskia Fire Department

CONTACT INFORMATION

Chief: Mark Anderson
Address: PO Box 126 or 401 Front Street, Kooskia, ID 83539
Phone: 208-926-4684
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DISTRICT SUMMARY

The Kooskia Fire Department provides local fire protection (structural and initial wildland response), and primary response. The department also provides multi-hazard responses to many other types of emergencies. The Kooskia Fire Station is located at 4th and Front streets in Kooskia in a building with six bays housing seven apparatus. The building also contains business offices, training facilities, and limited quarters. The building is equipped with a backup generator, telephone, and high-speed Internet capabilities.

This department has mutual aid agreements with all other local departments through the Idaho County mutual aid pact. We also have an MOU with the Idaho Department of Lands.

Burn permits are handled through Idaho Department of Lands.

We are starting to experience a large amount of growth in our coverage area. Many of the people moving into the area are retirees. There is a significant increase in our urban wildland interface fire protection problem. We also have a large number of structures in our area that are poorly constructed and do not meet fire codes creating significant fire suppression problems. We are seeing a trend toward constructing new infrastructure related to tourism.

RESOURCES AND CAPABILITIES

The following table displays a full list of the department's equipment and needs.

Table A- 10. Kooskia Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Member		14	6	Trained personnel participating in fires. More recruits are needed to deal with attrition and our aging work force
Training	Structural and Wildland	In house, in cooperation with other departments and at various schools and academies.			Working to improve training and recruit additional members. New and updated materials are needed.
	ICS	Members are trained in ICS 100 and 200 as needed when new members start.			Some senior members are sent to more advanced ICS
	First Aid	Provided as needed			Some Members are EMTs – Department policy is to respond an EMS unit on all structure and major fires
	Vehicle Operation	Provided to all new members when they are evaluated to operate department vehicles			Hope to improve program with formal training materials.

Item		Description	Existing	Needed	Details
	General	The department provides financial support when budget allows and equipment support to attend all training.			Department pays tuition for classes related to our mission. We also encourage people to take advantage of other funded training opportunities.
Protective Equipment	Structure Turnouts	NFPA standard in serviceable condition	16	10	Due to size differences we need to increase our supply of turnout gear especially in larger sizes and replace older worn out sets.
	Shirts	Nomex	18	8	
	Pants	Nomex	14	10	Sizes on existing pants are not in the ranges needed in some cases
	Gloves	Wildland	20	0	
	Gloves	Structure	16	10	
	Headlamps		18	0	
	Fire Shelters	New Generation	12	4	One per seating position
	SCBA	11 up to standard, 4 lacking HUD and integrated PASS	15	5	Short one to have one for each seating position and need to replace four obsolete sets
Hand Tools	Shovels		8	12	
	Pulaski's		6	0	
	Hooligan Tool		1	4	One per engine
	Pulaski		8	12	
	McLeod		1	5	
	Chainsaw		1	1	
Communications	Mobile Radios	One per vehicle, station radio, and one for chief	7	6	Only one is P 25 compliant (Engine 3) and one other (Base in station) narrow band compliant but not P 25.
	Handheld Radios	One per firefighter	10	12	Only two are P 25 Compliant; two more are narrow band compliant.
	Dispatch	Idaho County Sheriff	1	0	Equipment is old and outdated. Need additional repeaters and repeater frequencies. See Idaho County Communication Plan for details
	EMS Mobile Radios	In ambulances (The ambulance is a separate third service that shares quarters, some personnel, and works closely with the Fire Department)	4	2	Two of these radios are narrow band but not P 25 the other two are 15 to 20 year old wide band spares

Item		Description	Existing	Needed	Details
	EMS Handhelds	In ambulances (The ambulance is a separate third service that shares quarters, some personnel, and works closely with the Fire Department)	25	10	Four are P25 compliant 6 are narrow band; the rest are wide band and must be replaced by 2013
Vehicles	Structure Engine	1979 Chevy Type 2 1000 GPM 750 Gallon Tank (lacks one seating position to qualify as a Type 1)	1	0	Has Foam (Engine 1)
	Structure Engine	1961 Mack Type 1 1250 gpm pumper with 500 gallon tank	1	1	Needs Foam capability, Should be replaced due to age and the fact that it was built as an open cab (Engine 5)
	Wildland Engine/Tender	1964 AM General 1200 gallon tank 260 GPM pump (Type 3 tender or Type 3 engine)	1	0	2 ½ ton army 6X6 converted for fire service. Carries 2500 gallon fold a tank.
	Wildland Engine	2006 Ford / BME CAFS Type 6 300 gallon tank, 125gpm pump, 50 cfm. Compressor	1	0	Fully NFPA compliant 4X4
	Wildland Engine	1964 International 4X4 600 gallon tank Wildland pony pump, 500 gpm pump (unserviceable)	1	1	This Engine has pump drive problems with the midship pump thus is currently classed as a Type 4 Wildland Engine
	Ambulance	Ford/ Medtec 4X4	2	1	One will need replaced in the next 5 years (The ambulance is a separate third service that shares quarters, some personnel, and works closely with the Fire Department)
Other Equipment	Tank	2500 gallon fold a tank	1		
	Floating Pump	Hale 400 GPM floating pump	1		
	Generator	1973 Chrysler	1	1	1500 watt portable, needs updated
	Drafting eductor	For pulling water from creek a long distance away	0	1	
	Generator	80 KW Kohler	1	0	Backup power at station and for wells on city water system
	Air fill station	Bauer	1	0	
	Portable Pump	Mark III	0	1	
	MREs		0	3 case	
	Vent Fans	1 positive pressure and 1 smoke ejector	2	1	1 positive pressure needed
	Foam equipment		4	1	To have all engines equipped

Item		Description	Existing	Needed	Details
	Hose	1.5 and 2.5 "	5000'	1000'	Need to replace worn out structure hose that is as much as 50 years old.

FUTURE GOALS

We are working toward strengthening our training program, increasing recruitment, and upgrading older equipment. We currently have a mix of apparatus that meet our needs well. We upgraded Engine 3 in 2006 with a 4x4 CAFS equipped brush truck. We need to replace at least one of our structural engines due to its age and condition. Our newest structural engine is 30 years old and the oldest almost 50.

We have quite successfully implemented a monthly training program in cooperation with adjacent departments. We have also sent people to various fire academies. We hope to continue this trend along with recruiting more new firefighters.

A.1.11 Ridge Runner Fire Department

CONTACT INFORMATION

Chief: Dale Pickering
Address: PO Box 652, Kooskia, Idaho 83539
Phone: 208-926-7328
Email: 6picks@wildblue.net

DEPARTMENT SUMMARY

The Ridge Runner Fire Department (RRFD) was created in 1983 by a group of local citizens concerned about the increasing danger of wildland fires. It was the original intent of the citizens to equip them to suppress wildland fires in cooperation with other local agencies. Over time the need to fight wildland fire has remained, however the need to fight structural fires has increased. In response to the population quadrupling since the inception of the RRFD, the department is actively acquiring additional apparatus, equipment, training, and a centralized fire station. The additional homes being built in the wildland interface has proved to be a challenge and the department is encouraging the residents to take an active role to mitigate the fire danger to themselves and the community. The goals of the present Board of Directors is to improve safety, equipment, training, and reduce the fire district's insurance rating from a "10" to an "8".

RRFD provides firefighting and motor vehicle crash support to an area of diverse topographical features. The terrain in many locations is rugged and difficult to access with a vertical elevation difference of 1200 feet from one end of the district to the other. The 43 square mile fire district encompasses four square miles of the Nez Perce Reservation, borders the Wild and Scenic River corridor of the Clearwater River and the Nez Perce National Forest. The fuels commonly found include cultivated land, open pastures, heavily wooded drainages, and dense underbrush. The fire district has 250 residences with approximately 750 residents living on one-way in/out roads. Available water for suppression has proven difficult due to the lack of hydrants and access to surface water.

Future facilities include the construction of a centralized fire station with six bays to house our equipment that now remains outside and drained for the winter months. The building would also contain an office, training room and sufficient storage for tools and equipment. The three-acre parcel for the station also needs a drilled well to provide water for underground water storage and on site restrooms. The district is currently outfitted with a variety of engines and apparatus; however, as funds become available the department will actively replace the aging engines to provide for safety and reliability. There are a number of sites throughout the district that lend themselves to the installation of "dry hydrants"; however funding and formal easements have not been secured.

Burn permits within the district are currently administered through the Idaho Department of Lands.

The RRFD is currently a participant of the Idaho County Mutual Aid Agreement, which is a reciprocal agreement amongst all participating fire organizations within Idaho County. The district also maintains a Memorandum of Understanding with the Idaho Department of Lands and Kooskia FD for mutual aid.

The district has had a number of residents participate in the Wildfire Mitigation Plan sponsored by the Idaho County Disaster Management office. In addition to this effort, the district is currently active in the gathering and input of residential data for the RedZone program. Less than 10% of the residences have been RedZone surveyed.

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the RRFD.

Table A- 11. Ridge Runner Fire Department's Resources and Needs.

Resource	Item	Description	Existing Quantity	Needed Quantity	Details
Personnel	Active Member	Personnel	21	X	Monthly training meeting with curriculum from Idaho Emergency Services
Training	Basic Wildland Training	S-130, S-190, L-180	15	6	Annual in-house academy and IDL Refresher Course
	Basic Structural Training	IFSAC Firefighter 1	1	14	Currently scheduling courses through Idaho Emergency Services
	EMT's	Basic/Advanced	2	2	RRFD responds to multi-vehicle collisions, however is not presently equipped to transport.
	Haz Mat Training	Technician	5	X	RRFD has no containment/decontamination equipment.
	ICS 100/ NIMS 700a		15	6	
Protective Equipment	Shirts	Nomex	15 Used / Surplus	15	Wildland
	Pants	Nomex	15 Used / Surplus	15	Wildland
	Coveralls	Nomex	0	0	Wildland
	Boots	Leather	0	0	Wildland
	Gloves	Leather	16 0	6 21	Wildland Structure
	Hard Hats		12 Used	8	Wildland
	Goggles	Wildland	16	6	Wildland
	Full Turnout		7	14	Structure
	Fire Shelters		16 New	6	Wildland
	SCBA		13 Non-compliant	12	Structure
Hand Tools	Shovels		20	0	Wildland
	Pulaskis		20	0	Wildland
	Belt Weather Kits		0	4	Wildland
	Fire Rakes		0	4	Wildland
	Fire Swatter		10	0	Wildland
	Axes		3	0	Wildland/Structure
Communications	Handheld Portable Radios	Non P25 Compliant	12	6	
	Handheld Portable Radios	P25 Compliant	0	0	
	Mobile Radios	P25 Compliant	0	6	
	Mobile Radios	Non P25 Compliant	0	0	
	Base Station	P25 Compliant	0	0	
	Dispatch	Idaho County Sheriff Countywide Repeater Network	1	0	24 hours/day, 7 day/week

Resource	Item	Description	Existing Quantity	Needed Quantity	Details
Vehicles	Wildland Engine FSO WE 6	1974 Chevy Diesel Pickup w/200 gallon pump unit	1	0	IDL Loan Program Wildland
	Wildland Engine FSO WE 5	1974 Int. crew cab w/500 gallon pump unit	1	0	IDL Loan Program Wildland
	Wildland Engine FSO WE 4	1980 Chevy w/ 750 gallon pump unit	1	0	IDL Loan Program Wildland
	Water Tender FSO WT3	1976 AMC Truck 1000 gallon w/4HP pump	1	0	IDL Loan Program Wildland/Structure
	Structural Engine FSO E2	1981 Ford F-800 w/1000gal & Hale front mount pump	1	0	HFPD Owned Structure/Wildland
	Structural Engine FSO E2	1962 Ford F-800 500 gallon	1	0	HFPD Owned Structure
	Towed Trailer	200 gal Pump Unit w/3HP pump	5	0	Towed by POV Wildland
Other Equipment	Chainsaw	Stihl 036, 20" bar	0	6	Wildland/Structure
	Portable Tank	Collapsible 2,500 gallon	1	0	Wildland/Structure
	10 # Dry Chemical Fire Extinguisher	Trucks and Station	0	6	Structure/Wildland
	Water Back Packs		3	5	Wildland
	First Aid Kits	Trucks and Station	4	2	Wildland/Structure

A.1.12 Riggins City Fire Department

CONTACT INFORMATION

Chief: Dan Catherman
Address: PO Box 249, Riggins Id. 83549
Phone: 208-628-3572 or 208-628-3390
Email: rigginsfd@yahoo.com
rigginscity@yahoo.com

DEPARTMENT SUMMARY

Riggins City Volunteer Fire Department has the privilege of protecting the city's residences. The Fire Department has ten-mile mutual aid agreement with the Salmon River Rural Fire Department when residences are involved. We also have a mutual aid agreement with the Idaho Department of Lands and the USDI Bureau of Land Management.

Response times within the city are between five to seven minutes, and outside the City they are between 10 to 25 minutes depending on the fire's location. Usually, the City Fire Department arrives prior to the Rural Fire Departments to incidents.

The firehouse is relatively new and houses two fire trucks and the cities two ambulances.

Riggins is a small rural community. Its population is approximately 410. The city itself is long and narrow and is situated about 60 feet above the Big Salmon River. There are few vacant lots for building. Consequently, people split their property and sell off a portion for a new residence. The trend now is to go up, rather than out and we are seeing more two-storied buildings begin to appear.

Riggins population tends to be of retirement age. Homes are in close proximity to each other, and there are many trees around homes. We have two schools at separate locations and several motels.

INFRASTRUCTURE

The City has two wells and a large storage tank above the high school. We are well supplied with water, many hydrants that make firefighting in the City easier.

Idaho County Light and Power supplies power to Riggins via above ground wires on poles. This northern end finishes somewhere near Time Zone Bridge. There are three major branches to these lines, each in valleys off Highway 95.

1. ***Rapid River Road:*** Four miles south of Riggins. This a community of homes and lots for sale. They have their own wells, and sewage systems. There is also farm land for sale in bigger lots. Eventually, these too will likely be divided and built on. The power line continues on to the fish hatchery and up Shingle Creek.
2. ***Squaw Creek:*** Much of this area is prior ranch land split up for building lots. Each lot has its own water supply (well or spring). The line goes on to Papoose Creek, where there are several homes surrounded by timber. Papoose Creek is quite steep, and certain firefighting equipment has difficulty getting up the grade (about 10%).
3. ***Race Creek:*** Much of this area is prior ranch land split up for building lots. The power line goes to the confluence of Race Creek and Bean Creek, continues up Bean Creek underground, to Bader's property on Whiskey Butte and on up to Cold Springs.

The good news is these creeks run all year round, so water is available for fighting fires. In the winter, Squaw Creek Road can be a challenge. Steep hills and lack of sunshine on the creek and valley floors cause ice to remain in shaded areas.

RESOURCES AND CAPABILITIES

The Riggins City Fire Department has two trucks:

- ***1956 Pumper:*** This vehicle does not conform to NFPA standards. It works for drafting only. However, the tank leaks. It is our "second out" vehicle.
- ***1973 American La France:*** This is a 1000 gpm, fully stocked vehicle. It pumps well. We have had trouble with the impellor being worn and the transmission, and wonder when it will break!

We have ten sets of turnouts hanging on the wall. These are mix-and-match, combinations of used turnouts from other stations, for which we are grateful. We have enough boots, gloves helmets, face shields to complete each set. Six people turn out for training monthly. All personnel are trained at the essentials level. We plan to have SCBA training at least quarterly. Five of the six people are wildland fire trained as well. The ICS capability is unavailable.

NEEDS

As with all departments, we have a need for a new truck. Because we are a small rural city with low call volume, it is hard to keep the firefighters enthused and the attrition rate is high. We need recruitment and retaining methods, possibly including a small remuneration for their effort.

Training is an additional need. We train once a month, but it does not seem to be enough. State funding for training as well as State level training is getting harder to acquire. We try to alternate hands on with classroom. Our people are encouraged to go to fire training schools whenever they can. Volunteers still have to make a living and take care of their families as well.

The community needs to be Fire Wise, so education of the public is especially important. We cannot change the way homes are built close together, but we can educate them about their wood piles, trees, etc.

FUTURE CONSIDERATIONS

For a small community we have a quantity of good gear.

Six new sets of MSA SCBA (Low pressure). We have a cascade system and are getting a compressor and filling station, six New Vertex radios, sets of hazmat, Level B suits complete with boots, gloves, and tape, two full face masks with all the different chemical filters, and a Hazmat shower, pool, brushes, and wand. All of this came through a Homeland Security grant for which we are thankful.

Our continued needs are people, training, effective communications, and live fire practices.

A.1.13 Salmon River Rural Fire Department

CONTACT INFORMATION

Chief: Dennis McCollum
Address: 245 Grouse Lane, Pollock, Idaho 83547
Phone: 208-628-2772
Email: djmccol@frontiernet.net

DISTRICT SUMMARY

Salmon River Rural Fire Department is a subscription organization. It was started in 1980 to protect the structures outside the city limits of Riggins and White Bird, Idaho from fire, covering the area from White Bird pass, along the U.S. Highway 95 corridor into Adams County to the Smokey Boulder Road. Our district is approximately sixty miles long and ten miles wide. There are six stations along this strip of highway. Station 6 is behind Hoots Restaurant, Station 5 is behind Slate Creek Ranger Station, Station 4 is at the Lucile turnoff, Station 3 is at the west end of the Rapid River Subdivision, Station 2 is at the Whitewater Wilderness Ranch, and Station 1 is at Pinehurst in Adams County. We are an all-volunteer department with a total of thirty-one members. Our primary area of concern is structural fire protection, but due to the nature of our district, we can and have been called out to wildland fires, car fires, hazardous material incidents, or any emergency that may occur. We have mutual aid agreements with the City of Riggins and the City of White Bird. We also have mutual aid agreements with the Nez Perce and Payette National Forests, Idaho Department of Lands, and the USDI Bureau of Land Management to handle wildfires.

PRIORITY AREAS

Communication

Communication capabilities in our district are barely adequate. Topographical features within the district make radio communications with County Dispatch and other agencies difficult or impossible in several areas. The Salmon River Rural Fire Department now has ten P-25 compliant radios installed in our apparatus. We need eight more to complete all our apparatus. We need forty-six P-25 compliant portables for our personnel.

Firefighting Vehicles

Due to the age of our vehicles ranging from 1966 through 1997 and to the limited funding, we have great concerns for the safety of our firefighters and the citizens in our district. We will continue to upgrade our equipment until they meet NFPA and IDL standards.

Training

Our department continues to emphasize the importance of training to our firefighters. We have firefighters certified with red cards for wildland fires, Hazmat awareness and operations, EMS first responders, National Incident Management System, and other operational training.

Personal Protective Equipment

Our firefighters have been using hand-me-down protective clothing and equipment from other departments for a long time. In 2004, we received a government grant and were able to begin outfitting our personnel with ten new sets of turnouts. We also received ten new SCBA. We will continue to upgrade until all thirty-one of our firefighters has new turnouts.

CURRENT RESOURCES

The following table displays the ICS capability for the Salmon River Rural Fire Department.

Table A- 12. ICS Capability for Salmon River Rural Fire Department.

Resource	Item	Existing	Needed
ICS Capability	Incident Command System (I-100, I-200, and I-300)	2	6

The following table displays a list of the department's equipment.

Table A- 13. Salmon River Rural Fire Department's Resources.

Station	Year	Type	Model	Tank Capacity	Pump Capacity
Station 1	1985	Structural	Walter	500	1000
	1994	Wildland	Chevy 1 ton, Type 6	300	50
Station 2	1971	Structural	Am General 6x6 2 ½ ton	500	500
	1976	Wildland	Chevy 1 ton, Type 6	300	50
	1966	Tender	Kaiser 6x6 ½ ton	1200	35
Station 3	1986	Structural	International	500	1500
	1967	Tender	Kaiser 6x6 2 ½ ton,	1000	35
	1975	Wildland	Chevy 1 ton, Type 6	300	50
Station 4	1982	Structural	GMC	1000	1000
Station 5	1981	Structural	FMC Spartan	500	1250
	1966	Tender	GMC	1200	236
Station 6	1973	Structural	Ford F-750	500	1000
	1979	Wildland	Dodge 1ton 4x4, Type 6	300	35
	1968	Tender	Am General 6x6 2 ½ ton	1200	35
Other	1999	Command	Ford F250 ¾ ton	80	12
	1978	Rescue/Hazmat	Chevy 1 ton		
	1979	Water Tender	Chevrolet	1500	250
	1986	Maintenance	Chevrolet Suburban		

The 1971 AM General and the 1900 Kaiser at Station 2, the 1967 Kaiser at Station 3, and the 1968 Am General at Station 6 are on loan from the federal government through the Idaho Department of Lands. Salmon River Rural Fire Department is responsible for equipping and operational costs for these vehicles. These three water tenders needs pumps mounted on them that meet the 200-gpm requirement. We need three 1500 gpm porta-tanks to put on the water tenders to meet the IDL requirements.

FUTURE CONSIDERATIONS

The Salmon River Rural Fire Department will continue to upgrade firefighter's personal protective equipment until all members are outfitted. Upgrading our firefighting apparatus to meet NFPA standards will be a high priority. Lowering the insurance rating from a nine to an eight by having four thousand gallons of water available to respond from each station is high on the list. We will continue to train our personnel in all aspects of the fire service. Purchasing radios that comply with today's standards is high on the list. Salmon River Rural Fire Stations 1 and 4 need to be replaced. Station 1 was built fifteen feet over the property line. The owner does not want the station expanded to meet Idaho Survey and Rating requirements, or to house the water tender in a third bay, or add a bathroom facility. Station 4 is an old two-door garage wood structure. It also has no bathroom facility. Stations 6 and 2 needs a third bay so all the apparatus fit into stations. Station 5 needs a third bay and a bathroom. All of our fire apparatus needs newer equipment to meet the NFPA and IDL standards. This will be hard to accomplish because the Salmon River Rural Fire Department has a small annual budget.

A.1.14 Secesh Meadows Rural Fire District

CONTACT INFORMATION

Chief: Cris Bent
Address: 6306 Foothill Road, Star, ID 83669
Phone: 208-286-7256 (Winter)/ 208 636 3006 (Summer)
Email: star@ruralnetwork.net

DISTRICT SUMMARY

Secesh Meadows Rural Fire District serves the home and property owners of Secesh Meadows and the community of Burgdorf. The meadow is about one half a mile wide and five miles long. Burgdorf is composed of a series of rental cabins surrounding a natural hot spring. It is about eight miles to the west of Secesh Meadows. Warren is composed of a tavern and summer homes, eleven miles to the east of Secesh Meadows. The Payette National Forest surrounds all three communities. The Payette staffs guard stations at Burgdorf and Warren during the summer. Secesh Meadows is 35 miles north of McCall Idaho. There are no utilities providing power or cell phone service to any of the communities.

The Secesh Meadows Rural Fire District has very limited resources in both viable equipment and labor. There are only seven full time residents on the meadow, and all are over 65 years. The road to Secesh Meadows, Burgdorf, and Warren is open only from approximately Memorial Day to Halloween. The majority of the structures are summer, recreation homes. With the exception of unusually busy summer weekends, 20 retired people call Secesh Meadows home during the summer. We have no fire station although we are in the process of building one. Idaho County Commissioners granted land for a fire station and a local pioneer cemetery to the Property Owners Association in the spring of 2007.

PRIORITY AREAS

Residential Growth

The last 8 years has seen a sharp increase in the number of summer/recreation homes built. We now have about 108 homes/cabins on the meadow.

Communications

Without a fire station and generator we have no base unit, thus there is no radio link to County communications. We rely on a telephone tree and the sound of the fire engine to bring any volunteers who may be on the meadow.

Burn Permit Regulations

Burn Permits in this area are issued by the USDA Forest Service, Payette National Forest.

Other

We are a non-taxing district supported by voluntary dues and an annual fundraiser. About eight years ago, the former fire chief applied for and received a $15,000 FEMA grant. Personal safety equipment, radios, pumps, hose line, chain saw, shovels, rakes, and first aid kits were acquired. We equipped five small trailers with pumps, siphon lines, hose lines, rakes, Pulaski's, and first aid kits that can be towed behind an ATV or vehicle. As most of the structures lie along the river, the trailers are able to provide water effectively to a structure fire. Without a regular revenue source, insurance is prohibitive. Our aging one-ton engine and a couple of two and a half ton tenders are liabilities.

EFFECTIVE MITIGATION STRATEGIES

Through the Idaho County Commissioners, we received a grant to carry out hazardous fuels reduction around homes and cabins at Burgdorf and Secesh Meadows. Warren was scheduled to begin their

evaluations the summer of 2009. Only 36% of homeowners on the Meadow elected to participate. Approximately 45% of the rental cabins at Burgdorf were treated. The work completed was outstanding. The Forest Service has thinned a 1/4-mile ring around the meadows and Burgdorf to slow and bring to the surface a fire on the Payette National Forest. Burgdorf has been provided with turn out gear donated by the Star Idaho Fire Department and backpack pumps from the Secesh inventory to handle initial attack situations. They have also received training on how to make the rental cabins and their surroundings fire safe using the "Home Ignition Zone" survey as a tool.

Education and Training

We have a limited video library available to property owners. Property owners are "in-service" trained on the use of the trailers and the one-ton engine at the annual Property Owners Association (POA) meeting as well as at the annual fundraiser. With the exception of a homeowner who is a retired fire fighter and one homeowner who is the Fire chief in McCall, no one including the chief has had formal training in laying hose lines, structure, or wildland firefighting. We have a number of people and agencies that have offered to provide training; however, it is up to the property owner who might be around on a given weekend to make a commitment to training. Historically there has not been much interest but each year at the POA meeting the opportunity to provide training is presented.

Cooperative Agreements

An MOU was completed with the USFS during the summer of 2008. With the exception of the USDA Forest Service, who did provide follow up support at our only structure fire during the summer of 2006, we are a long way from McCall our nearest municipality.

CURRENT RESOURCES

The following table displays a full list of the department's equipment.

Table A- 14. Secesh Meadows Rural Fire District's Resources.

Resource	Item	Quantity	Notes
Training	ICS Capability	1	Incident Command System
Vehicles-Owned Outright	1968 Dodge one ton 4x4 wildland fire engine with a 284 gallon tank and a 35gpm pump.	1	The engine is very tired and demonstrates oil pressure problems.
	Fire trailers each with five horsepower Pacer pumps, siphon lines, hose lines, hose ends, hand tools, and a first aid kit.	5	
Vehicles-On Loan from the Nez Perce Tribe	1966 Kaiser/Jeep 2½-ton 6x6, with a 1000 gallon tank and a 50 gpm pump and monitor	1	The brakes on the vehicle are a constant problem.
	1968 Kaiser/Jeep 2½-ton 6x6.	1	We have not mounted any fire equipment on this vehicle yet.
Communications	Hand held radios and a base station.	5	Without a place to set up the base station, the radios are still in storage.

FUTURE CONSIDERATIONS

The problem we face as a district is a lack of a sense of community. When weekenders come to Secesh Meadows, they do so to recreate with friends or family or to take care of their own homes or property. Secesh Meadows does not have a local gathering place like a store, restaurant, or tavern where people can connect with each other. Recognizing this handicap, we have attempted to instill a proactive mentality rather than a reactive mentality. The annual newsletters emphasize making homes fire safe by treating home ignition zones and securing personal firefighting equipment to protect structures from encroaching fire.

A.1.15 Stites Volunteer Fire Department

CONTACT INFORMATION

Chief: Lucky Brandt
Address: PO Box 300 or 213 Main Street, Stites, Idaho 83552
Phone: (208) 926-7121
Email: stitesct@q.com

DISTRICT SUMMARY

The Stites Volunteer Fire Department provides fire protection and primary emergency response within the Stites City limits. The Department also has a mutual aid agreement with the City of Kooskia and an MOU with the Idaho Department of Lands. The department is also a signatory of the Idaho County Mutual Aid Agreement. The Department trains with and works closely with the Kooskia Fire Department. The fire station is a single bay located in the Stites Municipal Building at 213 Main St.

Burning permits are issued through the Idaho Department of Lands.

We have a large number of structures in the community that are poorly constructed and do not meet current fire codes. These can present significant hazards and challenges during fire suppression activities. Additionally, we have a large elderly population and many of our citizens are low income.

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the Department.

Table A- 15. Stites Volunteer Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Member	Trained personnel responding to fires	10	4	More recruits are needed to deal with attrition and our aging workforce.
Training	Structural and Wildland	In-house, in cooperation with other departments and at various schools and academies.	X	X	We are working to improve training and meet new and updated materials.
	ICS	Members are trained in ICS 100 and 200 as needed when new members start.	X	X	More senior members are sent to advanced ICS training
	First aid	Provided as needed	X	X	A few members are EMTs - department SOP is to respond and EMS unit on all structure fires and serious incidents.
	Vehicle Operation	Training is provided to all new members when they are evaluated before operating department vehicles.	X	X	We hope to improve on the program with formal training materials.
	General	The department encourages all members to get additional training	X	X	The Department assists as resources allow with additional training.
	ICS Capability	Incident Command System	Unavailable	Unavailable	

Item		Description	Existing	Needed	Details
Protective Equipment	Structure Turnouts	NFPA standard in serviceable condition.	10	5	We need additional gear because much of the used equipment we have is becoming worn out.
	Shirts	Nomex wildland	4	6	
	Pants	Nomex wildland	2	8	
	Hardhats		4	6	
	Gloves	Leather wildland	4	6	
	Gloves	Structure	10	10	
	Headlamps		6	4	
	Fire shelters	New style	0	4	Require one for each seating position.
	SCBA	A minimum of four is required for structure entry.	4	4	Not all units are up to current standards. They are positive pressure that do not have heads-up display or integrated pass
Hand Tools	Shovels		3	3	
	Fire ax		2	0	
	Hooligan tool		0	1	
	Pulaski		1	4	
	Chainsaw		1	1	
Communications	Mobile Radios	One per vehicle, one for fire chief and station radio, P25 compliant	1	2	The one radio we have is P25 compliant.
	Handheld Radios, P25 Compliant	One per firefighter	4	9	None of our handhelds are currently P25 compliant.
Vehicles	Structure Engine	1975 Ford/Boardman Type 2, 750 GPM pump 1000-gallon tank. (Would classify as a Type I if it was capable of seating one more firefighter)	1	1	Due to age and condition this engine needs to be replaced or used as backup status
Other Equipment	Generator	5000 watt portable generator	0	1	We have no generator to provide auxiliary power.
	Floating Filler Pump	400 gallons per minute floating pump	0	1	To provide backup water supply if the city system is overtaxed or out of reach.
	Vent Fan	Positive pressure fan	0	1	Since we do not have one and it is a vital tool in structure firefighting we would like to acquire a vent fan.
	Computer	For keeping department records	1	1	The only computer the department has is so outdated it will not run current fire reporting software or work on the Internet.

Item		Description	Existing	Needed	Details
	Hose	1.5", 2.5", and 5"	1200'	500'	Additional hose to bring Engine 4 up to standard and replace old hose from the 1950s and 1960s.
Facilities	Larger Station	Larger Station	0	1	

FUTURE GOALS

We are working in cooperation with the Kooskia Fire Department on our training program. We are also trying to increase recruitment and upgrade older equipment. Our Engine 1 is almost 35 years old and is developing leaks and mechanical problems. We have seen much improvement in the last few years including upgrading our equipment to include phone and wildland capability. We hope to continue this trend in the future.

A.1.16White Bird City and Rural Fire Department

CONTACT INFORMATION

Chief: Robert (Bob) Johnson
Address: P.O. Box 74 or 212 River Street, White Bird, Idaho 83554
Phone: City Hall: 208-839-2294
Email: bobjon@earthlink.net

DISTRICT SUMMARY

The White Bird Volunteer Fire Department was established to protect the city of White Bird and the surrounding rural area that has an impact on the city. The fire department is made up of all volunteer firefighters from inside and outside the city.

The White Bird Volunteer Fire Department is responsible for structural fire protection in the City of White Bird. We also jointly protect Highway 95 and the White Bird Grade to the Nez Perce National Forest boundary with Salmon River Rural Fire Department. We have a mutual aid agreement with the Salmon River Rural Fire Department to provide coverage in Deer Creek, Hammer Creek, Slate Creek, and the Twin Rivers Subdivision areas. The White Bird City and Rural Fire Department participates in the Idaho County Mutual Aid Agreement, and we have separate mutual aid agreements with the Idaho Department of Lands, the USDA Forest Service, the Salmon River Rural Fire Department, and the Idaho Department of Transportation for fire suppression and closed space rescue.

Our fire department provides fire support for the National Park Service, the Idaho Department of Lands, and the Nez Perce National Forest in an area of unique topographic features. The terrain in all of our locations is rugged and difficult to access. We are surrounded by a National Forest and State forestland on which we provide initial attack services.

Currently, we are trying to improve our fire station by building a new two story training facility and fire station.

The Idaho Department of Lands Craig Mountain Office and the White Bird City and Rural Fire Department currently administer burn permits within the district. The White Bird Fire Chief can write burn permits for the Idaho Department of Lands and he is a Deputy Fire Warden for the Department of Lands.

The district has a large number of families that have participated in the Wildfire Mitigation Plan sponsored by the Idaho County Disaster Management Office. We also have completed 85% of the RedZone surveys about residences in our area.

The White Bird City and Rural Fire Department is also trying to update its engines and other equipment that will benefit the department's fire suppression duties.

PRIORITY AREAS

Residential Growth

We are seeing a rapid growth of homes in our wildland urban interface area and we are concerned because the Idaho Department of Lands classifies this area as a high risk area for wildland fires. The fastest growing area that the department protects is the Twin River Subdivision and the new subdivision south of the White Bird Rodeo Grounds on River Bend Road. We have multimillion-dollar homes and several hundred thousand dollar homes being built in heavily timbered draws on the mountainside. Another problem that faces the District is that the roads are not always built to handle the weight of a fire engine.

Communications

At this time, we have non-compliant P25 radios in our engines and for our firefighters. We need to update our communication equipment.

Burn Permit Regulations

Permits are required in the City of White Bird and the surrounding areas. The permits can be obtained from the Idaho Department of Lands Office in Craigmont or at the White Bird City and Rural Fire Department. The Fire Chief has been appointed as a Deputy Fire Warden for the Craig Mountain Area so he can write the permits. The permits are required from May 10th through October 20th.

Other

We are rebuilding the White Bird City and Rural Fire Department at this time and things will change as we upgrade our fire engines, communication equipment, and other fire equipment. We are anticipating our coverage area to increase as the fire department grows and modernizes.

Effective Mitigation Strategies

We are working with the Salmon River Ranger District of the Nez Perce National Forest and the Idaho Department of Lands to help the homeowners in our area with home inspections for wildland fire defensible spacing.

Education and Training

The White Bird Fire Department has an ongoing educational program for its firefighters. All our firefighters have passed the Idaho Firefighter I class, and we train four hours every month at the fire station. We also are developing a public education program for the community.

Cooperative Agreements

The White Bird City and Rural Fire Department is participating in the Idaho County Mutual Aid Agreement. We also have in place a mutual aid agreement with the Idaho Department of Lands, the USDA Forest Service, the National Park Service, the City of Grangeville, Salmon River Rural Fire Department, and USDI Bureau of Land Management

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the Department.

Table A- 16. White Bird City and Rural Fire Department's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Active Member		14	25	We conduct monthly training at the fire station
Training	Basic Wildland Training	Wildland Fire Safety Training	14	14	Yearly IDL Refresher Course
	Basic Structural Training	Clearwater Fire Academy LCSC, State Firefighter I course	14	14	FF-PPE, SCBA, Ventilation, ENG OPS, Wildland Urban Interface
	First Aid Training		14	14	
	Haz Mat Training		0	X	
	Basic Safety Training	Continuous Process	14	X	
	Advanced Safety Training		5	X	
	Incident Command System 100 & 200		14	14	

Item		Description	Existing	Needed	Details
Protective Equipment	Shirts	Nomex	15 Used / Surplus	25	Wildland
	Pants	Nomex	15 Used / Surplus	25	Wildland
	Coveralls	Nomex	0 New		Wildland
	Boots	Leather	14	25	Wildland
	Gloves	Leather	20 New 0 Used	25	Wildland Structure
	Hard Hats		15 New 5 Used	25	Wildland
	Goggles	Wildland	19	25	Wildland
	Full Turnout		0 New 20 Used	25	Structure
	Fire Shelters		9 New	25	Wildland
	SCBA		0 New 12 Used	15	Structure
Hand Tools	Shovels		6	10	Wildland
	Pulaski		10	10	Wildland
	McLeod's		3	4	Wildland
	Fire Rakes		0	7	Wildland
	Fire Swatter		2	12	Wildland
	Axes		4	12	Wildland Structure
Communications	Handheld Portable Radios	Non P25 Compliant	15	0	
	Handheld Portable Radios	P25 Compliant	4	20	
	Mobile Radios	P25 Compliant	0	7	
	Mobile Radios	Non P25 Compliant	8	7	
	Base Station	P25 Compliant	0	1	
	Dispatch	Idaho County Sheriff Countywide Repeater Network	1		24 hours/day, 7 days/week - phone tree
Vehicles	Wildland Engine	1987 International Diesel W/200 gal pump w/600 gal tank & Foam generator	1 type 5		IDL Loan Program Wildland/Structure
	Wildland Engine	1964 Dodge duce and a half w/1,000 gal tank w/ 100 gal pump	1		IDL Loan Program Wildland/Structure
	Water Tender		1		Needed
	Structural Engine	1964 American LaFrance w/ 500 gal tank	1		Structure Engine
	Structural Engine	Type 3 structure engine/wildland	1		Needed
	John Deer Gator Wildland	100 gal tank hose reel pump	1		Needed for wildland
Other Equipment	Chainsaw	Stihl 036 20" bar	1	4	Wildland/Structure

Item		Description	Existing	Needed	Details
	Portable Tank	Collapsible 2,500 gal	1		Wildland/Structure
	10 # Dry Chemical Fire Extinguisher	Trucks & Station	5	10	Wildland/Structure
	Water Back Packs		6	4	Wildland
	First Aid Kits	Trucks & Station	6	0	Wildland/Structure
	Type 6 Wildland Engine Equipped		0	1	Needed
	5# Dry Chemical Fire Extinguisher		0	20	Needed
	High Angle Rescue Equipment		0	10	Needed
	48 Foot Extension Ladders		1	2	Structure
	16 Foot Roof Ladder		1	2	Structure

The following list shows additional needs of the White Bird City and Rural Fire Department:

- One new combination two-story fire station and training center.
- One new structure engine completely equipped with soft suction hoses, and 2½"and 1¾" hoses. The engines will need all the necessary hardware from adapters to valves, nozzles, and hand tools.
- Ventilation fans
- Floodlights
- Generator
- New structure and wildland personal protective equipment, including boots, helmets, and gloves.
- New air packs
- One collapsible portable fold a tank 2,500 gallons
- Wool fire blankets
- New pagers for every firefighter
- One infrared fire finder
- One rescue saw
- Extrication equipment
- Salvage covers of different sizes
- Chimney flares
- Type 6-wildland engine
- Type 3-structure engine
- Type 2 water tender
- John Deer Gator with a 100-gallon tank, fire pump hose reel and hose

FUTURE CONSIDERATIONS

The White Bird City and Rural Fire Department needs to modernize and equip its structure and wildland engines to meet State and Federal requirements. We also need a new and much larger fire station and training center. The White Bird Fire Department needs to update its hand held and mobile radios to stay current with the County dispatch system.

A.2 Wildland Fire Districts' Firefighting Resources and Capabilities

This section describes the resources for the Nez Perce Tribe, the Idaho Department of Lands-Maggie Creek Area and Craig Mountain Area, the Clearwater, Nez Perce, and Payette National Forests, and the Bureau of Land Management.

A.2.1 Nez Perce Tribe

CONTACT INFORMATION

Contact: Sandy Holt or Dale Johnson
Address: P.O. Box 365. Lapwai, ID 83540
Phone: (208) 843-2827
Email: N/A

RESOURCES, CAPABILITIES AND NEEDS

The following table describes the resources available and needs for the Nez Perce Tribe.

Table A- 17. Nez Perce Tribe's Resources and Needs.

Item		Description	Existing	Needed	Details
Personnel	Basic Member	Wildland	23	More	All meet national standards in wildland suppression with ongoing trainee status.
	Intermediate Member	Above plus additional training and the Position Task Books put in place or growing capacity for future supervisor/managers	6	More	All meet national standards with documentation to support red cards
	Advanced Member	Above plus instructor, course coordinator, facilitative, train the trainer, STEX, and eligible scenario while meeting all NWCG and any other agency standards	3, with 2 facilitators	More	Three meet national standards for wildland suppression with ongoing trainee status to enhance knowledge, experience, and leadership
Training	Wildland Training	Basic guard school and various advanced courses throughout the NWGC community and agency partners	31	More	All aspects of WUI training also ongoing
	Hazmat	Basic and refresher	Yes	More	Provided hazmat team and continued training when needed
	First Aid Training	Basic and refresher	Yes	More	Provided by Lapwai QRUs, also on as needed basis
Protective Equipment	Shirts	Nomex	260	30	Additional needed so we can sustain fire cache inventory.

Item		Description	Existing	Needed	Details
	Pants	Wildland coverall/Nomex	240	30	Additional needed so we can sustain fire cache inventory.
	First Aid kits		125	0	
	Crew First Aid kits		1 new, 1 used	0	
	Engine First Aid kits		6	0	
	Gloves	Leather	205	X	Need more sizes
	Hard hats	Crew and engine	70	0	
	Goggles		120	0	
	Head lamps		90	0	
	Breathing apparatus		20	0	
	Backpack Pumps (Fedcos)		7	0	
	Red bags		40	0	
	Green bags		50	0	
	New Generation Fire Shelters		70	0	
Hand Tools	McLeods		10	4	
	Pulaskis		9	10	
	Fire swatters		4	6	
	Backpack pumps		7	10	
	Fusees		1 case	2	
	Shovels		20	0	
	Combination		6	10	
Communications	Mobile Radios	Kenwood	4	0	
	Hand-held Radios	Bendix King	10	6	
	Base Station	Kenwood	1	1	Need King for Base Station
	Repeaters		1	0	
	Dispatch	Nez Perce 911	1	0	
Vehicles	Engine 55 (2003)	Pumper truck wildland, 300 gal, 4x4 FF, Type 6 Ford 550	1	0	Need continuous maintenance
	Engine 56 (2003)	Pumper truck wildland, 300 gal, 4x4 FF, type 6 Ford 550	1	0	Need continuous maintenance
	Chase	1996 Chevy Flatbed, 4x2 – Tribal	1	0	Need continuous maintenance
	Chase	1994 Chevy Cheyenne, 3500 HD, 4x4 – Tribal	1	0	

A.2.2 Idaho Department of Lands – Maggie Creek Area

CONTACT INFORMATION

Contact: Dave Summers, Fire Warden
Address: Route 2 Box 190, Kamiah, Idaho 83536
Phone: (208) 935-2141
Email: dsummers@idl.state.id.us

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the Idaho Department of Lands for the Maggie Creek Area. The following table lists the Idaho Department of Lands' fire resources.

Table A- 18. Equipment List for the Idaho Department of Lands - Maggie Creek Area.

Item		Description	Quantity	Details
Protective Equipment	Shirts	Nomex	60	
	Pants	Nomex	52	
	Boots	Wildland Leather	0	
	Gloves	Leather	36	
	Hard Hats	Wildland	18	
	Goggles	Wildland	20	
	Headlamps		50	
	Fire Shelters		29	
	Breathing Apparatus		0	
Hand Tools	Shovels		45	
	Pulaski's		46	
	McLeod's		16	
	Combination		10	
	Green Grubber		10	
	Swatters		13	
	Chainsaw		10	
Communications	Hand-held Radios	King	16	
	Mobile	Midland, Motorola	16	
	Base Station	Motorola	1	
	Repeaters		3	Wood Rat, Teaken, Cottonwood Butte
	Dispatch		1	Grangeville Interagency 24 hours/day, 7 days/week 1-208-983-6800
Vehicles	Wildland Engine	2001 Ford F450 4x4 Type 6, 300 gal	1	
	Wildland Engine	2007 Ford F550 4X4 Type 5, 500 gal	1	
	Wildland Engine	2008 Ford F550 4x4 Type 5, 500 gal	1	
	Utility Vehicle	2008 Fore F350 4x4 Crew Cab	2	

Item		Description	Quantity	Details
	Utility Vehicle	2009 Chev. Suburban	1	
	4X4 Pickup's	1996-2009 ½ ton	9	
	4X4 Pickup's	2005-2009 ¾ ton	4	
	ATV	Honda 4 wheel drive	6	
	16' Utility Trailer	Flatbed trailer	1	
Other Equipment	Volume Pump	Honda	1	
	Pressure Pump	Honda	1	
	Pressure Pump	Mark III	2	
	Pressure Pump	Wicks 375	2	
	Tank	1500 gallon port-a-tank	2	
	Portable Pumps		4	
	Blower	Portable Gas	1	
	Drip Torches		8	
	Torches	Propane	5	
	Foam Equipment		3	Units on Type 5 and 6 engines
	Portable foam units		2	

A.2.3 Idaho Department of Lands – Craig Mountain Area

CONTACT INFORMATION

Contact: Pentzer
Address: PO Box 68, Craigmont, Idaho 83523
Phone: (208) 924-5571
Email: rpentzer@idl.idaho.gov

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the Idaho Department of Lands for the Craig Mountain Area. The following table lists the Idaho Department of Lands' fire resources.

Table A- 19. Equipment List for the Idaho Department of Lands – Craig Mountain Area.

Item		Description	Quantity
Protective Equipment		Protective Clothing & Equipment	50
Hand Tools	Chainsaw		17
	Misc.		50+
Communications	Portable Radios	King	21
	Craigmont Base Station	Motorola	1
	Repeaters		2
	Centralized Dispatch (Grangeville)		1
Vehicles	Wildland Engine	Type 5	1
	Wildland Engine	Type 6, 4X4	2
	4X4 Pickup	1991-2002 1/2 ton	8
	Crew cab Pickup	1 ton, 4X4	1
	Backhoe		1
	ATV	Yamaha & Honda	4
Aircraft	Helicopter (Type III)	Located at Craigmont	1
	Single Engine Airtanker	Located at Grangeville Air Center	2
Other Equipment	Trailer	ATV	1
	Water Trailer		1
	Water Tank	1,800 gal	1
	Water Tank	2,000 gal	1
	Water Tank	2,100 gal	1
	Pressure Pump		2
	Volume Pump		2
	Backpack Pump		50
	Torches	Propane	6
	Foam Equipment		3

A.2.4 USDA Forest Service – Clearwater National Forest

CONTACT INFORMATION

Contact: Grangeville Interagency Dispatch
Address: 104 Airport Road, Grangeville, ID 83530
Phone: 208-983-6800 (24-hour phone line)
Email: idgvc@dms.nwcg.gov or lbarrett@fs.fed.us

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the Clearwater National Forest. Table A-20 lists the Clearwater National Forest's fire resources and equipment list, and Table A-21 displays their engines' capabilities.

Table A- 20. Fire Resources and Equipment List for the Clearwater National Forest.

Item		Description	Existing	Details
Protective Equipment	Shirts	Nomex	1,000	
	Pants	Nomex	1,000	
	Boots	Wildland Leather	0	
	Gloves	Leather	1,000	
	Hard Hats	Wildland	100	
	Goggles	Wildland	100	
	Headlamps		100	
	Fire Shelters		100	
	Breathing Apparatus		0	
Communications	Radios	King	200	
	Dispatch	Clearwater/Nez Perce Dispatch Center	1	24 hours/day, 7 days/week 208-983-4060
Vehicles	Engines		10	See Table Below
	Water Truck		2	
	Utility Vehicle		2	
	4X2 Pickup		20	
	4X4 Pickup		20	
	Passenger Vans		2	
	ATV		10	
	Shop Truck		2	
Aircraft	Helicopter with 10 helitack	Type III (Bell 206 L-4)	1	Located at Grangeville Air Center. Shared resource with Nez Perce National Forest.
	Helicopter with 10 helitack	Type III (Bell 206 L-4)	1	Located at Musselshell Work Center. Shared resource with Nez Perce National Forest.
	Helitanker,	Type I (CH-54)	1	Located at Grangeville Air Center. Shared resource with Nez Perce National Forest.
	Jump Aircraft with 30 Smokejumpers	Twin Otter	1	Located at Grangeville Air Center. Shared resource with Nez Perce National Forest.

Item		Description	Existing	Details
	Air Attack,	Type I (AC-500)	1	Located at Grangeville Air Center. Shared resource with Nez Perce National Forest.
	Detection/ Reconnaissance Aircraft,	Cessna 206	2	Located at Grangeville Air Center. Shared resource with Nez Perce National Forest.
	Single Engine Airtanker	Type 3	2	Contracted by IDL. Located at Grangeville Air Center.
Other Equipment	Drip Torch		75	
	Terra Torches		1	
	Sphere (machine)		3	
	Gel Torch (Helicopter)		1	
	Portable Pumps		10	
	Chainsaws		75	

Table A- 21. Engine Capabilities for the Clearwater National Forest.

District	Make	Model	Tank Capacity	Pump Capacity
Lochsa	International 4000 (Musselshell)	Type 4 Engine	750 gal	105 gpm
	International 4700 (Musselshell)	Type 4 Engine	750 gal	105 gpm
	Ford F-550 4x4 (Kooskia)	Type 6 Engine	300 gal	105 gpm
	Ford F-550 4x4 (Kooskia)	Type 6 Engine	300 gal	105 gpm
Powell	Ford F-550 4x4	Type 6 Engine	318 gal	105 gpm
	Ford F-450	Type 6 Engine	300 gal	105 gpm
North Fork	Ford F-550 4X4 (Canyon WC)	Type 6 Engine	317 gal	105 gpm
	Ford F-450 4x4 (Kelly WC)	Type 6 Engine	300 gal	105 gpm
Palouse	Ford 2 ton	Type 4 Engine	750 gal	105 gpm
	Chevy 1 ton, 4x4	Type 6 Engine	200 gal	105 gpm

A.2.5 USDA Forest Service – Nez Perce National Forest

CONTACT INFORMATION

Contact: Grangeville Interagency Dispatch
Address: 104 Airport Road, Grangeville, ID 83530
Phone: 208-983-6800 (24-hour phone line)
Email: idgvc@dms.nwcg.gov or lbarrett@fs.fed.us

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the Nez Perce National Forest. Table A-22 lists the Nez Perce National Forest's fire resources and equipment list, and Table A-23 displays their engines' capabilities.

Table A- 22. Fire Resources and Equipment List for the Nez Perce National Forest.

Item		Description	Existing	Details
Protective Equipment	Shirts	Nomex	650	
	Pants	Nomex	475	
	Gloves	Leather	800	
	Hard Hats	Wildland	220	
	Goggles		300	
	Headlamps		380	
	Fire Shelters		275	
Communications	Radios	Kings	145	
	Dispatch-GVC	Grangeville Interagency	1	0700-1800 7 days per week during fire season 983-6800
Vehicles	Wildland Engines		10	See Table Below
	4X4 Truck	Pickup	18	
	4X4 Truck	6-pack	9	
	4X2 Truck	6-pack	3	
	SUV	4X4	2	
	ATV		6	
Aircraft	Helicopter with 10 helitack	Type III (Bell 206 L-4)	1	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Helicopter with 10 helitack	Type III (Bell 206 L-4)	1	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Helitanker,	Type I (CH-54)	1	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Jump Aircraft with 30 Smokejumpers	Twin Otter	1	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Air Attack,	Type I (AC-500)	1	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Detection/ Reconnaissance Aircraft,	Cessna 206	2	Located at Grangeville Air Center. Shared resource with Clearwater National Forest.
	Single Engine Airtanker	Type 3	2	Contracted by IDL. Located at Grangeville Air Center.
Other Equipment	Drip Torches		85	
	Propane Tanks		16	

Item		Description	Existing	Details
	Portable pumps		50	
	Chainsaws		120	

Table A- 23. Nez Perce National Forest's Engine Capabilities by District.

District	Make	Model	Tank Capacity	Pump Capacity
Clearwater RD	International 4400	Type 4 Engine	750 gal	105 gpm
	International 4700	Type 6 Engine	400 gal	105 gpm
	Chevy 3500 HD	Type 6 Engine	300 gal	105 gpm
	Ford ¾ Ton 4x4	Type 7 Engine	75 gal	
Elk City RD	Ford F-450 4x4	Type 6 Engine	300 gal	105 gpm
	Ford F-450 4x4	Type 6 Engine	300 gal	105 gpm
Moose Creek RD	Ford F-550 4X4	Type 6 Engine	300 gal	105 gpm
Salmon River RD	International 4400	Type 4 Engine	750 gal	105 gpm
	Ford 550 Super Duty, 4x4	Type 6 Engine	300 gal	105 gpm
	Ford 550 Super Duty, 4x4	Type 6 Engine	300 gal	105 gpm

A.2.5.1 **Salmon River Ranger District**

CONTACT INFORMATION

Contact: Kevin Chaffee, Fire Management Officer
Address: 304 Slate Creek Road, White Bird, ID 83554
Phone: (208) 839-8811
Email: kchaffee@fs.fed.us

A.2.6 USDA Forest Service – Payette National Forest

CONTACT INFORMATION

Contact: Gary Brown
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Phone: (208) 634-0700
Email: garyrbrown@fs.fed.us

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the Payette National Forest, and specifically the New Meadows Ranger District. Table A-24 lists the Payette National Forest's fire resources and capabilities.

Table A- 24. Payette National Forest's Resources and Capabilities.

Resource	Item	Quantity
Engines	Engine 411, Type IV 4x4 750 gallons (Council)	1
	Engine 612, Type VI 4x4 300 gallons (Council)	1
	Engine 421, Type IV 4x4 750 gallons (Weiser)	1
	Engine 622, Type VI 4x4 300 gallons (Weiser)	1
	Engine 431, Type IV 4x4 860 gallons (New Meadows)	1
	Engine 441, Type IV 4x4 750 gallons (McCall)	1
	Engine 642, Type VI 4x4 300 gallons (McCall)	1
Aircraft	Helicopter 2HX, Type III Bell 407 w/ 16 Rappellers (Krassel)	1
	Helicopter 69H, Type II Bell 205++ w/ 12 Rappellers (Price Valley)	1
	Helicopter 5KA, Type II Bell 205++ w/ 12 Rappellers (Price Valley)	1
	Jumper 4-1, Twin Otter w/ 9 Smokejumpers (McCall)	1
	Jumper 4-2, Turbine DC-3 w/ 8 Smokejumpers (McCall)	1
	Lead 4-7, Beach Baron (McCall)	1
	Air Attack, Type II Cessna 206 (McCall)	1
	Air Attack, Type II Cessna 206 (McCall)	1
	Single Engine Air Tankers (McCall, contracted through Idaho Department of Lands)	2
	Detection/Recon, Cessna 206 type (5-7 aircraft) (McCall)	1
Equipment	Pumps-Hose-Radios-misc-Firefighting Equipment, Payette Warehouse (McCall)	1

A.2.6.1 **New Meadows District Ranger Office**

Contact: Roger Staats, District Fire Management Officer
Address: PO Box J or 3674 Highway 95, New Meadows, Idaho 83654
Phone: (208) 347-0300
Email: rstaats@fs.fed.us

DISTRICT SUMMARY

The New Meadows Ranger District protection responsibilities include 285,839 acres of Forest Service system land and about 80,000 acres of non- Forest Service system land (USDI Bureau of Land Management, State of Idaho, private). The area covered starts at the Salmon River at French Creek south to State Highway 55, west to US Highway 95 to Fruitvale, north to the boundary with the Nez Perce

National Forest, and east to French Creek. The fire personnel are available seven days a week during the period of July 1 through October 15 annually, operating at other times as available and required.

Mutual Aid Agreements

Mutual aid agreements are in place with the Salmon River Rural Fire Department (responsible agency for structure protection in non-Forest Service wildland jurisdiction) and Southern Idaho Timber Protective Association (responsible agency for wildland fire on certain Forest Service system land).

Top Resource Priorities

Consistent funding and less cumbersome processes to make resource management decisions.

Resources Most At Risk of Loss from Wildland Fire

Homes, other improvements and several power lines.

Highest Risk "Problem Area"

Homes and other improvements upslope and downwind from a major transportation corridor susceptible to random ignitions from a variety of potential sources.

Operational Challenges:

Our largest operational challenge is our ability to retain adequate suppression resources when budgets vary dramatically from year to year. Secondly, the challenges the Forest Service faces in planning, funding, and implementing hazardous fuels reduction projects while trying to gain public support.

RESOURCES AND CAPABILITIES

Personnel

The following personnel are available during fire season, typically May through September:

- 24 Heli-Rappellers,
- Seven-person Type 4 wildland engine,
- One person Type 2 Tactical water tender,
- Two fire prevention technicians.
- 10-person hand crew – Council (Bear Crew)
- 10-person hand crew – McCall

Equipment Description

The following table lists the equipment available during fire season, typically May through September for the New Meadows Ranger District of the Payette National Forest.

Table A- 25. New Meadows Ranger District Equipment List.

Vehicle	Assigned Station	Year	Make/Model	Capacity (gallons)	Pump capacity (GPM)	Type
E-431	New Meadows	2005	International 7400	860	150	Wildland
Prevention 31	New Meadows	2000	Dodge ¾ ton	50	11	Fire Prevention
Prevention 3	New Meadows	2005	Ford F350	125	50	Fire Prevention
Type 2 Helicopter	Price Valley GS	Contract	Bell 205++	300	Heli-rappel crew (12)	Wildland
Type 2 Helicopter	Price Valley GS	Contract	Bell 205++	300	Heli-rappel crew (12)	Wildland

A.2.7 USDI-Bureau of Land Management-Cottonwood Field Office

CONTACT INFORMATION

Contact: Cottonwood Field Office
Address: 1 Butte Drive, Cottonwood, ID 83522
Phone: (208) 962-3245
Email: ksanders@blm.gov

RESOURCES AND CAPABILITIES

This section describes the resource capabilities of the USDI Bureau of Land Management, Cottonwood Field Office, Coeur d'Alene District. The BLM does not have fire suppression responsibilities in the Cottonwood Field Office management area. Through the statewide offset agreement, fire suppression on BLM system land in northern Idaho is handled by the Forest Service and Idaho Department of Lands. The Cottonwood Field Office does have firefighting resource capabilities due to the fuels management prescribed fire program. Table A-26 lists the BLM's fire resources and equipment list, and Table A-27 displays their engines' capabilities.

Table A- 26. Fire Resources and Equipment List for the USDI Bureau of Land Management-Cottonwood Field Office.

Item		Description	Existing	Details
Protective Equipment	Shirts	Nomex	Yes	
	Pants	Nomex	Yes	
	Boots	Wildland Leather	Yes	
	Gloves	Leather	Yes	
	Hard Hats	Wildland	Yes	
	Goggles	Wildland	Yes	
	Headlamps		Yes	
	Fire Shelters		Yes	
Communications	Radios	King	Yes	
	Dispatch	Clearwater/Nez Perce Dispatch Center	Yes	24 hours/day, 7 days/week 208-983-4060
Vehicles	Engines		1	See Table Below
	4X2 Pickup		Yes	
	4X4 Pickup		Yes	
	ATV		7	
Other Equipment	Drip Torch		12	
	Terra Torches		1	
	Sphere (machine)		1	
	Portable Pumps	Mark III, Shindaiwa	2	
	Chainsaws	Stihl 036	7	

Table A- 27. Engine Capabilities for the USDI Bureau of Land Management- Cottonwood Field Office.

Make	Model	Tank Capacity	Pump Capacity
Ford F-550, 4x4	Type 6 Engine	300 gallon	105 gpm

B Treatment Recommendations

In this section, you will find the treatment recommendations for the following categories: WUI safety and policy activities, people and structures activities, infrastructure activities, resource and capability enhancements, and regional land management recommendations. This section supplements and continues Chapter 5 of the ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan***.

B.1 WUI Safety and Policy Improvement Activities

Wildfire mitigation efforts must be supported by a set of policies and regulations at the county level that set a solid foundation for safety and consistency. The recommendations enumerated here serve to develop policies and support local fire departments that serve that purpose (Table B-1). Debate and formulation of alternatives will serve to make these recommendations suitable and appropriate. Because these items are regulatory in nature, they are not accompanied by cost estimates.

Table B- 1. WUI Action Items in Safety and Policy.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.1.a: Develop County policy concerning building materials used in high-risk WUI areas on existing structures and new construction (e.g., Clearwater, Kamiah, Kooskia, Lowell, Pollock, Stites, Warren, Burgdorf, Dixie, Elk City, Harpster, Lucile, Riggins, Slate Creek, White Bird, Woodland, and Syringa).	**Safety and policy implementation** by reducing the risk of loss of life or property by preemptive actions.	County Commissioners Office and Rural Fire Departments	**Year 1 (2005):** Consider and develop policy to address construction materials for homes and businesses located in high wildfire risk areas. Specifically, a County policy concerning wooden roofing materials and flammable siding, especially where juxtaposed near heavy wildland fuels. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.1.b: Explore ways for the County to help not-for-profit fire department organizations gain insurance coverage.	**Safety and policy implementation** by improving the safety of firefighters and their families and decreasing the personal liability of firefighting.	County Commissioners and all not-for-profit fire departments.	**Year 1 (2005):** Research different methods for the County to support and/or help departments in gaining coverage. **Year 2 (2006):** Implement chosen alternative sensitive to each department. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.1.c: Provide funding for a full-time Geographic Information System position at the Idaho County Courthouse.	**Safety and policy implementation** by improving County maps and data systems used by emergency services personnel, highway districts and other officials.	County Commissioners Office and Planning and Zoning.	**Year 1 (2005):** Seek funding for full-time GIS staff position. Post job listing for potential candidates. **2007 Status:** The Idaho County Commissioners are currently funding this project. **2009 Status:** The Idaho County Commissioners continue to fund this project.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.1.d: Adoption of International Fire Code.	**Safety and policy implementation** by reducing the risk of loss of life or property by preemptive actions.	County Commissioners Office and Rural Fire Departments.	**Year 1 (2005):** Consider and develop policy to adopt the International Fire Code regulations adopted by the State of Idaho. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.1.e: Develop fire and emergency prevention plans for local communities.	**Safety and policy implementation** by increasing awareness of wildfire and emergency risks and potential preventative actions.	Local communities including homeowner's associations in conjunction with fire prevention specialists.	**Year 1 (2007):** Approach high risk communities regarding the development of a local prevention plan and begin setting up planning process and any funding needed. **Year 2 (2008):** Develop prevention plan and begin implementing action items. **2007 Status:** New project **2009 Status:** Ongoing
B.1.f: Promote Firewise communities throughout the county.	**Safety and policy implementation** by formal recognition of Firewise communities per National standards.	Local communities including homeowner's associations in conjunction with fire prevention specialists.	**2009 Status:** New project. Whitewater Wilderness Ranch is expected to complete the Firewise application this year.
B.1.g: Acquire West Wide Wildfire Risk Assessment (WWA).	**Safety and policy implementation** by producing an updated wildfire risk assessment to quantify the magnitude of the current wildland fire problem and provide a baseline for quantifying mitigation activities and monitoring change over time. It will be used to facilitate national, regional and state level strategic planning and policy discussions.	County Commissioners Office	**2009 Status:** New project; WWA Report and Assessment won't be available until approximately 2011.

B.2 People and Structure Protection Activities

The protection of people and structures are tied closely as the loss of life in the event of a wildland fire is generally linked to a person who could not, or did not, flee a structure threatened by a wildfire. The other potential incident is a firefighter who suffers the loss of life during the combating of a fire.

Many of the recommendations in this section involve education and increasing awareness of the residents of Idaho County. These recommendations stem from a variety of factors including items that became obvious during the analysis of the public surveys, discussions during public meetings, and observations about choices made by residents living in the Wildland-Urban Interface. Repetitively, landowners did not recognize risk factors. For example, fire personnel pointed to numerous examples of inadequate access to homes of people who believed they had adequate access. Additionally, discussions with the public indicated an awareness of wildland fire risk, but specific risks factors could not be identified. Furthermore, a large number of the respondents to the public mail survey (49%) indicated that they would

like to participate in educational opportunities focused on the WUI, and were interested in learning what they could do to increase their home's chances of surviving a wildfire.

Residents and policy makers of Idaho County should recognize certain existing practices that reduce wildland fire risk in the WUI of Idaho County. These practices, listed below, should be encouraged, acknowledged, and recognized for their contributions to the reduction of wildland fire risks.

Livestock Grazing

Livestock grazing has led to a reduction of many of the fine fuels that would have been found in the communities and wildlands of Idaho County. Domestic livestock not only eat these grasses, forbs, and shrubs, but also trample certain fuels to the ground where decomposition rates may increase. Additionally, livestock ranchers managing their stock often have personnel in the forests and rangelands of the County, and these individuals may observe ignitions, or potentially risky activities, and initiate emergency response in a timely manner. Livestock grazing in this region should be encouraged as a low cost tool for wildfire mitigation in the Wildland-Urban Interface and the wildlands.

Forest Management

Forest management in Idaho County has been affected greatly by the reduction of operating sawmills in the region. However, the active forest management programs of the USDA Forest Service, Idaho Department of Lands, and many of the private and industrial forestland owners in the region has led to a significant reduction of wildland fuels closest to homes and infrastructure. In addition, forest resource professionals managing these state, federal, and private lands are generally trained in wildfire protection and recognize risk factors when they occur. One of the reasons Idaho County forestlands have not been impacted by wildland fires to a greater degree historically is the presence of activities related to active forest management.

Agriculture

Agriculture is a significant component of Idaho County's economy. Much of the rangeland interface is made up of a mosaic of agricultural crops, even extending to the forestland interface. The original conversion of these lands to cultivation from rangeland and forestland was targeted at the most productive soils and juxtaposition to water. Many of these productive rangeland ecosystems were consequently also at the highest risk to wildland fires because biomass accumulations increased in these productive landscapes. The result, today, is much of the landscape historically prone to frequent fires has been converted to agriculture, which is at a much lower wildfire risk than prior to its conversion. The preservation of a viable agricultural economy in Idaho County is integral to the continued management of wildfire risk in this region.

Table B-2 displays the recommended action items for people and structures.

Table B- 2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
B.2.a: Youth and Adult Wildfire Educational Programs.	**Protection of people and structures** by increasing awareness of WUI risks, how to recognize risk factors, and how to modify those factors to reduce risk	Cooperative effort of the North Central Idaho Fire Prevention Cooperative	**Year 1 (2005):** Start immediately using existing educational program materials and staffing. Formal needs assessment should be the responsibility of University of Idaho Cooperative Extension faculty and include the development of an integrated WUI educational series by Year 2 (2006). Costs initially to be funded through existing budgets for these activities to be followed with grant monies to continue the programs as identified in the formal needs assessment. **2007 Status:** Ongoing **2009 Status:** Representation from local, State, and Federal agencies.
B.2.b: Wildfire risk assessments of homes in identified communities.	**Protection of people and structures** by increasing awareness of specific risk factors of individual home sites in the at-risk landscapes. Only after these are completed can home site treatments follow.	To be implemented by **County Commissioners Office** in cooperation with the **Rural Fire Departments and Wildland Fire Protection Specialists, and every city municipality in the county**. Wildfire Mitigation Consultants may complete actual work.	**Cost:** Approximately $100 per home site for inspection, written report, and discussions with the homeowners, for total of $1,270,300 (see summary below). **Years 1 & 2 (2005/2006):** Secure funding and contract to complete the inspections. Home site inspection reports and estimated budget for each home site's treatments will be a requirement to receive funding for treatments through grants. **2007 Status:** Many fire departments have begun or completed home site risk assessments within their jurisdiction; however, this is an ongoing project. **2009 Status:** At least 15 entities currently have RedZone software and are continuing to perform home assessments (*below denotes which fire departments are using RedZone software)
Focus Areas	• Ridge Runner Fire Department: 507 structures; estimate 100% receive Assessments		
	• Kooskia Volunteer Fire Department: 693 structures; estimate 100% receive Assessments**—In Progress***		
	• Elk City Volunteer Fire Department: 601 structures; estimate 100% receive Assessments		
	• Riggins City Fire Department: 158 structures; estimate 100% receive Assessments		
	• BPC Volunteer Rural Fire Department: 527 structures; estimate 100% receive Assessments**—Completed**		
	• Carrot Ridge Volunteer Fire Department: 308 structures; estimate 100% receive Assessments**—In Progress***		
	• Cottonwood Volunteer Fire Department: 1,404 structures; estimate 100% receive Assessments		
	• Dixie Volunteer Fire Department: 84 structures; estimate 100% receive Assessments**—Completed**		
	• Grangeville Rural Fire District : 1,237 structures; estimate 100% receive Assessments		
	• Harpster Volunteer Fire Association: 283 structures; estimate 100% receive Assessments		
	• Salmon River Volunteer Fire Department: 1,283 structures; estimate 100% receive Assessments**—In Progress***		
	• White Bird Volunteer Fire Department: 60 structures; estimate 100% receive Assessments**—In Progress***		

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
	• Kamiah Fire Department: 1,083 structures; estimate 100% receive Assessments**—In Progress***		
	• Red River Area – Framing Our Community**—Completed**		
	• Orogrande – Framing Our Community**—Completed**		
	• Newsome – Framing Our Community**—Completed**		
	• Secesh Meadows Rural Fire District:		
	• Glenwood – Caribel Rural Fire District: 317 structures		
	• Other rural structures: 4,475 structures; estimate 100% receive Assessments		
B.2.c: Home site WUI Treatments (New direction is to focus on community treatments with associated fuel breaks).	**Protection of people and structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Idaho County	**County Commissioners** in cooperation with cities, rural fire districts, Idaho Department of Lands, and USDA Forest Service *Complete concurrently B.2.b.*	Actual funding level will be based on the outcomes of the home site assessments and cost estimates **Estimate** that treatments in rangelands will cost approximately $850 per home site for a defensible space of roughly 150'. **Estimate** that treatments in forestland will cost roughly $1,000 per home site for a defensible space of about 200'. **Year 1 (2005):** Home site treatments can begin with the securing of funding for the treatments and immediate implementation in 2005 and will continue from Year 1 through 5 (2009). **2007 Status:** Ongoing **2009 Status:** Ongoing
Focus Areas	• Ridge Runner Fire Department: 507 structures; estimate 90% receive Treatment		
	• Kooskia Volunteer Fire Department: 693 structures; estimate 90% receive Treatment		
	• Elk City Volunteer Fire Department: 601 structures; estimate 70% receive Treatment		
	• Riggins City Fire Department: 158 structures; estimate 60% receive Treatment		
	• BPC Volunteer Rural Fire Department: 527 structures; estimate 90% receive Treatment**—Completed**		
	• Carrot Ridge Volunteer Fire Department: 308 structures; estimate 80% receive Treatment		
	• Cottonwood Volunteer Fire Department: 1,404 structures; estimate 80% receive Treatment		
	• Dixie Volunteer Fire Department: 84 structures; estimate 30% receive Treatment		
	• Grangeville Rural Fire District : 1,237 structures; estimate 75% receive Treatment		
	• Harpster Volunteer Fire Association: 283 structures; estimate 60% receive Treatment		
	• Salmon River Volunteer Fire Department: 1,283 structures; estimate 75% receive Treatment		
	• White Bird Volunteer Fire Department: 60 structures; estimate 75% receive Treatment		
	• Kamiah Fire Department: 1,083 structures; estimate 90% receive Treatment		
	• Glenwood-Caribel Rural Fire District: 317 structures, estimate 75% receive treatment**—In Progress**		

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
	• Secesh Meadows Rural Fire District**—In Progress**		
	• Other rural structures: 4,475 structures; estimate 70% receive Treatment		
B.2.d: Community Defensible Zone WUI Treatments	**Protection of people and structures, and increase firefighter safety** by reducing the risk factors surrounding high risk communities in the WUI of Idaho County	**County Commissioners** in cooperation with the **Idaho Department of Lands** and the **USDI Bureau of Land Management** to identify funding availability and project implementation opportunities.	Actual funding level will be based on the outcomes of the home site assessments and cost estimates. **Years 2-5 (2006-09):** Treat high risk wildland fuels from home site defensible space treatments to an area extending 400 feet to 750 feet beyond home defensible spaces, where steep slopes and high accumulations of risky fuels exist near homes and infrastructure. Should link together home treatment areas. Treatments target high risk concentrations of fuels and not 100% of the area identified. To be completed only after or during the creation of home defensible spaces have been implemented. **2007 Status:** The Forest Service has completed a shaded fuel break around the Secesh Meadows community; however, this project is ongoing. **2009 Status:** Ongoing
B.2.e: Maintenance of Home Site WUI Treatments	**Protect of people and structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Idaho County	**Local homeowners**	Homesite defensibility treatments must be maintained periodically to sustain benefits of the initial treatments. Site information will be collected using the appropriate software and stored in the County's database. The database will be utilized to revisit treatment areas every 5 years. Each site should be assessed 5 years following initial treatment Estimated re-inspection cost will be $50 per homesite on all sites initially treated or recommended for future inspections Follow-up inspection reports with treatments as recommended years 5 through 10. **2007 Status:** Ongoing **2009 Status:** Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
B.2.f: Re-entry of Home site WUI Treatments	**Protection of people and structures, and increase firefighter safety** by reducing the risk factors surrounding homes in the WUI of Idaho County	**County Commissioners Office** in cooperation with Rural Fire Departments and local home owners	Re-entry treatments will be needed periodically to maintain the benefits of the initial WUI home treatments. Each re-entry schedule should be based on the initial inspection report recommendations, observations, and changes in local conditions. Generally occurs every five to ten years. Re-treatment five years after initial treatments: **Elk City:** Beginning in 2008 - 30% **Newsome:** Beginning in 2008 - 60% **Orogrande:** Beginning in 2009 - 100% **Dixie:** Beginning in 2007 - 67% **2007 Status:** Ongoing **2009 Status:** Ongoing
B.2.g: Development of a community evacuation plans.	**Protection of people and structures, and increase firefighter safety** by directly increasing the safety of residents and visitors during a wildfire evacuation situation.	**Rural Fire Departments in cooperation with community residents, USDI Bureau of Land Management, and USDA Forest Service.**	**Year 1 (2005):** Develop a safe evacuation plan for the community including alternate routes and safety zones. Send information to residents and hold a public meeting to inform communities. **2007 Status:** An Idaho County Evacuation Plan was completed in July of 2006. This plan is general in nature, however, specific guidelines for the Meadow Fire evacuation were added based on the wildfire behavior at that time. **2009 Status:** Ongoing.
B.2.h: Implement proposed home defensible space projects.	**Protection of people and structures, and increase firefighter safety** by decreasing the fire risk around homes and communities.	**Rural Fire Departments, County Commissioners, area residents, and private contractor.**	**Year 1 (2005):** Locate funding source and conduct home site evaluations for structures in mapped project areas. Write project plans for individual landowners. **Year 2 (2006):** Continue to work with landowners to implement agreed upon project plans. **2007 Status:** Most of the projects in this list are ongoing; however, the Dixie Project is in the re-entry and maintenance stage. There were also several project areas added to the list. **2009 Status:** Ongoing

Proposed Defensible Space Projects' Specifics	Defensible Space Projects' Areas	Acres	Project Cost	2007 Status	2009 Status
	American River Community Protection Area	4,578	Based on community assessments	Ongoing	Ongoing
	Burgdorf Defensible Space Treatment	4985		Ongoing	Ongoing
	Cedar Creek Defensible Space Treatment	3,125		Ongoing	Ongoing
	Christie Creek Defensible Space Treatment	6,945		New Project	Ongoing
	Clear Creek Road Defensible Space Treatment	1,276		Ongoing	Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs		
	Clearwater Community Defensible Space Treatment	1,045		Ongoing	Ongoing
	Clearwater Community Defensible Space Treatment	854		Ongoing	Ongoing
	Cove Road Defensible Space Treatment Area	360		Ongoing	Completed
	Dixie Community Defensible Space Treatment	2,078		Ongoing-Maintenance	Completed
	Doumecq Grade Defensible Space Treatment	1218		New Project	Ongoing
	Dutch Oven Community Protection Area	10,361		Ongoing	Ongoing
	Elk Creek Watershed Management Plan Area	14,150		Ongoing	Ongoing
	Elk City Fuels Treatment Area	TBD		N/A	Ongoing
	Fish Hatchery Defensible Space Treatment	379		Ongoing	Ongoing
	Glenwood-Caribel Fuels Treatment Area	70		N/A	Completed
	Grangeville-Salmon Road Community Defensible Space	1,837		Ongoing	Ongoing
	Grangeville Watershed Fuels Treatment	650		N/A	New Project
	Harpster Community Defensible Space Treatment	2,087		Ongoing	Ongoing
	Harpster Community Defensible Space Treatment	308		Ongoing	Ongoing
	Harpster Community Defensible Space Treatment	255		Ongoing	Ongoing
	Hwy12 Kooskia-Kamiah Defensible Space Treatment	366		Ongoing	Ongoing
	Kamiah Fuels Treatment	TBD		N/A	New Project
	Kidder Ridge East Defensible Space Treatment	133		Ongoing	Ongoing
	Kidder Ridge West Defensible Space Treatment	122		Ongoing	Ongoing
	Kooskia SE Defensible Space Fuels Treatment	68		Ongoing	Ongoing
	Kooskia SW Defensible Space Fuels Treatment	68		Ongoing	Ongoing
	Leitch Creek Defensible Space Treatment	364		Ongoing	Ongoing
	Lowell Community Defensible Space Treatment	41		Ongoing	Ongoing
	Lowell Community Defensible Space Treatment	24		Ongoing	Ongoing
	Lowell Community Defensible Space Treatment	22		Ongoing	Ongoing
	Lower S. Fork Salmon River Defensible Space Treatment	290		New Project	Ongoing
	Old White Bird Grade Community Protection Area	1,193		Ongoing	Ongoing
	Pardee Defensible Space Project Area	588		New Project	Ongoing
	Powell Fuels Treatment	TBD		N/A	New Project
	Red Pine Creek Defensible Space Treatment	2,179		Ongoing	Ongoing
	Ridge Runner Defensible Space Treatment Area	912		Ongoing	Ongoing
	Ridge Runner Defensible Space Treatment Area	200		Ongoing	Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs		
	Ridge Runner Defensible Space Treatment Area	4,237		Ongoing	Ongoing
	Ridge Runner Defensible Space Treatment Area	3,174		Ongoing	Ongoing
	Salmon River Red Zone Defensible Space Treatment	8741		New Project	Ongoing
	Smith Creek Defensible Space Treatment	248		Ongoing	Ongoing
	Stites Defensible Space Fuels Treatment	112		Ongoing	Ongoing
	Tram Road Defensible Space Treatment	125		Ongoing	Ongoing
	Warren Defensible Space Treatment	880		New Project	Ongoing
	Wilson Creek Defensible Space Treatment	319		Ongoing	Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
B.2.i: Development of "Community Emergency Response Team" program in communities.	**Protection of people and structures** by improving emergency response and recruiting more local residents for emergency response organizations (i.e. fire departments, ambulance, police departments)	**Idaho County Disaster Management** and community governments.	**Year 1 (2005):** Develop team and objectives and implement program incorporating the resources of local emergency services personnel. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.2.j: Develop a multi-jurisdictional Prevention Coop to support the numerous fire prevention and education efforts throughout the five county area.	**Protection of people and structures** by increasing public awareness of wildfire risks, how to recognize risk factors, and how to modify those factors to reduce risk	Cooperative effort including: • University of Idaho Cooperative Extension • Idaho Department of Lands • State and Private Forestry Offices • Nez Perce Tribe • Idaho Association of Logging Contractors • Local Fire Departments & Districts • USDI Bureau of Land Management • USDA Forest Service • Clearwater RC&D • Idaho Bureau of Homeland Security • Idaho, Clearwater, Lewis, Nez Perce, and Latah Counties • Non-profit organizations • Private business & landowners	**Year 1 & 2 (2007 – 08):** The Nez Perce National Forest has already begun organizing an effort to develop a five county cooperative program to provide shared educational materials to all local firefighting agencies and organizations. The purpose of the program is to promote a unified effort between organizations to improve public awareness of wildland fire issues. **2007 Status:** New project, in progress **2009 Status:** Ongoing

B.3 Infrastructure Protection Activities

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supplies that service a region or a surrounding area. All of these components are important to the North Central Idaho area, and to Idaho County specifically. These networks are by definition a part of the Wildland-Urban Interface in the protection of people, structures, **infrastructure**, and unique ecosystems. Without supporting infrastructure, a community's structures may be protected, but the economy and way of life lost.

Communication Infrastructure

This component of the WUI seems to be diversified across the county with multiple source and destination points, and a widespread support network. Currently; there is a nine mile gap in the phone system supplying the Riggins area. This gap results in communication failures to a large service area resulting from any disruptions along this grid (i.e. transformer goes down in New Meadows causing Riggins to lose telephone service).

Transportation Infrastructure

This component of the WUI has significant potential limitations in Idaho County. U.S. Highway 95 is the primary maintained route linking north and south Idaho. Thus, most intrastate traffic flowing north to south or vice versa travel through the County. Also, State Highways 12, 13, and 14 connect the more remote communities with the commercial hubs of Grangeville and nearby Riggins and Kooskia. In many cases, these roads are the only primary route to and from the smaller Idaho County communities. In the event these highways are disabled, access or evacuation to various areas may become limited to seasonally maintained secondary roads or Forest Roads.

Other roads in the county have limiting characteristics, such as narrow travel surfaces, sharp turning radii, low load limit bridges and cattle guards, and heavy accumulations of fuels adjacent to and overtopping these roads. Several of these roads access remote forestland and rangeland areas. While their improvements will facilitate access in the case of a wildfire, they are not the priority for treatments in the county. Contrarily, roads with these limiting characteristics that access homes and businesses will be the priority for improvements in the county.

Energy Transport Supply Systems (Gas and Power Lines)

A number of power lines crisscross Idaho County. Unfortunately, many of these power lines cross over forestland ecosystems. When fires ignite in these vegetation types, the fires tend to be slower moving and burn at relatively high intensities. Additionally, there is a potential for high temperatures and low humidity with high winds to produce enough heat and smoke to threaten power line stability. Most power line corridors have been cleared of vegetation both near the wires and from the ground below. Observations across the county of these high tension power lines lead to the conclusion that current conditions coupled with urban developments have mitigated this potential substantially. It is the recommendation of this *Fire Mitigation Working Group* that this situation be evaluated annually and monitored, but that treatments not be specifically targeted at this time. The use of these areas as "fuel breaks" should be evaluated further.

Water Supply

In many of Idaho's communities, water is derived from surface flow that is treated and piped to homes and businesses. When wildfires burn a region, they threaten these watersheds by the removal of vegetation, creation of ash and sediment. As such, watersheds should be afforded the highest level of protection from catastrophic wildfire impacts. In Idaho County, water is supplied to many homes by single home or multiple home wells. However, the communities of Grangeville, Clearwater, and Elk City

depend on the Three Mile Creek Watershed, Wall Creek Watershed, and the Elk Creek Watershed, respectively, as their primary water source.

As a priority recommendation of this plan, it is strongly suggested that Watershed Management Plans for the Three Mile Creek Watershed, Wall Creek Watershed, and the Elk Creek Watershed be completed that specifically mitigate wildfire potential, and at the same time managing the watersheds for sustained and clean water flow according to the needs of the community.

PROPOSED ACTIVITIES

Table B-3 describes the proposed infrastructure enhancement activities.

Table B- 3. Infrastructure Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.3.a: Post FEMA "Emergency Evacuation Route" signs along the identified primary and secondary access routes in the county.	**Infrastructure enhancements** by informing residents and visitors of significant infrastructure in the county that will be maintained in the case of an emergency.	**County Commissioners** in cooperation with Rural Fire Districts and County Highway Districts.	**Year 1 (2005):** Purchase signs. Posting roads and make information available to residents of the importance of Emergency Routes. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.3.b: Update and replace road signs throughout the county and establish standards for establishment and visibility of address numbers.	**Infrastructure enhancements** by reducing confusion and improving response times of emergency personnel, especially to remote locations.	**County Commissioners in cooperation with County Highway Districts and Rural Fire Districts.**	**Year 1 (2005):** Inform homeowners of standardized size and acceptable locations for house numbers (2005). Identify routes where new road signs need maintenance or replacement (2005). Purchase and post signs (2005). **2007 Status:** The county is nearly finished with the road sign replacement project. They are also working on obtaining house numbers. **2009 Status:** Complete.
B.3.c: Improve phone communications to the Mount Idaho area.	**Infrastructure enhancements** by ensuring that adequate phone communications are available during an emergency situation.	**Phone companies and Mount Idaho residents.**	**Year 1 & 2 (2005-2006):** Identify problem areas and meet with phone companies to discuss possible solutions. **Year 2 & 3 (2006-2007):** Implement appropriate alternative. **2007 Status:** Ongoing **2009 Status:** Complete
B.3.d: Watershed Management Plan for the Wall Creek Watershed in Clearwater.	**Infrastructure enhancements** by increasing the probability that communities will have safe drinking water following a wildfire that burns in the community watershed.	**Clearwater Community Council and USDA Forest Service**	**Year 1 (2005):** Identify landowners and seek funding to implement the planning process (2005). Implementation of projects based on results of watershed management plans. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.3.e: Watershed Management Plan for the Elk Creek Watershed in Elk City.	**Infrastructure enhancements** by increasing the probability that communities will have safe drinking water following a wildfire that burns in the community watershed.	**Elk City Water and Sewer, USDA Forest Service, USDI Bureau of Land Management**	**Year 1 (2005):** Identify landowners and seek funding to implement the planning process. Implementation of projects based on results of watershed management plans. **2007 Status:** Ongoing **2009 Status:** Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.3.f: South Fork Clearwater River Power Supply System upgrade	**Infrastructure enhancements** by increasing the probability that communities will have electricity during and after wildfire events in and around the Elk City region.	**County Commissioners, Power Company, Area residents**	Long term: Convert wooden poles to elevated metal towers **2007 Status:** Ongoing **2009 Status:** Complete
B.3.g: Establish Selway Falls Road as an alternate FEMA "Emergency Evacuation Route" for Elk City residents and visitors.	**Infrastructure enhancements** by providing an alternative, safe evacuation route from Elk City.	**County Commissioners in** cooperation with County Highway Districts, Rural Fire Districts, USDI Bureau of Land Management, and USDA Forest Service.	**Year 1 (2005):** Identify funding for road project. **Year 2 (2006):** Create a fire safe roadway through surface maintenance and fuels mitigation. Post FEMA "Emergency Evacuation Route" signs and inform residents. Set up program for regular maintenance. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.3.h: Fuels reduction project for power line corridor between Grangeville and Elk City.	**Infrastructure enhancements** by educing the potential risk of ignition associated with the power lines and creating a fuel break.	**Avista Utilities and the USDA Forest Service.**	**Year 1 (2005):** Identify specific areas that are in need of fuels reduction and create a project plan. Obtain permission from the Forest Service and any other affected landowners to implement project plan on their lands. **Year 2 (2006):** Begin implementation of fuels reduction project. **2007 Status:** The Forest Service is conducting the 806 Fuels Reduction project in this vicinity. **2009 Status:** On-going
B.3.i: Fuels mitigation of the FEMA "Emergency Evacuation Routes" in the county to ensure these routes can be maintained in the case of an emergency.	**Infrastructure enhancements** by providing residents and visitors with ingress and egress that can be maintained during an emergency.	**County Commissioners** in cooperation with Rural Fire Districts and County Highway Districts.	**Year 1 (2005):** Full assessment of road defensibility and ownership participation. Implementation of projects (linked to item B.2.g, B.2.h, and B.2.i.). **2007 Status:** Ongoing **2009 Status:** Ongoing
B.3.j. Watershed Management Plan for the Three Mile Creek Watershed.	**Infrastructure enhancements** by increasing the probability that communities will have safe drinking water following a wildfire that burns in the community watershed.	**Water Departments and City Government.**	**Year 1 (2005):** Identify landowners and seek funding to implement the planning process. Implementation of projects based on results of watershed management plans. **2007 Status:** Ongoing **2009 Status:** Funded. Assessment is complete and fuel management recommendations are being made.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.3.k: Fuels reduction project for powerline corridor adjacent to Highway 12 near Syringa and Lowell.	**Infrastructure enhancements** by reducing the potential risk of ignition associated with the power lines and creating a fuel break.	**Avista Utilities and the USFS.**	**Year 1 (2007):** Identify specific areas that are in need of fuels reduction and create a project plan. Obtain permission from the USDA Forest Service and any other affected landowners to implement project plan on their lands. **Year 2 (2008):** Begin implementation of fuels reduction project. **2007 Status:** New project. **2009 Status:** In progress.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.3.l: Access improvements of bridges, cattle guards, culverts, and limiting road surfaces (e.g. Salmon River Road, Selway Falls Road, Pardee Road, Salmon River Road, Wilson Road, Forest Road 1858 to Newsome, Crooked River Road, Jack Mountain Road, Cove Road, Warren Wagon Road, and Forest Road 246).	**Protection of people and structures** by improving access for residents and firefighting personnel in the event of a wildfire. Reduces the risk of a road failure that could lead to the isolation of people or the limitation of emergency vehicle and personnel access during an emergency.	**Highway Districts** in cooperation with the USDI Bureau of Land Management, State of Idaho (Lands and Transportation), USDA Forest Service, and industrial forestland owners (e.g., Potlatch, Plum Creek).	**Year 1 (2005):** Update existing assessment of travel surfaces, bridges, and cattle guards in Idaho County as to location. Secure funding for implementation of this project (grants) **Year 2 (2006):** Conduct engineering assessment of limiting weight restrictions for all surfaces (e.g., bridge weight load maximums). Estimate cost of $100,000, which might be shared between County, USDI Bureau of Land Management, USDA Forest Service, State, and private based on landownership associated with road locations. Post weight restriction signs on all limiting crossings, copy information to rural fire districts and wildland fire protection agencies in affected areas. Estimate cost at roughly $15-$25,000 for signs and posting. **Year 3 (2007):** Identify limiting road surfaces in need of improvements to support wildland firefighting vehicles and other emergency equipment. Develop plan for improving limiting surfaces including budgets, timing, and resources to be protected for prioritization of projects (benefit/cost ratio analysis). Create budget based on full assessment. **2007 Status:** Several of the road improvements are still ongoing; however, there have been culvert improvements on the Selway Falls Road and bridge replacement/improvements on the Lolo Creek Bridge and the Salmon River Road. **2009 Status:** Road improvements have been occurring on the Salmon River Road and the Selway Falls Road.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.2.m: Access improvements through road-side fuels management in proposed project areas.	**Protection of people and structures** by improving access for residents and firefighting personnel in the event of a wildfire. Allows for a road based defensible area that can be linked to a terrain based defensible areas.	**County Highway Districts** in cooperation with USDI Bureau of Land Management, State of Idaho (Lands and Transportation), USDA Forest Service, and industrial forestland owners.	**Year 1 (2005):** Update existing assessment of roads in Idaho County as to location. Secure funding for implementation of this project (grants). **Year 2 (2006):** Specifically address access issues to Clearwater, Kooskia, Stites, Warren, Burgdorf, Dixie, Elk City, Harpster, Woodland, Pardee, Caribel, Glenwood, and others identified in assessment, such as Selway Falls Road and the Highway 14 corridors. Identify forestland and rangeland fuels difficult to control during wildfire that would also respond well to thinning, pruning, and brush cutting (hand pile and burn or chip), while increasing ingress and egress use in wildfire emergencies. Target 100' on downhill side of roads and 75' on uphill side for estimated cost of $15,000 per mile of road treated. If 10 miles of roadway are prioritized for treatment, a Benefit to Cost Ratio of 14.7:1 is achieved. This B/C ratio may be maintained in many rural treatment areas of the county. **Year 3 (2007):** Secure funding and implement projects to treat roadside fuels. **2007 Status:** The BLM constantly maintains sections of the Erickson Ridge Road, Buffalo Gulch Road, Highway 14, Forgotten 400, and American River Road under their General Transportation Plan. Framing Our Community also helps maintain sections of the Red River Road, American River Road, and the Orogrande Road. Most of the projects on the following list are still ongoing; however, roadside fuels treatments have begun on the Warren Wagon Road (Forest Road 21). **2009 Status:** Ongoing.

Roadside Fuels Projects' Specifics	Roadside Fuels Projects	Miles	Acres	Project Cost
	Adams Grade Roadside Treatment Area	3.8	368.8	276,629
	Beaver Slide Roadside Treatment Area	7.3	682.3	$511,712
	Big Cedar Roadside Treatment Area	7.59	759.36	$569,521
	Big Horse Canyon Roadside Treatment Area	3.4	333.62	$250,214
	Clear Creek Roadside Treatment Area	10.8	1,057.50	$793,092

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon		
	Crane Hill Roadside Treatment Area		2.72	278.02	$208,512
	Dixie Roadside Fuels Treatment Area		31.4	3,026.50	$2,269,840
	Doughty Roadside Treatment Area		1.17	125.12	$93,841
	Elk City to Grangeville Roadside Treatment Area		34.4	3,338.50	$2,503,894
	French Creek-Warren Roadside Treatment Area		40.2	3,667.50	$2,750,590
	Harpster Area Roadside Fuels Treatment Area		8.5	830.8	$623,127
	Harris Ridge Roadside Treatment Area		12.8	1,207.40	$905,547
	Kidder Ridge Roadside Treatment Area		11	1,036.50	$777,372
	Leitch Creek Roadside Treatment Area		4.7	464	$348,009
	Long Bluff Roadside Treatment Area		1.15	125.9	$94,423
	Mallard Creek Roadside Fuels Treatment Area		17.9	1,580.30	$1,185,258
	Mt. Idaho-Harpster Grade Roadside Treatment Area		19.1	1,855.90	$1,391,922
	Mulledy Roadside Treatment Area		1.91	198.7	$149,019
	Newsome Roadside Fuels Treatment Area		6.8	656.3	$492,197
	Pardee Roadside Treatment Area		7.1	586.4	$439,805
	Red Fir Roadside Treatment Area		5.38	535.95	$401,988
	RR Hot Springs Roadside Fuels Treatment Area		10	979.2	$734,372
	Sally Ann Creek Roadside Treatment Area		3.7	369	$276,738
	Sutter Creek Roadside Treatment Area		6.2	599.5	$449,589
	Tom Taha Roadside Treatment Area		6	590.7	$443,007
	Trenary Roadside Treatment Area		0.96	107.69	$80,764
	Wall Creek Roadside Treatment Area		4.7	445.4	$334,026
	Whitewater Wilderness Ranch Roadside Treatment Area		6.0	109.1	$10,000
	Wilson Roadside Treatment Area		2.38	245.45	$184,090
	Woodland Grade Roadside Treatment Area		10	913.6	$685,205
	Woodland Roadside Treatment Area		12.4	1,139.00	$854,259

B.4 Resource and Capability Enhancement Activities

There are a number of resource and capability enhancements identified by the rural and wildland firefighting districts in Idaho County. The needs identified by the districts are consistent with improving the ability to respond to emergencies in the WUI, and are fully supported by the planning committee.

Specific repeated themes of resources and capability enhancement activities include:

- Improving radio capabilities within each district and for mutual aid operations;
- Retaining and recruiting volunteers;
- Updating firefighting equipment countywide;
- Improving road and house number signage; and
- Training and developing rural firefighters in structure and wildland fire management

Although additional needs were enumerated by the districts in Idaho County, these items were identified by multiple districts and in the public meetings. The implementation of each issue will rely on either the isolated efforts of the rural fire districts or a concerted effort by the county to achieve equitable enhancements across all of the districts. Given historic trends, individual departments competing against neighboring departments for grant monies and equipment will not necessarily achieve countywide equity. However, the Clearwater Resource Conservation and Development Council, Inc. (Clearwater RC&D) may be able to work with all of the districts in Idaho County and adjacent counties to assist in the prioritization of needs across district and even county lines. Once prioritized, the Clearwater RC&D will be in a position to assist these districts with identifying, competing for, and obtaining grants and equipment to meet their needs.

Currently, only the Grangeville Rural Fire District, the Cottonwood Volunteer Fire Department, the Kamiah City and Rural Fire Department, and the Harpster Fire Protection District are taxing districts within Idaho County. All other departments within Idaho County are not-for-profit organizations that offer protection on a subscription/donation basis.

Table B-4 describes the proposed action items for firefighting resources and capabilities.

Table B- 4. WUI Action Items in Firefighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.a: Enhance radio availability in each district, link in to existing dispatch, improve range within the region, and conversion to consistent standard of radio types	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	**Rural fire districts and Idaho County**	**Year 1 (2005):** Summarize existing two-way radio capabilities and limitations. Identify costs to upgrade existing equipment and locate funding opportunities. **Year 2 (2006):** Acquire and install upgrades as needed. **2007 Status:** Idaho County is working on upgrading their communications to the narrow band system. There is also a region-wide communications viability study in progress. There have been discussions of placing a tactical use only repeater on Wood Rat. **2009 Status:** Completed county SIEC communication plan. P-25 upgrades in progress. Riggins repeater operational. Salmon Point, High Camp tactical, and Pilot Knob repeaters' installations in progress. Microwave link to state system in progress.
B.4.b: Obtain facility, land, and basic equipment for a substation of the Grangeville Rural Fire District in Mount Idaho.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Grangeville Rural Fire District.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding and equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed materials and equipment. **2007 Status:** Ongoing **2009 Status:** No activity
B.4.c: Obtain tanker and two-ton quick response structural engine for Grangeville Rural Fire District.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Grangeville Rural Fire District.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed materials and equipment. **2007 Status:** Ongoing **2009 Status:** Complete

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.d: Obtain structural engine, four-wheel drive utility vehicles, portable pumps, handheld radios, personal protective equipment, and chainsaws for Ridge Runner Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Ridge Runner Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** Department acquired turnouts, but are still working on the other items. **2009 Status:** Partially completed
B.4.e: Expand Salmon River Rural Fire Department to cover homes on the north side of the Salmon River Road.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Salmon River Rural Fire Department.	**Year 1 (2005):** Identify area to be annexed into the department and inform landowners. **Year 2 (2006):** Formally annex the identified lands. **2007 Status:** Ongoing **2009 Status:** Partially complete (only one home not in District)
B.4.f: Annex lands between the Grangeville Rural Fire District and the Harpster Volunteer Fire Department to close the gap in the service area.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Grangeville Rural Fire Department and Harpster Fire Protection District.	**Year 1 (2005):** Identify area to be annexed by each department and inform landowners. **Year 2 (2006):** Formally annex the lands into the respective department's coverage area. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.4.g: Obtain updated rolling stock, portable pump, hand tools, PPE, handheld radios, and other miscellaneous equipment for the Kooskia Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Kooskia Volunteer Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** New project **2009 Status:** Partially complete

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.h: Acquire structural engine for Riggins City Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Riggins City Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** Ongoing **2009 Status:** Complete
B.4.i: Acquire structural engine, brush truck, wildland engine, water tender, P25 radios, hand tools, flares, portable pump, foam unit, and miscellaneous other equipment for Harpster Fire Protection District.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Harpster Fire Protection District.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** New project **2009 Status:** Partially complete
B.4.j: Acquire construction materials for Elk City Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Elk City Volunteer Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** In progress **2009 Status:** Partially complete
B.4.k: Acquire six-wheel drive structural engine, drop tank, hoses, a 500 gpm pump, updated rolling stock, and training videos for Elk City Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Elk City Volunteer Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** The Department has obtained a pumper truck and two water tenders, however, this project is still in progress. **2009 Status:** Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.l: Retention and recruitment of volunteer firefighters.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	**Rural and Wildland Fire Districts** working with broad base of county citizenry to identify options, determine and implement plan of action	5 Year Planning Horizon, extended planning time frame. Target an increased recruitment (+10%) and retention (+20% longevity) of volunteers. **Year 1 (2005):** Develop and implement incentives program. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.4.m: Increased training and capabilities of firefighters.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	**Rural and Wildland Fire Districts** working with the **USDI Bureau of Land Management and USDA Forest Service** for wildland training opportunities and with the **State Fire Marshall's Office** for structural firefighting training.	**Year 1 (2005):** Develop a multi-county training schedule that extends two or three years in advance (continuously). Identify funding and resources needed to carry out training opportunities and sources of each to acquire. Begin implementing training opportunities for volunteers. **2007 Status:** The Clearwater Fire Chief's Association has had great success with the establishment of the Clearwater Fire Academy; however, this will always be an ongoing process. **2009 Status:** Ongoing
B.4.n. Develop and update Mutual Aid Agreements between all Rural Fire Districts and the Federal and State wildfire fighting agencies working in and around Idaho County.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Rural and Wildland Fire Districts, USDI Bureau of Land Management, USDA Forest Service, BIA, IDL, State Fire Marshall's Office.	**Year 1 (2005):** Identify current mutual aid agreements and needed agreements. Draft and implement agreements across the county. **2007 Status:** The IDL is in the process of updating their mutual aid agreements with all of the rural fire districts. The Idaho Fire Chief's Association is also working on developing a statewide mutual aid agreement. **2009 Status:** Completed

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.o: Install a repeater on Sheriff's Point for better coverage.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners and Rural Fire Departments	**Year 1 (2005):** Develop a cost analysis and locate funding opportunities. **Year 2 (2006):** Acquire necessary equipment and implement project. **2007 Status:** The placement of this repeater is currently being assessed. **2009 Status:** Completed
B.4.p: Obtain wildland engine,, hand tools, handheld radios, portable tank, portable pumps, blower fan, and flares for BPC Volunteer Rural Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	BPC Volunteer Rural Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** The department has recently become a subscription-based organization. They are still working on obtaining the listed items. **2009 Status:** Partially completed
B.4.q: Construct a new two story building to house equipment and provide a training facility for firefighters. Acquire everything required to operate an effective fire department including two structural engines, one brush truck, a water tender, hand and shop tools, PPE's, hoses, nozzles, foam capabilities, etc. See list in Section A.1.16.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	White Bird Volunteer Fire Department	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards **2007 Status:** New project. **2009 Status:** Ongoing
B.4.r: Mobile radios, portable radios, base station, and dispatch for Dixie Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Dixie Volunteer Fire Department	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** Ongoing **2009 Status:** Completed

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.s: Acquire chainsaw for Cottonwood Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Cottonwood Volunteer Fire Department.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** Completed
B.4.t: Establish and map onsite water sources such as dry hydrants or underground storage tanks for rural housing developments.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners and Rural Fire Departments	**Year 1 (2005):** Identify populated areas lacking sufficient water supplies and develop project plans to develop fill or helicopter dipping sites. Implement project plans. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.4.u. Create South Fork Clearwater River Volunteer Fire Department, and develop training schedule and provide equipment (portable pump, hose, hand tools, sprinkler systems) for SFCR VFD.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners, Clearwater RC&D, IDL, USDA Forest Service, USDI Bureau of Land Management, and local citizens.	Year 1 & 2 create SFCR VFD Year 2 provide listed equipment and training Year 3 repeat training and develop multiple brigade training opportunities
B.4.v. Acquire and locate three 300 gallon slip tanks for the South Fork Clearwater River Volunteer Fire Department and provide training on its use	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners, Clearwater RC&D, IDL, USDA Forest Service, USDI Bureau of Land Management, SFCR VFD, and local citizens.	Year 2 locate the equipment in suitable locations in Mallard Creek, Red River Hot Springs, and Orogrande
B.4.w. Acquire new heated building, pumper truck, and 3000 gallon water tender for Elk City Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners, Elk City Council, Elk City Fire Department	Year 1-5 acquire needed building site, building, and equipment.
B.4.x: Purchase small boat for IDL.	**Improve firefighting resources and capabilities** by providing improved access to land along Clearwater River for firefighting.	Maggie Creek FPD	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to districts based on prioritization by need and funding awards. **2007 Status:** Ongoing **2009 Status:** Ongoing

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.y: Improve safety equipment for all RFDs in Idaho County.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	**Clearwater Resource Conservation and Development Council** in cooperation with County Commissioners and Rural Fire Districts.	**Year 1 (2005):** Complete an inventory of all supplies held by the RFDs (boots, turnouts, Nomex, gloves, modern lighting, straps, and hardware), and complete a needs assessment matching expected replacement schedule. Develop countywide re-supply process for needed equipment. **2007 Status:** Ongoing **2009 Status:** Ongoing
B.4.z: Obtain mobile repeater stations with backup power source.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners, Clearwater RC&D, IDL, USDA Forest Service, and local fire departments.	**Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2005-2006):** Acquire and deliver needed equipment to districts based on prioritization by need and funding awards. **2007 Status:** Ongoing **2009 Status**: Funding pending; Ongoing
B.4.aa: Obtain funding to build a fire station and acquire a foam unit for the Secesh Meadows Rural Fire District.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Secesh Meadow Rural Fire District	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project. **2009 Status:** In progress
B.4.bb: Obtain or construct a fire station for the newly created Glenwood-Caribel Volunteer Fire District and train volunteers. Acquired rolling stock, portable pumps, hand tools, PPEs, radios, and miscellaneous other equipment.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Glenwood-Caribel Volunteer Fire District	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project **2009 Status:** Completed

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.cc: Obtain updated rolling stock, PPE's and P25 radios for Salmon River Rural Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Salmon River Rural Fire Department	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project **2009 Status:** Partially completed
B.4.dd: Obtain or construct fire station for the Stites Fire Department, and provide training. Acquire updated rolling stock, P25 radios, PPEs, tools, and miscellaneous other equipment.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Stites Fire Department	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project **2009 Status:** Ongoing
B.4.ee: Identify areas lacking a sufficient water supply and develop publicly accessible fill sites.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	County Commissioners and rural and wildland fire districts in cooperation with the Natural Resource Conservation Service and the Clearwater RC&D.	**Year 1 (2007):** Identify populated areas lacking sufficient water supplies and develop project plans to develop fill or helicopter dipping sites. **Year 1 3 (2007-2009):** Implement project plans. **2007 Status:** The IDL is currently working in cooperation with the Natural Resource Conservation Service and the Clearwater RC&D to secure funding (EQIP) to support development and installation of additional drafting and dipping sites. **2009 Status:** Needs work

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
B.4.ff: Obtain additional personnel, training, PPEs, hand tools, portable and mobile radios, two structural engines, one utility vehicle, and miscellaneous other equipment for the Kamiah City and Rural Fire Protection District.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Kamiah City and Rural Fire Protection District	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project. **2009 Status:** Partially completed
B.4.gg: Obtain additional training, PPEs, hand tools, and radio equipment for the Carrot Ridge Volunteer Fire Department.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Carrot Ridge Volunteer Fire Department.	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project. **2009 Status:** Partially completed
B.4.hh: Obtain additional training, PPEs, hand tools, portable radios, communications base station, and a Type 1 crew cab engine for the Cottonwood Volunteer Fire Department and Rural Fire District.	**Improve firefighting resources and capabilities** by direct firefighting capability enhancements.	Cottonwood Volunteer Fire Department and Cottonwood Rural Fire District.	**Year 1 (2007):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. **Year 1 or 2 (2007-2008):** Acquire and deliver needed equipment to stations based on prioritization by need and funding awards. **2007 Status:** New project. **2009 Status:** Partially completed

B.5 Regional Land Management Recommendations

Reference has been given to the role that forestry, grazing and agriculture have in promoting wildfire mitigation services through active management. Idaho County is a rural county by any measure, dominated by wide expanses of forest and rangelands intermixed with communities and rural houses.

Wildfires will continue to ignite and burn depending on the weather conditions and other factors enumerated earlier. However, active land management that modifies fuels, promotes healthy range and forestland conditions, and promotes the use of these natural resources (consumptive and non-consumptive) will ensure that these lands have value to society and the local region.

We encourage the USDA Forest Service, the USDI Bureau of Land Management, the Idaho Department of Lands, industrial forestland owners, private forestland owners, and all agricultural landowners in the region to actively manage their wildland-urban interface lands in a manner consistent with reducing fuels and risks in this zone.

B.5.1 Nez Perce Tribe Project

CURRENT AND ONGOING PROJECTS

Box Canyon

The Box Canyon Project is a recent (2007) brush reduction project aimed at decreasing wildfire risk and fuel loads by reducing ladder fuels. In 2010, brush maintenance will occur. It is located within T33N R4E Section 22.

Kidder Ridge

The Kidder Ridge Project is an ongoing recent brush reduction and pre-commercial thinning project to reduce ladder fuels, forest stand continuity, and increase forest health and vigor, thereby decreasing the risk of a crown or stand replacing wildfire. It is located within T33N R4E Section 22.

Home Evaluations

The Nez Perce Tribe is continuing to conduct home evaluations for homes located within the reservation boundary in conjunction with the rural and volunteer fire departments and IDL. As more of the rural and volunteer departments acquire the RedZone software, the collection and maintenance of this information is likely to be passed to them. However, the tribe will continue to use this information to plan and implement projects and will remain interested in conducting evaluations where and when they are needed. This project is ongoing throughout Idaho County.

B.5.2 USDA Forest Service Projects

B.5.2.1 Clearwater National Forest

Powell Ranger District

COMPLETED PROJECTS

Lochsa Corridor

This proposed fuels reduction project lies along the Highway 12 corridor between Kooskia and Powell. The project consisted of prescribed burning and created a one-mile buffer along the highway. This project was designed in collaboration with the Lochsa Ranger District. Environmental analysis (NFMA) occurred in 2008 in an effort to prioritize project locations in the corridor. Three projects resulted from this assessment: Powell Proper, Saddle Camp, and Highway 12 Veg (a wildlife and hazard fuels project scheduled for NFMA in 2010).

Toboggan Ridge Fuels

These 11,590 acres of mixed severity type, late summer burns changed condition class in the area, and were completed in 2008.

Weir Fuels Project

These approximately 700-acres of mixed severity type; late summer/early fall burns changed condition class in the area and were completed in 2007.

CURRENT AND ONGOING PROJECTS

Jerry Johnson Fuels

This fuels reduction project consists of late summer or early fall prescribed burning on approximately 700 acres. Implementation should be completed in 2009.

Moose Whitebark Pine Restoration Project

This approximately 109-acre prescribed burn project to restore whitebark pine in the Moose Lake area should be implemented in 2009 and 2010.

Powell Proper

These mixed severity fuel treatments would provide protection to private, state, and federal lands as well as the improvements in the area of Powell Ranger Station compound. The project also includes watershed and road restoration. Approximately 100 acres are proposed in the project. The environmental analysis (NEPA) will be initiated between 2009 and 2010.

Saddle Camp

This project includes approximately 4000 acres of mixed severity prescribed burning for wildlife and hazardous fuels. The project will reduce fire severity along Forest Road 107, an evacuation route off the Lewis and Clark motorway. Approximately 300 acres of pre-commercial thinning and regeneration harvest are included in the project.

CONCEPTUAL PROJECTS

Russian Pines

This old growth ponderosa pine restoration/perpetuation project would use both prescribed burning and timber harvest to accomplish land management objectives. The project area is near the south side of Crooked Fork Creek, approximately five miles northeast of Powell. This project possibly could be included in the Powell Proper project

Powell Divide Veg. Project

This project is a combined timber project with hazardous fuels that would treat approximately 500 acres outside of the Wildland Urban Interface. Environmental analysis (NFMA) is scheduled for 2010.

Lochsa Ranger District

COMPLETED PROJECTS

Lochsa Historical Station

This is a fuels reduction project adjacent to the Forest Service facility. 50 acres of hand piling and burning were completed in 2008.

Interface Fuels, Phase 1

The Interface Fuels project consists of Phases 1 and 2 on approximately 1500 to 2500 acres. This is a HFRA Wildland Urban Interface Project.

Completed in 2008, Phase 1 consisted of creating a defensible space by mechanically treating areas within 300' of private in holdings adjacent to the communities of Syringa and Lowell. Phase 1 treated 300 acres within Idaho County WUI.

CURRENT AND ONGOING PROJECTS

Interface Fuels, Phase 2

The Interface Fuels project consists of Phases 1 and 2 on approximately 1500 to 2500 acres. This is a HFRA Wildland Urban Interface Project.

Phase 2, still in the environmental analysis (NEPA) phase, proposes a larger vegetation treatment and prescribed burn adjacent to the communities. The Lochsa Ranger District is collaborating with the State and local communities. Environmental analysis is anticipated to be complete in 2010.

North Lochsa Face

This project is located in the Clearwater National Forest's Lochsa Fire Management Unit and to the southwest along the breaks of the river to the Forest boundary. The original proposal included mechanical treatment and prescribed fire, including 5,485 acres of mixed severity burning and 7,045 acres of under burning that would be accomplished 1000 to 2000 acres each year. In 2008/2009, 1,993 acres were accomplished.

Weitas Fuels

This 2,956 acre mixed severity type, late summer burn would occur in 2010 to 2011.

Weitas Guard Station

This is a fuels reduction project adjacent to a Forest Service facility consisting of 60 acres of hand piling and burning.

CONCEPTUAL PROJECTS

Coolwater

The project area lies west of the Selway Bitterroot Wilderness and would consist of underburning 3000 to 5000 acres. This is a fuels reduction project proposing prescribed burning (underburning) in an area with a mixed severity condition. The proposed environmental analysis (NEPA) with NFMA is scheduled in 2010.

Hemlock Fuels

This project lies eight miles east of Pierce, ID. This 7000-acre fuels reduction project would create a buffer near the community of Pierce.

B.5.2.2 **Nez Perce National Forest**

Clearwater Ranger District

COMPLETED PROJECTS

Hungry Mill

This project used prescribed fire to reduce natural fuel accumulations on Hungry Ridge and the Mill Creek drainage. The use of prescribed fire is expected to reduce the severity of wildfire events when they occur. The total treatment area was 10,500 acres. The project started in 1994, and was completed in 2008. Maintenance burns will occur over the next five years.

CURRENT AND ONGOING PROJECTS

2021

Project included 280 acres of commercial harvest, 24 acres of understory slashing and 2,240 acres of prescribed burning. One purpose of the project was to reduce the risk of catastrophic fire to the Cove area and other private inholdings. Harvest operations have been completed.

Prescribed burning will occur over the next three to five years.

Blacktail

The purpose of the project is to reduce the effects of wildfire to the town of Clearwater, its municipal watershed, and the adjacent South Fork community. The proposed project includes 800 acres of commercial harvest and 600 acres of prescribed burning. Treatments are primarily located along the boundary between Forest Service system and private lands. The NEPA analysis for this project is complete. The precommercial thinning began in 2008, and two timber sales will be implemented beginning in 2009 to 2010.

Blue Ridge

This project uses prescribed fire to reduce natural fuel accumulations in the Johns Creek and Otter Creek drainages. Gilmore Ranch and Sourdough Lookout are within or adjacent to the project area. The use of prescribed fire will reduce the severity of wildfire events when they occur. The total area is 7500 acres, and the project started in 2002 and will continue through 2010.

Lucky Marble

This project included 240 acres of commercial thinning, 240 acres of understory slashing, and 500 acres of prescribed burning near Hungry Ridge. Commercial thinning and slashing have been completed. Approximately 100 acres of prescribed burning will occur over the next two years. The project was designed to restore historic forest structure and reduce the severity of future fire events.

Meadow Face Stewardship and Yew Rock Timber Sale

The primary purpose of this project is to restore fire dependant ecosystems and reduce the potential for stand replacing fires. The project includes commercial harvest and 7,000 acres of prescribed burning. Units within the Yew Rock Timber Sale have been harvested. The project is currently in litigation.

Middle Fork

The project includes 809 acres of commercial harvest and 600 acres of prescribed burning. Some of the prescribed burn units are directly adjacent to private land. Harvest was completed in 2005. Prescribed burning will occur over the next three to five years.

Pine Plantation Underburning

This project uses prescribed fire to treat existing ponderosa pine plantations District-wide that are at risk to crown fire due to buildup of ladder fuels. The primary purpose is to reduce natural fuel accumulations that consist of brush, grand fir and needle litter. Treatment will provide protection from wildfires by decreasing the severity of those fires when they occur.

South Fork

This project uses prescribed fire to reduce natural fuel accumulations in the South Fork Clearwater drainage. Prescribed fire will reduce the effects of future fire events and reduce the risk to structures and private land within the corridor. Prescribed burning has been on-going and will continue over the next ten years.

PROPOSED PROJECTS

9429

This is a hazardous fuels treatment project on approximately 2000 acres in the WUI in the American Creek drainage. The NEPA process has begun on this project and implementation is scheduled to begin in 2010 to 2011.

CONCEPTUAL PROJECTS

Cove/Fish Interface

This project would address the Wildland/Urban Interface situation for the Cove, Mount Idaho, Snowhaven and rural Grangeville areas. There is also a potential to treat hazardous fuels in the municipal watershed for Grangeville. Pre-commercial, commercial, and prescribed burning would occur to reduce hazardous fuels and decrease the risk of catastrophic fire.

Red River Ranger District

COMPLETED PROJECTS (MAINTENANCE ON-GOING)

Dixie Fuelbreak

This project mechanically reduced natural fuels on 90 acres of National Forest system land surrounding the community of Dixie, Idaho. The Dixie Fuelbreak project has improved firefighter safety, and reduced impacts to resources and threats to private property from wildland fire in the treatment area. This was accomplished by the thinning and pruning of vegetative fuels (trees and shrubs). Thinned material, such as tree branches and needles, was hand piled and burned to remove the fire risk. This project was completed in 2003, and maintenance is ongoing.

Crooked River Defensible Space

This project mechanically reduced natural fuels on 13 acres of National Forest system land surrounding private inholdings and Forest Service facilities in the Crooked River drainage. The Crooked River Defensible Space Project has reduced fuel loads by removing brush and cutting trees to increase canopy spacing on Forest Service lands adjacent to private structures in the Crooked River watershed. By reducing fuel loads the project has reduced the potential and intensity of wildland fire and provided for firefighter and public safety in and around at risk private structures. Treatments consisted of: 1) cutting, hand piling, burning, chipping, or scattering materials less than 8 inches in diameter; 2) pruning limbs to

approximately 18 feet above ground; and 3) felling pole to sawlog sized trees to separate tree crowns to a spacing of about ten feet. This project was completed in 2005; and maintenance is ongoing.

Mallard/Rhett Defensible Space

This project mechanically reduced natural fuels on 15 acres of National Forest system land surrounding private inholdings in the Mallard and Rhett Creeks' drainages. The Mallard/Rhett Defensible Space Project has reduced fuel loads by removing brush and cutting trees to increase canopy spacing on Forest Service system lands adjacent to private structures along Mallard Creek. By reducing fuel loads the project has reduced the potential and intensity of wildland fire and provide for firefighter and public safety in and around at risk private structures. Treatments consisted of: 1) cutting, hand piling, burning, chipping, or scattering materials less than 8 inches in diameter; 2) pruning limbs to approximately 18 feet above ground; and 3) felling pole to sawlog sized trees to separate tree crowns to a spacing of about ten feet. This project was completed in 2003; and maintenance is ongoing.

Newsome Defensible Space

The Newsome Defensible Space Project has reduced fuel loads by removing brush and cutting trees to increase canopy spacing on Forest Service system land adjacent to private structures in the Newsome watershed. By reducing fuel loads, the project has reduced the potential and intensity of wildland fire and provided for firefighter and public safety in and around at-risk private structures. Treatments consisted of: 1) cutting, hand piling, burning, chipping, or scattering materials less than 8 inches in diameter; 2) pruning limbs to approximately 18 feet above ground; and 3) felling pole to sawlog sized trees to separate tree crowns to a spacing of about ten feet. This project was completed in 2005; and maintenance is ongoing.

Red River Defensible Space

This project mechanically reduced natural fuels on 37 acres of National Forest system land surrounding private inholdings and Forest Service facilities in the Red River Drainage. This project was completed in 2003, and maintenance is ongoing.

ON-GOING PROJECTS

806

This project reduces natural fuels using prescribed burning on 160 acres of National Forest system land in the 806 Timber Sale Area. The 806 project will use prescribed fire in combination with timber harvest and watershed improvements to obtain the desired condition of a healthy ecosystem that supports a mosaic of different forest structures. This would not only provide for the present and future needs of the different species in the ecosystem, but it would also reduce the risk of any single fire eliminating any one of the needed forest structures. Underburning would occur in two 30+ year old ponderosa pine plantations to reduce fuel loadings, thin the canopy closure, and remove understory grand fir from the stands.

American and Crooked River Project

This project mechanically reduces natural fuels followed by prescribed burning of activity fuels on 1,800 acres of National Forest system land in the Crooked and American River drainages. The American/Crooked project would treat existing and potential fuel loads in order to reduce the effects of potential large-scale wildland fire and improve the safety and effectiveness of firefighters during

suppression activities. This will be accomplished by removing dead and dying trees that contribute to existing and future fuel loads, reducing stand densities, reducing ladder fuels that would produce crown fires, reducing the risk of high severity fires, and creating vegetative patterns to alter fire spread and increase effectiveness of suppression activities. The environmental analysis (NEPA) is completed, and this project is currently being implemented.

Blanco

This project reduces natural fuels using prescribed burning on 900 acres of National Forest system land in the Red River drainage. The Blanco project will return vegetation conditions to a more historic condition, reduce fire hazard, and improve big game forage in the Red River watershed.

Red Pines

The project mechanically reduces natural fuels followed by prescribed burning of activity fuels on potentially 3,500 acres of National Forest system land in the Red River drainage. The Red Pines project would treat existing and potential fuel loads to reduce the effects of potential large-scale wildland fire and improve the safety and effectiveness of firefighters during suppression activities. This will be accomplished by removing dead and dying trees that contribute to existing and future fuel loads, reducing stand densities, reducing ladder fuels that would produce crown fires, reducing the risk of high severity fires, and creating vegetative patterns to alter fire spread and increase effectiveness of suppression activities.

Red River Precommercial Thinning (PCT)

The Red River PCT will use precommercial thinning to reduce fire risk by reducing crown density and ladder fuels, favoring species that are more fire-, insect-, and disease-resistant, improving tree growth, and rejuvenating the understory shrubs that provide forage for big game.

Red River Underburn

The Red River Underburn project will improve firefighter and public safety in the interface zone by reducing activity fuels created through thinning and pruning activities for defensible space around the Red River Ranger Station compound. The use of fire in the form of underburning will reduce the fuel loading and decrease the grand fir encroachment in the understory in areas that are not treated by thinning.

Starbucky

This project reduces natural fuels using prescribed burning on 300 acres of National Forest system land in the Starbucky Timber Sale Area. The Starbucky project will return and maintain the ecological structure and function of the area's vegetation to a natural, sustainable condition. Through the use of prescribed fire in the form of underburning, fuel loads and fire hazard will be reduced, and big game winter range will be rejuvenated. Implementation is planned for 2008.

PROPOSED PROJECTS

Orogrande

This proposal is to treat approximately 5000 acres west of Orogrande in the Wildland Urban Interface, with both mechanical and prescribed fire treatments. Environmental analysis (NFMA) is scheduled for 2010.

South Township

This project mechanically reduces natural fuels followed by prescribed burning on 200 to 500 acres of USDA Forest Service and USDI Bureau of Land Management system lands located along the southern boundary of the Elk City township. Environmental analysis (NFMA) began in 2008, with implementation starting as early as 2010 to 2011.

Whitewater Ranch

This proposal is to treat approximately six acres in the Wildland Urban Interface around Whitewater Ranch that did not burn in recent years with both mechanical and prescribed fire treatments. This effort would complement the county effort to protect private land in this area. Environmental analysis (NFMA) will begin in 2010.

CONCEPTUAL PROJECTS

Newsome Creek to Elk City

This project consists of mechanical (thinning) and prescribed burning treatments in the WUI, in collaboration with the USDI BLM. This project would treat area east of Newsome Creek, south of Elk City Wagon Road, and west of Elk City, and consists of several thousand acres potential hazardous fuels and big game winter range improvements.

Salmon River Ranger District

CURRENT AND ONGOING PROJECTS

Allison Creek Fuels Reduction

This 9,800-acre project area project consists of non-lethal, mixed severity spring and fall prescribed burning. Implementation will occur over an approximate six-year period, and started in the fall of 2007. Approximately 1,000 to 3,000 acres will be burned annually.

Blue Mountain

The Blue Mountain project will begin the process of restoring historic vegetative characteristics by reducing forest fuels. Management ignited prescribed burning will occur in areas currently in Condition Classes 2 and 3 and Fire Regimes 1 and 3. Implementation of this project is ongoing and is expected to be completed in 2011.

Hartman Creek Fuels Reduction

This 4,800-acre project area project consists of non-lethal, mixed severity spring prescribed burning. Implementation began on this project in 2004, and 2,000 acres is scheduled for implementation in 2009.

Kessler

This 8,000-acre project area project consists of prescribed burning in ponderosa pine-Douglas-fir stands classified in the non-lethal and mixed severity fire regimes. This project is ongoing and expected to be completed between 2010 and 2012.

Robbins Creek

This 2,500-acre project area project consists of non-lethal, mixed severity spring prescribed burning. Implementation occurred on this project in 2006, and 2,500 acres is scheduled for implementation in the spring of 2010.

Home Evaluations – Red Zone Program

Under a cooperative agreement between Clearwater RC&D, USDI Bureau of Land Management-Cottonwood, USDA Forest Service-Salmon River Ranger District, and the Salmon River Rural Fire Department, a contract with the Student Conservation Association has been established to complete homeowner assessments and mitigation education for approximately 200 homes in the Salmon River canyon. Homes in Pollock, Riggins, Upper Salmon River inholdings, Slate Creek, Lucile, and White Bird will be targeted. The assessment work will be completed using RedZone software.

Fire Prevention Cooperative

The Fire Prevention Cooperative is a newly established five county fire prevention cooperative that provides prevention and fire education in North Central Idaho and includes Idaho, Lewis, Clearwater, Nez Perce, and Latah Counties. Public land agencies, emergency response agencies, private entities, and other interested parties are participating in the prevention co-op.

CONCEPTUAL PROJECTS

Windy Ridge

This project would be coordinated with the Payette National Forest and is a combined wildlife big game winter range and mountain quail habitat improvement project that would also reduce potentially 1000 acres of hazardous fuels in the Wildland Urban interface. This project is planned for initial implementation in fiscal years 2011 to 2012.

Moose Creek Ranger District

COMPLETED PROJECTS

East Meadow Prescribed Fire

The project is within the Meadow Creek drainage, a tributary of the Selway River. This area is adjacent to the Selway Bitterroot Wilderness. Approximately 6200 acres were burned.

CURRENT AND ONGOING PROJECTS

O-Hara Forest Health Project

This project focuses on those areas that are outside their natural disturbance interval as identified in the Selway and Middle Fork Clearwater Rivers Subbasin Assessment, completed in 2001. There are approximately 7800 acres of prescribed burning in this project. Restoring and maintaining natural processes and thus more natural ecological function is the primary objective for this area.

Selway Falls Prescribed Fire

The Moose Creek District proposes to reduce natural fuels in the immediate vicinity of the structures on the Selway Falls administrative site and on the slopes adjacent to the site. On the ridges and slopes above and to each side of the Selway Falls Cabin, approximately 240 acres will be treated with fire to reduce

levels of naturally occurring fuel and to reduce the shrub and tree regeneration that has encroached into the ponderosa pine and Douglas-fir stands. This effort will reduce the intensity of future ground fire and eliminate a source of ladder fuels which can lift fire into the tree canopy. In addition, the project will provide a natural barrier or fuelbreak where, if needed, a stand against an approaching wildland fire could be made.

PROPOSED PROJECTS

Fenn Face Prescribed Fire Project

The purpose of the Fenn Face prescribed Fire project is to improve the timber stand conditions and wildlife habitat by reintroducing low to mixed severity fire within the mixed conifer cover types in the project area as referenced in the Selway and Middle Fork Clearwater Rivers Sub-basin Assessment. Lower elevations within the project area have been identified as being outside of their natural fire intervals. Stands have increased in density and changed from early seral conditions due to fire exclusion. This increase in smaller diameter shade tolerant fir trees poses an increased fire threat to the large ponderosa pine found here. Shrub and hardwood habitats, which are an important source of ungulate browse and migratory bird habitat, have also declined or become decadent and unpalatable. Secondary project benefits will be a reduction in hazardous fuels within the Wildland Urban Interface and along the boundary of the area approved to manage Wildland Fire for resource benefits (formerly, "Fire-Use") Field surveys will be conducted during summer of 2009 and the decision document also is expected to be signed in 2009.

CONCEPTUAL PROJECTS

Pine Knob & Lodge Point Commercial Thinning (Previously Swiftwater)

This project is currently in the early stages of environmental analysis (NFMA). Approximately 1000 acres of overstocked 40+ year old ponderosa pine plantations in the Swiftwater Drainage would be examined during 2009 to determine the feasibility of commercially thinning the mixed fir component. Thinning would be followed by a low intensity prescribed fire to further reduce fuels and improve overall stand health.

B.5.2.3 **Payette National Forest**

COMPLETED PROJECTS

Secesh and Burgdorf

The Forest Service has thinned a ¼-mile ring around the Secesh Meadows and Burgdorf to slow and bring to the surface a fire on the Payette National Forest.

CURRENT AND ONGOING PROJECTS

Patrick Butte Prescribed Burn

The project will treat approximately 10,666 acres with prescribed fire within the 26,339-acre project area. Re-introducing 100 to 3,000 acres of fire annually for the next ten years will change forested and non-forested vegetation conditions to those that more closely represent historic distribution, structure, and function, thereby improving wildlife forage and habitat conditions. Approximately 2,100 acres of whitebark pine communities were treated in 2009.

Hard Grass Prescribed Burn

This project is also a landscape-level prescribed fire project (approximately 47,000 acres within the project area) that focuses on restoring forested and non-forested vegetation conditions to those that more closely represent historic distribution, structure, and function, thereby improving wildlife forage and habitat conditions. Environmental analysis is planned to begin in 2010, and implementation may begin in 2010 or 2011.

CONCEPTUAL PROJECTS

Burgdorf Junction

This would be an additional WUI/fuels reduction project to complement work already completed around Burgdorf.

Warren

This would be WUI/fuels reduction project located around the community of Warren.

6.3.3 USDI Bureau of Land Management Projects

COMPLETED, CURRENT, AND ONGOING PROJECTS

Eastside Township Project

The Eastside Township project was designed to change the forest density and species composition to maintain and increase forest stand resistance to high intensity fire, insects, and disease. This will be achieved through timber harvests, biomass utilization, slash piling, and prescribed burns on about 1,300 acres. Road closures, road relocation, road decommissioning, and conversion of roads to trails, as well as riparian treatments (plantings and stabilization) and stream bank modification would also be completed.

The Proposed Action will create an area of reduced crown fire hazard and lower potential fire severity and intensity on approximately 1,289 acres of USDI Bureau of Land Management lands around Elk City and the American River subdivisions, and additional private property within and adjacent to the project area. This will be accomplished using commercial timber harvest, understory thinning, prescribed burning, and hand or machine piling and burning, and biomass utilization.

This project is currently under stewardship contract with work beginning in the fall of 2009. This contact has a 10-year implementation period.

Transportation Corridors

The Transportation Corridors project was developed to reduce the risk to homeowners and visitors accessing or leaving the Elk City area during fire suppression activities and to provide a potential means of travel should a large scale fire occur. This proposal is consistent with that proposed by the Idaho County Commissioners and the homeowners of the American River Subdivision. Field Office staff have met with members of each and they strongly expressed their concern over risks associated with travel during a fire emergency and their desire that USDI Bureau of Land Management (and USDA Forest Service) take actions which would reduce potential risks.

The roads involved in this project are the USDI Bureau of Land Management portion of the primary access routes for residents and visitors to the Elk City area. The project would create a shaded fuel break along Roads 443, 2547, 2515, and 2586A and remove surface and ladder fuels along Highway 14 and 222. This will include removing "Hazard trees" that may fall and block or restrict vehicle passage on the road. Fuel breaks will reduce ground, surface and aerial fuels for 200 feet on each side of the road. This would involve thinning the understory from below, and thinning the overstory sufficient that crown fire would not be supported (@15 feet between crowns). The retention trees would also be pruned up to 10 feet above the ground to ensure limbs would not serve as ladder fuel. A variety of products would be available to offset a portion, if not all, of the service work. The existing fuels and slash generated would be available for biomass but, if a market is not available, they would be chipped or piled and burned.

Roadside treatments accomplished to date include Forest Road #443, Forgotten 400, Buffalo Gulch (RD 2515), and Junction Lodge (Sections of Highway 14). Sweeney Hill (RD 2515 and others) projects are expected to be accomplished in 2009.

Whiskey South

The district court for the District of Idaho issued a permanent injunction against the Whiskey South Integrated Resource Project. The district court held that the discussion of cumulative impacts was not adequate to satisfy NEPA requirements. The court permanently enjoined the project pending compliance

with NEPA and the court's order. The agencies initiated public scoping for the Whiskey South II project. The NEPA will incorporate the original Whiskey South information and address the areas found deficient by the District Court.

Whiskey South II

The proposed project is designed to treat approximately 915 acres of public land to improve forest health, long-term stand viability that would reduce the potential and extent of high intensity wildfires on USDI Bureau of Land Management and adjacent lands. The project also includes work to improve elk winter range and fisheries habitat. The project would create an area where there would be a lower crown fire hazard, decreased potential flame lengths, and lower ember potential (less spotting) on lands adjacent to Elk City subdivisions, the South Fork Clearwater River, Red River and the Crooked River. Methods for accomplishing the project include combinations of commercial harvest; understory thinning; prescribed burning; hand or machine piling and burning; and biomass utilization. Treatments would reduce stand density, remove dead, down and diseased materials, reduce the amount of area dominated by lodgepole pine, and increase the proportion of western larch ponderosa pine and Douglas-fir through planting of these species following treatment. Analysis is expected to be completed in the Spring of 2010.

Miscellaneous Small Fuels Projects

On the scattered parcels of USDI Bureau of Land Management which adjoin private land, use timber harvest, thinning, and machine piling and burning or biomass utilization to reduce fuels and improve forest health. Completed projects include: Tailings 40, Sultan 60, Borowicz 40, Mill Yard 20, Misc. Commercial Firewood (throughout township) and Swale Creek Salvage.

White Bird, Copperville, Main Salmon River, Riggins, Blackhawk Bar and Billy Creek

The focus of these projects is reducing the weed component in these rangeland areas near communities, subdivisions and scattered homes. The weed component results in high fire intensities and increased rates of spread as compared to historic.

Wet Gulch Timber Sale

This project used commercial thinning and shelterwood harvest to improve forest health, regenerate vigorous early seral stands, and improve critical elk winter range. Two strategically located fuel breaks were established on the primary ridges in the area. The fuel breaks were designed to enhance wildland fire control by separating USDI Bureau of Land Management ownership into three compartments of approximately 1,000 acres each. The fuel breaks were not designed to stop a large high-intensity head fire, but to provide a containment opportunity of the lateral spread of a wildland fire. On the ridge between John Day Creek and the South Fork of John Day Creek Drainage, the fuel break treatments were isolated segments meant to tie in between the timber harvest units.

The timber harvest portion of this project was only partially completed due to contractor default. The Brushy Ridge fuel break project was implemented and completed in 2008 to tie fuel break segments together. Several prescribed burning treatments remain to be completed in 2009 or 2010.

Brushy Ridge Fuel Break

The Brushy Ridge fuel break project was implemented and completed in 2008. This project created a 200-300 foot wide shaded fuel break on the ridge top between John Day Creek and the South fork John Day Creek Drainage in the Salmon River canyon near Lucille. This project tied in isolated segments of

shaded fuel break completed under the Wet Gulch project, where the timber harvest units had not been completed.

Bally Mountain Fuels and Forest Health

The Bally Mountain project would reduce surface fuel loading and ladder fuels in the WUI and open timber stands along prominent ridges and road systems to provide opportunities for suppression actions in the event of future wildfires. Where mechanical treatments are not feasible, prescribed fire would be used to meet these objectives. This project would promote stands of fire-resistant ponderosa pine, western larch and healthy Douglas-fir, and restore stands of old growth ponderosa pine in the Little Salmon River drainage. Forest stands would be made more resilient to insects and disease through a combination of stocking controls and sanitation. Returning fire to the landscape would maintain these open conditions and return this area to a lower-severity fire regime.

This project would mechanically treat approximately 694 acres followed by prescribed burning to reduce the slash. Mechanical treatments would include 502 acres of thinning from below, 152 acres by irregular shelter wood, and 40 acres of uneven-aged management. These treatments would be accomplished by commercial logging using tractor (344 acres), cable (273 acres), and helicopter (77 acres) yarding methods. Tractor skidding would not be used on sustained slopes greater than 40 percent. Additionally, up to 15 acres would be treated to encourage aspen regeneration using a combination of tree removal with tractor skidding, mechanical root stimulation, and prescribed burning. This unit may be subsequently fenced to protect seedlings and suckers from browsing animals.

In addition to slash treatments, prescribed fire would be applied to the landscape to reduce surface and ladder fuels on approximately 720 acres. A low to moderate severity underburn would be used to reduce the surface fuel loading gradually over multiple applications with minimal damage to the trees we wish to retain.

This project will tie into ongoing homeowner evaluations conducted by a joint FS and BLM endeavor in the Salmon River corridor to promote fuels reduction in and around private homes. This project is in the planning stages with implementation scheduled for summer 2010.

CONCEPTUAL PROJECTS

Lolo Creek

The Lolo Creek project area is located along the boundary between Idaho County and Clearwater County north of Kamiah. Future fuels treatments may involve multiple ownerships along either side of the Lolo Creek drainage. This project would potentially benefit several communities and scattered homes from Kamiah to Weippe, including Woodland, Pardee, and Caribel. Due to the scattered nature of the USDI Bureau of Land Management ownership, this project area may be divided into smaller projects. Current planning efforts are underway to conduct a timber harvest on 80 acres in 2010.

Citation of this work:

Idaho County. 2009. ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan-Volume I***. October 6, 2009. Idaho County, Idaho. pp. 266.

Idaho County. 2009. ***Idaho County Revised Wildland-Urban Interface Wildfire Mitigation Plan-Volume II***. October 6, 2009. Idaho County, Idaho. pp. 162.

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