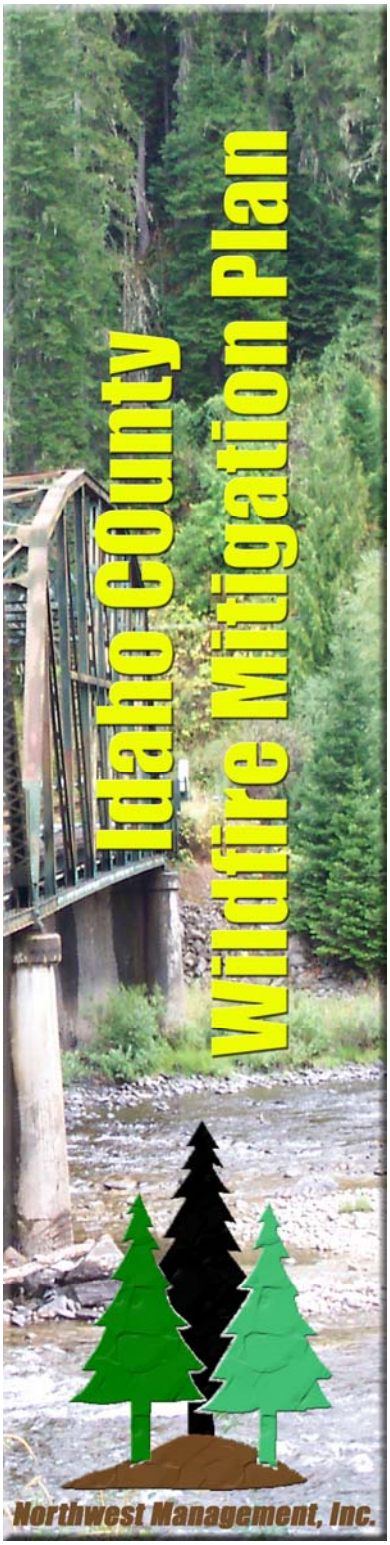

Idaho County, Idaho, Wildfire Mitigation Plan

October 11, 2005

Volume I

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

This plan was developed by the Idaho County Wildland-Urban Interface Wildfire Mitigation Plan Committee in cooperation with Northwest Management, Inc., 233 E. Palouse River Dr., P.O. Box 9748, Moscow, ID, 83843, Tel: 208-883-4488, www.Consulting-Foresters.com

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
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

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

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:

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Chapter I: Overview of this Plan and its Development

1 Introduction

This Wildland-Urban Interface Wildland Fire Mitigation Plan for Idaho County, Idaho, 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 planning team responsible for implementing this project was led by the Idaho County Commissioners. 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 Runners Volunteer 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 Volunteer Fire Department
- 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 list above represents groups and individuals that actively participated in the planning committee. Others were contacted to participate but chose not to. Additionally, all committee meetings were conducted under the Idaho Open Public Meeting Laws and were attended by individuals not represented as formal members of the planning committee. Meetings were announced through local media outlets and the public was encouraged to participate.

The Clearwater Resource Conservation and Development Council, Inc., solicited competitive bids from companies to provide the service of leading the assessment and the writing of the **Idaho County Wildland-Urban Interface Wildfire Mitigation Plan**. Northwest Management,

Inc., was selected to provide this service to the County. Northwest Management, Inc., is a professional natural resources consulting firm located in Moscow, Idaho. Established in 1984 NMI provides natural resource management services across the USA. The Project Co-Managers from Northwest Management, Inc., were Dr. William E. Schlosser, Mr. Toby R. Brown, and Mrs. Tera R. King.

1.1 Goals and Guiding Principles

1.1.1 Federal Emergency Management Agency Philosophy

Effective November 1, 2004, a Local Wildfire Mitigation Plan approved by the Federal Emergency Management Agency (FEMA) is required for Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation Program (PDM) eligibility. 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 new local Wildfire Mitigation Plan requirements for HMGP and PDM eligibility is 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 Part 201. The plan criteria covers 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:

Idaho Bureau of Homeland Security
4040 Guard Street, Bldg 600
Boise, ID 83705

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

1.1.2 United States Government Accounting Office

1.1.2.1 Technology Assessment - April 2005 – "Protecting Structures and Improving Communications during Wildland Fires"

1.1.2.1.1 Why GAO Did This Study

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 2 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 some 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.

GAO was asked to assess, among other issues, (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.

1.1.2.1.2 What 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, some 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 following common standards or with enhanced capabilities 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.

1.1.3 Additional State and Federal Guidelines Adopted

The Wildland-Urban Interface Wildfire Mitigation Plan is compatible with FEMA requirements while also adhering to the guidelines proposed in the National Fire Plan, the Idaho Statewide Implementation Plan, and the Healthy Forests Restoration Act (2004). 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)
- 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 NFP 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.

1.1.3.1 National Fire Plan

The goals of this Wildland-Urban Interface Fire Mitigation Plan include:

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

Its three guiding principles are:

1. Priority setting that emphasizes the protection of communities and other high-priority watersheds at-risk.
2. Collaboration among governments and broadly representative stakeholders
3. Accountability through performance measures and monitoring for results.

This Wildland-Urban Interface Fire Mitigation Plan fulfills the National Fire Plan's 10-Year Comprehensive Strategy and the Idaho Statewide Implementation Strategy for the National Fire Plan. The projects and activities recommended under this plan are in addition to other Federal,

state, and private / corporate forest and rangeland management activities. The implementation 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 implementation 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.

The National Fire Plan identifies 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 Prtotection Plan” (NACO 2004). Local level collaboration involves participants with direct responsibility for management decisions affecting public and/or 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.

1.1.3.2 Idaho Statewide Implementation Strategy

The Strategy adopted by the State of Idaho is to provide a framework for an organized and coordinated approach to the implementation of the National Fire Plan, specifically the national “10-Year Comprehensive Strategy Implementation Plan”.

Emphasis is on a collaborative approach at the following levels:

- County
- State

Within the State of Idaho, the Counties, with the assistance of State and Federal agencies and local expert advice, will develop a risk assessment and mitigation plan to identify local vulnerabilities to wildland fire. A Statewide group will provide oversight and prioritization as needed on a statewide scale.

This strategy is not intended to circumvent any work done to date and individual Counties should not delay implementing any National Fire Plan projects to develop this county plan. Rather, Counties are encouraged to identify priority needs quickly and begin whatever actions necessary to mitigate those vulnerabilities.

It is recognized that implementation activities such as; hazardous fuel treatment, equipment purchases, training, home owner education, community wildland fire mitigation planning, and other activities, will be occurring concurrently with this County wide planning effort.

1.1.3.2.1 County Wildland Fire Interagency Group

Each County within the State has been requested to write a Wildland Fire Mitigation Plan. These plans should contain at least the following five elements:

1) Documentation of the process used to develop the mitigation plan. How the plan was developed, who was involved and how the public was involved.
2) A risk assessment to identify vulnerabilities to wildfire in the wildland-urban interface (WUI).
3) A prioritized mitigation strategy that addresses each of the risks. Examples of these strategies could be: training for fire departments, public education, hazardous fuel treatments, equipment, communications, additional planning, new facilities, infrastructure improvements, code and/or ordinance revision, volunteer efforts, evacuation plans, etc.
4) A process for maintenance of the plan which will include monitoring and evaluation of mitigation activities
5) Documentation that the plan has been formally adopted by the involved agencies. Basically a signature page of all involved officials.

This five-element plan is an abbreviated version of the FEMA mitigation plan and will begin to meet the requirements for that plan. To develop these plans each county should bring together the following individuals, as appropriate for each county, to make up the County Wildland Fire Interagency Group. It is important that this group has representation from agencies with wildland fire suppression responsibilities:

- County Commissioners (Lead)
- Local Fire Chiefs
- Idaho Department of Lands representative
- USDA Forest Service representative
- USDI Bureau of Land Management representative
- US Fish and Wildlife representative

- Bureau of Indian Affairs
- Local Tribal leaders
- Idaho Bureau of Homeland Security
- LEPC Chairperson
- Resource Conservation and Development representative
- State Fish and Game representative
- Interested citizens and community leaders as appropriate
- Other officials as appropriate

Role of Resource Conservation and Development Councils (RC&D): If requested by the County Commissioners, the local RC&D's may be available to assist the County Commissioners in evaluating each County within their council area to determine if there is a wildland fire mitigation plan in place, or if a plan is currently in the development phase. If no plan is in place, the RC&D's, if requested, could be available to assist the Commissioners with the formation of the County Wildland Fire Interagency Group and/or to facilitate the development of wildland fire mitigation plan.

If a plan has been previously completed, the Commissioners will determine if the recommended five elements have been addressed. The Counties will provide a copy of the completed mitigation plan to the Idaho Department of Lands National Fire Plan Coordinator, which will include a contact list of individuals that developed the plan.

1.1.3.3 National Association of State Foresters

1.1.3.3.1 Identifying and Prioritizing Communities at Risk

This plan is written with the intent to provide the information necessary for decision makers (elected officials) to make informed decisions in order to prioritize projects across the entire county. These decisions may be made from within the council of Commissioners, or through the recommendations of ad hoc groups tasked with making prioritized lists of projects. It is not necessary to rank projects numerically, although that is one approach, rather it may be possible to rank them categorically (high priority set, medium priority set, and so forth) and still accomplish the goals and objectives set forth in this planning document.

The following was prepared by the National Association of State Foresters (NASF), June 27, 2003, and is included here as a reference for the identification of prioritizing treatments between communities.

Purpose: To provide national, uniform guidance for implementing the provisions of the "Collaborative Fuels Treatment" MOU, and to satisfy the requirements of Task e, Goal 4 of the Implementation Plan for the 10-Year Comprehensive Strategy.

Intent: The intent is to establish broad, nationally compatible standards for identifying and prioritizing communities at risk, while allowing for maximum flexibility at the state and regional level. Three basic premises are:

- Include all lands and all ownerships.
- Use a collaborative process that is consistent with the complexity of land ownership patterns, resource management issues, and the number of interested stakeholders.
- Set priorities by evaluating projects, not by ranking communities.

The National Association of State Foresters (NASF) set forth the following guidelines in the Final Draft Concept Paper; Communities at Risk, December 2, 2002.

Task: Develop a definition for "communities at risk" and a process for prioritizing them, per the Implementation Plan for the 10-Year Comprehensive Strategy (Goal 4.e.). In addition, this definition will form the foundation for the NASF commitment to annually identify priority fuels reduction and ecosystem restoration projects in the proposed MOU with the federal agencies (section C.2 (b)).

1.1.3.3.2 Conceptual Approach

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 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.

1.1.3.4 Healthy Forests Restoration Act

On December 3, 2003, President Bush signed into law the Healthy Forests Restoration Act of 2003 to reduce the threat of destructive wildfires while upholding environmental standards and encouraging early public input during review and planning processes. The legislation is based on sound science and helps further the President's Healthy Forests Initiative pledge to care for America's forests and rangelands, reduce the risk of catastrophic fire to communities, help save the lives of fire fighters and citizens, and protect threatened and endangered species.

Among other things the Healthy Forests Restoration Act (HFRA):

- Strengthens public participation in developing high priority projects;
- Reduces the complexity of environmental analysis allowing federal land agencies to use the best science available to actively manage land under their protection;

- Creates a pre-decisional objections process encouraging early public participation in project planning; and
- Issues clear guidance for court action challenging HFRA projects.

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

1.1.4 Local Guidelines and Integration with Other Efforts

1.1.4.1 Idaho County Fire Mitigation Planning Effort and Philosophy

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

1.1.4.1.1 Mission Statement

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 combined prioritization will be 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.

1.1.4.1.2 Vision Statement

Institutionalize and promote a countywide wildfire hazard mitigation concept through leadership, professionalism, and excellence, leading the way to a safe, sustainable Idaho County.

1.1.4.1.3 Goals

- To reduce the area of 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
- To provide a 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
- Meet or exceed the requirements of the National Fire Plan and FEMA for a County level Fire Mitigation Plan

Chapter 2: Documenting the Planning Process

2 Initiation

Documentation of the planning process, including public involvement, is required to meet FEMA's DMA 2000 (44CFR§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 Idaho County Wildland-Urban Interface Wildfire Mitigation Plan was developed through a collaborative process involving all of the organizations and agencies detailed in Section 1.0 of this document. The County Commissioner's Office contacted these organizations directly to invite their participation and schedule meetings of the planning committee. The planning process included 5 distinct phases which were in some cases sequential (step 1 then step 2) and in some cases intermixed (step 4 completed throughout the process):

1. **Collection of Data** about the extent and periodicity of hazards in and around Idaho County. This included an area encompassing Nez Perce, Lewis, Clearwater, Valley, Adams, and Lemhi Counties to insure 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 Team

Planning efforts were led by the Project Co-Directors, Dr. William E. Schlosser, Toby R. Brown, B.S., and Tera R. King, B.S., of Northwest Management, Inc. Dr. Schlosser's education includes 4 degrees in natural resource management (A.S. geology; B.S. forest and range management; M.S. natural resource economic & finance; Ph.D. environmental science and regional planning). Mr. Brown received a Bachelor of Science degree in forest resource management from the University of Washington. Mrs. King has earned a Bachelor of Science degree in natural resource management from the University of Idaho. Leading efforts from Idaho County, was Jerry Zumalt, Idaho County Disaster Management Coordinator, who organized meetings, facilitated information management, and coordinated many activities associated with the development of the plan.

They led a team of resource professionals that 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 US Forest Service, the Bureau of Land Management, fire mitigation specialists, resource management professionals, and hazard mitigation experts.

The planning team 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.

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal and state agencies was integrated into the database of knowledge used in this project. Meetings with the 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 were in attendance and shared their support and experiences with the planning process and their interpretations of the results.

2.2.1 Multi-Jurisdictional Participation

CFR requirement §201.6(a)(3) calls for multi-jurisdictional planning in the development of Wildfire Mitigation Plans which impact multiple jurisdictions. 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 scheduled municipality public meeting (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.

- Written correspondence was provided monthly 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) serve in a full-time capacity; all of them have other employment and serve the community through a convention of community service. Recognizing this, 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 some 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 insure the multi-jurisdictional planning necessitated by this process.

2.3 Public Involvement

Public involvement in this plan was made a priority from the inception of the project. There were a number of ways that public involvement was sought and facilitated. In some cases this led to members of the public providing information and seeking an active role in protecting their own homes and businesses, while 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 Wildland-Urban Interface Wildfire Mitigation Planning Committee, news releases were submitted to the Idaho County Free Press newspaper. Informative flyers were also distributed around town and to local offices through the committee.

Figure 2.1. Sample media release provided to local media.

Media Release

From: William E. Schlosser, Fire Mitigation Project Leader
Date: April 29, 2005
RE: Idaho County Wildland Fire Mitigation Plan

Idaho County Plans to Mitigate Wildfire Risk

The Idaho County Commissioners have created a Wildland Fire Mitigation Plan Committee to complete a Wildfire Mitigation Plan for Idaho County as part of the National Fire Plan and Healthy Forests Restoration Act as authorized by Congress and the White House. The Idaho County Wildfire Mitigation Plan will include risk analysis at the community level with predictive models for where fires are likely to ignite and where they are likely to spread rapidly once ignited. Northwest Management, Inc. has been retained by the Clearwater RC&D Council, Inc. on behalf of Idaho County to provide wildfire risk assessments, mapping, field inspections, and interviews, and to collaborate with the committee to prepare the plan. The committee includes rural and wildland fire districts, land managers, elected officials, agency representatives, and others. Northwest Management, Inc. specialists are conducting analyses of fire prone landscapes and making recommendations for potential treatments. Specific activities for homes, structures, infrastructure, and resource capabilities will be proposed as part of the analysis.

One of the most important steps in gathering information about fire risk in Idaho County is to conduct a homeowner's survey. Northwest Management, Inc., in cooperation with local fire officials, will mail a brief survey to randomly selected homeowners in the county seeking input about home construction materials, proximity to water sources, and other risk factors surrounding homes. This survey is very important to the success of the plan. Those homeowners that receive a survey are asked to please take the time to complete it, thereby benefiting the community overall.

The planning team will be conducting public meetings to discuss preliminary findings and to seek public involvement in the planning process in mid June. A notice on the date and location of these meetings will be posted in local newspapers.

For more information on the Fire Mitigation Plan in Idaho County contact your County Commissioners at 208-983-2751 or William Schlosser at the Northwest Management, Inc. office in Moscow, Idaho at 208-883-4488.

2.3.1.1 Press Coverage

Committee and public meeting announcements were published in the local newspapers ahead of each meeting. During the development of the Wildfire Mitigation Plan editorials were submitted to local newspapers. There was also coverage of the public meetings.

Figure 2.2. June 8, 2005, Idaho County Free Press article.

In Sports •
Kamiah students get taste of trapshooting
Page 1B

IDAHO'S OLDEST WEEKLY NEWSPAPER
Since 1886

Inside •
Thousands awarded to graduating seniors
Page 2B

IDAHO COUNTY FREE PRESS

Grangeville, Idaho | WEDNESDAY, JUNE 8, 2005 | Vol. 119 No. 23 50 cents

Public input sought on wildfire mitigation plan for Idaho County

A series of public meetings start next Tuesday to provide information and take input on development of a wildland-urban interface wildfire mitigation plan for Idaho County.

Meetings will last around 1.5 hours. Locations are as follows:

TUESDAY, JUNE 14

- Elk City: Red River Ranger District Office, 6:30 p.m.
- Cottonwood: Cottonwood City Hall, 7 p.m.

WEDNESDAY, JUNE 15

- Grangeville: Elks Lodge, 7 p.m.

THURSDAY, JUNE 16

- Riggins: Riggins City Hall, 7 p.m. (MT)
- Kooskia: Kooskia City Hall, 7 p.m.

Meetings will include slideshow presentations from wildfire mitigation specialists working on Idaho County's wildfire mitigation plan. Input will help developers frame efforts of wildfire mitigation treatments, fire district resource enhancements and public land management.

For information, contact the Idaho County Commission at 983-2751, Dan Pierce with the Clearwater RC&D office at 882-4960, ext. 4, or William Schlosser at Northwest Management, Inc., at 883-4488.

Figure 2.3. June 10, 2005 Central Idaho Post Article.

Idaho County, Idaho Fire Mitigation Plan

Public Meetings!

Elk City: Tuesday, June 14, 6:30 PM
USFS, Red River Ranger District Office
Cottonwood: Tuesday, June 14, 7:00 PM, City Hall
Grangeville: Wednesday, June 15, 7:00 PM, Elks Lodge 1825
Riggins: Thursday, June 16, 7:00 PM, City Hall
Kooskia: Thursday, June 16, 7:00 PM, City Hall

These public meetings will address the **Wildland-Urban Interface Wildfire Mitigation Plan** for our communities. These meetings are open to the public and will include slideshow presentations from wildfire mitigation specialists working on the Idaho County Wildfire Mitigation Plan. Public input is being sought in order to better frame the County's efforts of wildfire mitigation treatments, fire district resource enhancements, and public land management.

This meeting will last for approximately 1.5 hours.

Please attend and participate!

Learn about the assessments of Wildfire Risk and the Wildland-Urban Interface of Idaho County. Discuss ***YOUR*** priorities for how our communities can best mitigate these risks. For more information on Wildfire Mitigation Plan projects in Idaho County, contact your county Commissioners, Dan Pierce with the Clearwater RC&D office at 208-882-4960 ext.4, or William Schlosser at Northwest Management, Inc. 208-883-4488.

Figure 2.4. June 15, 2005 Idaho County Free Press article.

White Bird Rodeo This Weekend!

IDAHO COUNTY FREE PRESS

Vol. 119 No. 24 50 cents

WEDNESDAY, JUNE 15, 2005

Grangeville, Idaho

Prevention our best defense against wildfire

Prevention is truly the best defense. Before the flames of summer wildfires begin licking at your doorstep, property owners in the wildland-urban interface should be adopting measures to keep that blaze as far as possible from home and hearth.

This is a good time to start thinking fire safety. June 19-25 is Idaho Wildfire Awareness Week, when the emphasis is on how property owners can protect themselves through projects and improvements to minimize fire danger, as well as the commonsense measures to employ to keep public lands from turning into flaming infernos.

"In Idaho County, defensible space is a concern for residents who live here year-round," said Jill Wilson, Red River Ranger District fire education and mitigation.

Too true as Idaho County living means homes and vacation cabins off the beaten path in forested, rural areas. We value that retreat into seclusion, but that amenity can be a detriment if we allow our properties to become "too" natural.

So, what can you do?

The first thing starts with you and your property. Agencies such as the Idaho Department of Lands and the Forest Service have plenty of information to help you help yourself in creating defensible space around your property. Much is common sense, but it is a good review to be reminded of the obvious.

The second starts with becoming active in community prevention efforts, such as with a fire department or district. Encompassing all this is a wildland-urban interface mitigation plan currently under development by Idaho County. Public meetings run this week through Thursday in local communities for input into the plan:

- Grangeville: Wednesday, June 15, 7 p.m., Elks Lodge
- Riggins, Kooskia: Thursday, June 16, 7 p.m., city hall (respectively).

Apart from death and taxes, nothing in life is certain, but taking preventive measures before a wildland fire is your best defense against it.

— **David Rauzi** for the editorial board

Figure 2.5. June 22, 2005 Free Press Article.

Inside • Fair royalty candidates sought **Page 8A**

IDAHO'S OLDEST WEEKLY NEWSPAPER
Since 1886

In Sports • Neuenschwander wins Crash Bash Derby **Page 1B**

IDAHO COUNTY FREE PRESS

Grangeville, Idaho | WEDNESDAY, JUNE 22, 2005 | Vol. 119 No. 25 50 cents

Heat of the moment

Wildfire mitigation meetings find where needs are for Idaho County

BY DAVID RAUZI
EDITOR, IDAHO COUNTY FREE PRESS

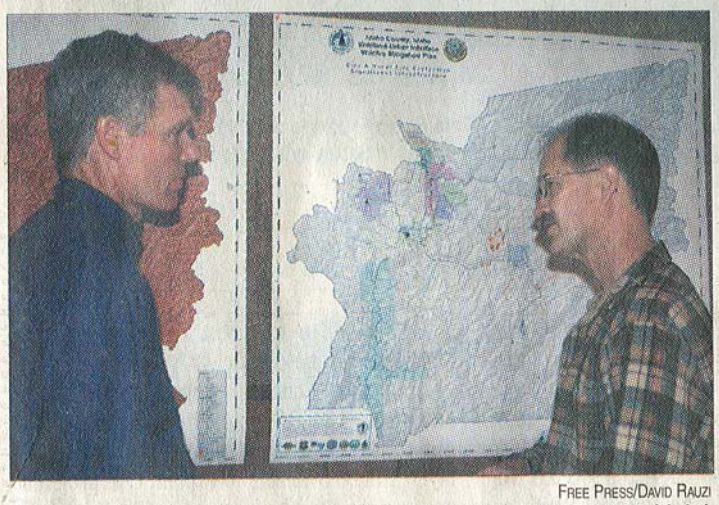
GRANGEVILLE — Idaho County is wildfire country.

Though an obvious fact, what is not so apparent is where the dangers lie and what are the obstacles in addressing them.

What is the surprising revelation? The problems are as close as your own backyard.

A statistical picture in maps and photos accompanied presentations held in five Idaho County communities last week, part of the public comment phase in development of a wildland-urban interface wildfire mitigation plan for Idaho County.

"Fire plays a major role out here in shaping our forest environment," said Bill Schlosser, Northwest Management, Inc., of Moscow, speaking at last Wednesday's meeting in Grangeville. It is a major component of the county's management plan, "especially when we have these fires around our homes and communities."



FREE PRESS/DAVID RAUZI

Idaho County Disaster Management Coordinator Jerry Zumalt (right) talks with a staff member with Northwest Management, Inc., following last week's public meeting in Grangeville.

Working with the Clearwater RC&D Council, NMI is contracted to develop the mitigation plan for Idaho County, made possible through funding from the Bureau of Land Management. Overall, $50,000 was allotted by the BLM for plan development for the five North Central Idaho counties — including Latah, Lewis, Nez Perce and Clearwater — and is one required component for an all-hazards plan mandated by the Federal Emergency Management Agency that all counties develop.

Overall, the plan must adhere to standards set by FEMA, the National Fire Plan and the Healthy Forests Restoration Act. Adoption of the plan qualifies the county to apply for funding of mitigation efforts and assistance from other collaborating entities.

"This starts the framework to find out what the needs are," said Mark Craig, forestry and fields program manager for the BLM's Cottonwood office.

Employing statistical analysis, a public survey and last week's community meetings, NMI is working toward a comprehensive fire plan that addresses a multitude of issues involving fire conditions, prepared-

See **Wildfire,** Page 3A

Figure 2.5. June 22, 2005 Free Press Article.

IDAHO COUNTY FREE PRESS

Wildfire: Work voluntary

Continued from Page 1A

ness of responding agencies, and what landowners and homeowners see as concerns.

But one thing it won't be is compulsory, noted Schlosser.

"For private landowners, this is 100 percent voluntary," he said. Mitigation efforts won't be mandated. "That's their constitutional right to do it themselves," and added, "For those who do want to do it, we want to help facilitate it."

What form that help would take was questioned by some of the approximate 17 people attending the Grangeville meeting held June 15. Schlosser said plan approval qualifies the county to apply for federal funding for mitigation efforts. These might include equipment and resources for fire districts, and cost-share monies to landowners to conduct fire prevention projects on their properties.

Idaho County has no land use planning, no building codes. "That's a good thing, and that has consequences," he said.

From his experience, Schlosser said approaches to landowners on conducting mitigation were initially rejected. Later, however, this would change, often resulting from neighbors encouraging neighbors through application and example on their own properties.

Wildland-urban interface (WUI) was coined a few years ago to address the encroachment of development into forests and rangelands. As wildfire is a natural part of the western ecosystem, methods have been developed to allow property owners to protect their property, even during extreme conditions without direct firefighter protection.

Even in high-danger wildfire areas, the potential threat to property can be turned around through mitigation efforts, Schlosser noted, but this doesn't necessarily necessitate extreme measures.

"It doesn't mean treating 80 acres," he said. "It means treating the space around your home."

Recommended efforts focus efforts in three zones radiating from the home. The first zone recommends employing nonflammable building materials (siding, roofing) and removing debris from roofs and gutters. The next zone takes in a 100-foot radius where fire-resistant landscaping is installed and well-watered. Beyond this zone, efforts focus on thinning efforts and, if possible, replacement of less fire-prone species.

Apart from this plan, help is already available for property owners. Dave Summers with the Idaho Department of Lands Maggie Creek District out of Kamiah noted one grant application in the process that would fund treatment efforts in a section of the county which the owners could choose to do themselves or contract out. On-site evaluations are also made available to advise property owners on fire prevention methods to apply.

The funding is there, Summers noted, however, time will see these dollars decrease and the competition increase as more counties come on board with approved mitigation plans.

"We're definitely not in as good a position as we were three to four years ago," Summers said.

With these meetings completed, the planning committee will review information and comments to develop a draft plan. Public comment will be sought on this draft, and after any additional changes it will be submitted to the Idaho County Commissioners and area city councils for adoption.

Schlosser noted adoption doesn't mean it ends there. The plan is meant to continue to change to adapt to changing concerns and priorities.

"We have to make sure this process isn't an end in itself," he said.

Figure 2.6. June 28, 2005, Salmon River Current Article.

Levy Vote Today p 17

The Salmon River Current july
Riggins, Idaho

(kur' ent) n. a general tendency or drift as in opinion

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County Commissioner Comments

Jim Rehder
Idaho County Commissioner

Greetings to residents of the Riggins valley and beyond. It is nearly six months since being sworn into office. I have been very busy learning county government processes and working to resolve a backlog of issues. Effort continues to strengthen relations in the courthouse--we now have monthly elected official meetings for effective communication and teamwork. We are currently building relationships outside of the courthouse with county residents, governmental agencies, and communities. I will list a few of the issues we are addressing in the county.

The new Idaho County website was launched on May 1, 2005 to improve communication with county constituents. You are encouraged to go to www.idahocounty.org for county information. Weekly Commission agenda are posted each Friday evening and approved Commission meeting minutes are posted under the Commissioner tab. Check it out. We will be upgrading the website as needed for better service to our constituents.

Idaho County had a successful auction in Grangeville and Kooskia in disposing of surplus county property. Most of the auction receipts will go to the road department and drug enforcement funds. The auction helped create much needed space.

Disaster management coordinator, Jerry Zumalt, is working to develop a county disaster management plan--Jerry started on March 22. He is working with all emergency responders throughout the county in the Local Emergency Planning Committee. Education, training, procurement of equipment, and emergency procedure development is progressing.

The county fire mitigation planning process is progressing. Community meetings were held throughout the county (I attended the Riggins & Elk City meetings). We are seeking a fire mitigation coordinator who will be paid through grant funds to develop a county fire plan. We are one of the last counties to get this process completed.

Figure 2.7. June 29, 2005 Free Press Article.

BORDER DAYS July 2-3-4

IDAHO'S OLDEST WEEKLY NEWSPAPER SINCE 1886

IDAHO COUNTY FREE PRESS

Grangeville, Idaho WEDNESDAY, JUNE 29, 2005 Vol. 119 No. 26 50 cents

Plan clearly lays out fire safety issues

In My Opinion

By Mark Anderson

After reading a recent letter to the editor and listening to the comments at the public meeting to discuss the Idaho County Fire Mitigation Plan I feel the need to make some comments.

The comments opposing grants particularly concerned me. A number of years ago two firefighters (age 18 and 31), members of the Kuna Volunteer fire department, were killed when their 40-year-old fire truck failed them and they were overrun by a fire. I find it very disturbing to see our firefighters using obsolete or worn-out equipment. I have also seen firefighters with holes or tears in their protective equipment or lacking proper equipment.

As the current fire chief of Kooskia I feel my highest priority is the safety and lives of both my firefighters and the public. I feel equipment grants are a key tool to accomplish this objective. Most fire departments are aware of the requirements for these grants and find them reasonable. They include things such as spending the money for the items requested in the grant, getting the best possible prices, and submitting fire reports to the State of Idaho and the U.S. Fire Administration. I believe these grants are a good value for both the people providing the money and the communities receiving them. Many of the small departments in the area could not afford good equipment without help.

The second issue I am going to comment on is the Idaho County Fire Plan. I would like to compliment the staff at Northwest Management for an excellent presentation. Some important points came out. The plan will clearly lay out the needs and priorities of the county in protecting our citizens from wildland fire. It was pointed out that the Healthy Forests Restoration Act requires federal land management agencies to prioritize issues identified in the county plans. I believe it gives these agencies leverage to get projects that increase the fire safety of the community and improve the health of the timber stands on public lands through the planning and appeals process and see that they happen. These could include but are not limited to thinning of stands, fuels reduction projects and timber sales.

We need to get a good plan in place and use it as a tool to work with the Forest Service, BLM and all other land management agencies. It should also be used to help willing private landowners to accomplish the goal of keeping their timber stands healthy and safe from fire.

Mark Anderson is the fire chief for the Kooskia Fire Department.

Figure 2.8. June 30, 2005 Lewiston Morning Tribune Article.

IT'S THURSDAY, JUNE 30, 2005

< Brandt kicks off run for Congress / Northwest, 1C

> Couple celebrate 82 years of marriage / Page 2A

> Hitting the trail is highlight of camp / Outdoors, 1E

Roddick advances to semifinals

> SPORTS, PAGE 1B

The LEWISTON TRIBUNE

ECTIONS COVERING LEWIS AND CLARK COUNTRY SINCE 1892 50

Elk City not giving up

Residents who fear wildfire threat work to speed process to allow logging of dead and dying trees

By ERIC BARKER
OF THE TRIBUNE

ELK CITY — Residents of this small mountain town pledged resolve Wednesday in the face of a slow-moving push to make their community more wildfire resistant and economically secure.

Federal land management officials said they would continue to work on projects designed to log fire-prone timber while Idaho County commissioners and political representatives promised to pitch in and do what they can to speed the process.

Commissioners and town leaders organized a forest tour and round-table discussion attended by about 45 people.

Ongoing efforts to remove dead and dying timber from the federal forests surrounding the town have been slowed and stopped by appeals and lawsuits from environmental groups. But residents were heartened when officials from the U.S. Forest Service and Bureau of Land Management said they are committed to seeing the projects through.

"I'm seeing the agencies starting to push beyond the first hurdle to the second hurdle and the third hurdle," said Earl Sherrer of Elk City. "If you keep pushing we are behind you 100 percent. We will push you over that last hurdle, just get to the that last hurdle."

The lodgepole pine-dominant forests around the town have been hit hard by a mountain pine beetle infestation that has left millions of dead and dying trees. Many of the residents fear a large wildfire would threaten property and lives.

Both the BLM and the Forest Service have been working on timber sales designed to slow fires, but the process has been long and at least one project has been stopped by an environmental lawsuit. Poor water quality in the basin that is blamed on past logging and mining has exacerbated the problem.

Some of the federal officials expressed frustration with the process. The BLM had begun to implement the Whiskey South project in the southwest corner of the Elk City township but it was stopped when a federal judge ruled the agency had not properly analyzed the cumulative effects of the project and other timber harvests on both federal and private land in the area.

"There is a huge amount of country out there we haven't touched and we won't touch," said Greg Yuncevich, area manager of the BLM's Cottonwood Field Office. "Yet

> See ELK CITY, Page 5A

Figure 2.8. June 30, 2005 Lewiston Morning Tribune Article.

ELK CITY: Sen. Crapo encourages collaborative talks

> Continued from PAGE 1A

we are fighting over this small area around town. It just makes you wonder."

The American Crooked project by the Forest Service would cut trees adjacent to the Whiskey South project. Both are designed to give firefighters a place to stop wild fires advancing on the town

"It connects the dots," said Josh Bransford, a fuels specialist on the Red River Ranger District. "It kind of connects it on a landscape scale."

The project has been appealed by environmental groups.

The federal land managers said the projects are environmentally sound but they are occurring in an area environmental groups see as key to protecting diverse fish and wildlife species

"The issue isn't about the science. I want to make that perfectly clear," said Yuncevich. "It's about the politics of environmental policy."

At a round-table discussion following the tour, Mitch Silvers, regional director of U.S. Sen. Mike Crapo, R-Idaho, encouraged the community and federal officials to begin collaborative talks aimed at building support for the logging and thinning projects. He said a similar process on the Clearwater National Forest between elk advocates, environmental groups and others has produced results.

"It's not an easy process. It's not a quick process but it might be the only process we have that will produce long-term lasting effects." said Silvers.

Federal officials said a united community and county would only help them in future litigation.

"This is the stuff that makes things happen in the forest," said Melany Glossa, ecosystem staff officer for the Nez Perce National Forest. "Having the support of the community is a huge bonus."

They hope that support coupled with a strong collaborative process with support from diverse groups will help the agency when it faces legal challenges.

"It only strengthens support for our projects when we do end up in court," said Jane Cottrell, supervisor of the Nez Perce National Forest. "I think the courts will take that more and more into account."

The tour was not attended by representatives of local environmental groups who have been active on the forest. A representative from the Idaho Conservation League had a previous engagement. Gary Macfarlane of the Friends of the Clearwater at Moscow also had a previous engagement, did not like the way the agenda was set up and feared hostility from some people at Elk City.

Despite their absence, many said they should be invited to participate in the future.

"I think you need to continue to ask them because they want a healthy forest, also," said Jeff Sayre, of U.S. Sen. Larry Craig's, R-Idaho, office at Lewiston.

Barker may be contacted at ebarker@lmtribune.com.

Figure 2.9. September 7, 2005 Idaho County Free Press Article

Inside • First day of school time to make friends **Page 6A**

IDAHO'S OLDEST WEEKLY NEWSPAPER *Since 1886*

In Sports • GHS drops opener at McCall 18-8 **Page 1B**

IDAHO COUNTY FREE PRESS

Grangeville, Idaho | WEDNESDAY, SEPTEMBER 7, 2005 | Vol. 119 No. 36 50 cents

Forest treatment projects reflect public interest

Comment due Sept. 12 on county wildfire mitigation plan

By David Rauzi
Editor, Idaho County Free Press

Plans for preventing the disasters yet to come or minimizing their effects if they do are laid out for public review in the Idaho County Wildfire Mitigation Plan.

Public comment is due by next Monday, Sept. 12. The timetable next calls for the plan committee to meet and finalize any revisions to the final draft which will tentatively be presented to the Idaho County Commission for adoption at its regular Sept. 26 meeting.

Unlike many plans that once drafted collect dust on the shelf, these policies will remain in the county's forefront due to a built-in review process.

"The commission needs to redress these annually, and they will do this through an interagency interface committee," said William Schlosser of Northwest Management, Inc. (NMI), of Moscow, project manager for the plan.

The plan recommends establishing the committee that regularly reviews these policies. Any updates or modifications will be recommended to keep the plan current to continually changing needs.

"And the committee will assist the commissioners in doing that," he said.

Plan development began earlier this year, funded by the BLM and con-

See **Plan**, Page 3A

Plan available for review

Copies of the draft plan are available throughout the county at city hall offices, and Nez Perce and Clearwater national forest districts. Electronic versions are also available for download off the Idaho County Web site: www.idahocounty.org.

For information or questions on the fire mitigation plan contact, Northwest Management, Inc. project manager William Schlosser at 883-4488 or Jerry Zumalt, Idaho County Disaster Management Coordinator at 983-3074.

Idaho County Free Press

Plan: Good participation

Continued from Page 1A

tracted to NMI. It identifies potential fire risks across the region, what mitigation and emergency resources are in place, and recommends actions and projects to prevent or minimize future fire incidents

This is one component of an all-hazards plan mandated for counties by the Federal Emergency Management Agency. Once adopted, the plan qualifies public entities to apply for funding mitigation efforts, which could go toward fire department equipment and training to conducting fire prevention work around properties in Wildland-Urban Interface (WUI) areas.

Public meetings on the plan, held this spring in several county locations, served a twofold purpose of educating residents on the process as well as gathering what the on-the-ground needs and concerns were.

"It added a lot of the depth and flare of Idaho County to the whole plan," Schlosser said.

What specifically came out at these meetings was a high level of public interest in doing forest treatment projects.

"Lots of treatments need to be done around the county," he said.

Ironically, one of those in the plan was unintentionally conducted last month as part of the Blackerby Fire near Mt. Idaho. But even with the recent wildfires, many areas are still in need of fuels reduction and other wildfire mitigation efforts, and they range across the region from Mt. Idaho and along the U.S. Highway 95 corridor, to White Bird and Elk City and beyond.

Thousands of acres — from Kamiah and Stites to Clearwater, Harpster and Lowell — have been proposed, for example, for defensible space treatment. Projects range in size from 41 acres to more than 3,000 acres with implementation costs ranging from $40,000 to $3.1 million.

"In the plan there isn't a bad project proposed," Schlosser noted.

At the individual level, a focus for the plan is the WUI, working with private landowners who wish to participate in making their property fire safe. This could include a combination of methods ranging from fuels reduction and fire-resistant landscaping to improving road access.

Expanding to regional concerns, needs that were identified included areas not served or underserved by existing fire protection districts. One proposal was for the creation of a Glenwood fire protection district which would include this and the surrounding areas of Woodland, Caribel and Kamiah. Another was for a Grangeville Harpster expansion district to include nonprotected areas between these two communities. Another unprotected region included such areas as Mallard Creek, Newsome and Orogrande which have no formal protection district but have relied on the Elk City and Dixie agencies. This area could benefit from establishing its own district and/or in formal cooperative protection agreements.

Overall this draft proposal is as complex as it is comprehensive.

"It is the largest one we've ever written," Schlosser said, "and I have five of them under my belt."

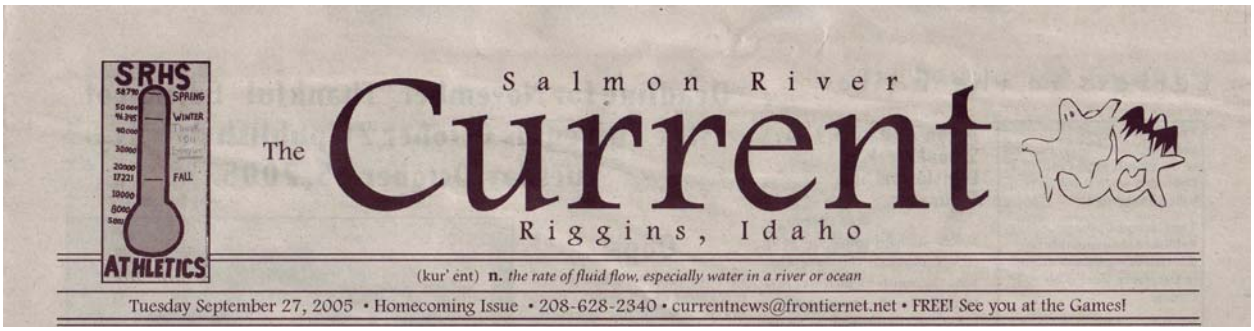
At approximately 350 pages this "super-sized" plan is reflective of the region it represents: Idaho's largest county, involving numerous towns and unincorporated communities, as well as numerous public entities from the local right up to the federal levels.

"It was very involved," he said, "and fortunately the committee [which developed the draft plan] was really representative of these communities."

Of particular note was the above-average public participation in the development process, Schlosser noted, in citizen involvement and interest in accomplishing projects. Overall, residents took real ownership in the whole process.

"Folks there really participated," he said. "Hats off to Idaho County."

Figure 2.10. September 7, 2005 Salmon River Current Article



SRHS ATHLETICS

The Salmon River Current

Riggins, Idaho

(kur' ent) n. *the rate of fluid flow, especially water in a river or ocean*

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Idaho County Wildland Fire Mitigation Plan

The Wildland Fire Mitigation Planning Committee will be reviewing the public comments and making final edits to the plan on October 3rd at 2 pm at the Soltman Center located on the south side of Main Street across from the hospital and next to Ernie's restaurant in Grangeville. The final plan will be presented to the Idaho County Commissioners on Tuesday October 11th at 10 am at the commissioner's chambers=

The Idaho County Wildland Fire Mitigation Plan includes risk analysis at the community level with predictive models for where fires are likely to ignite and where they are likely to spread once ignited. The coordination for this effort is being provided by the Clearwater RC&D Council, Inc. in cooperation with the Idaho County Commissioners. The committee includes rural and wildland fire districts, land managers, elected officials, agency representatives, and others.

For more information on the Fire Mitigation Plan or if you have questions contact, Northwest Management, Inc. Project Manager William Schlosser at (208) 883-4488 or Jerry Zumalt, Idaho County Disaster Management Coordinator, at (208) 983-3074.

2.3.2 Public Mail Survey

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

The public mail survey developed for this project has been used in the past by Northwest Management, Inc., during the execution 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 enveloped 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 pleading with them to participate, was sent to non-respondents on June 3, 2005.

Surveys were returned during the months of May, June, and July. A total of 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.

2.3.2.1 Survey Results

A summary of the survey's results will be presented here and then referred back 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 (eg., 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 Fire Fighting	31%	52%
City or Rural Fire Fighting	24%	50%
EMT (Emergency Medical Technician)	18%	50%
Basic FirstAid/ 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 fire fighting tools in Idaho County.

96% – Hand tools (shovel, Pulaski, etc.)

16% – Portable water tank

23% – Stationery water tank

34% – Pond, lake, or stream water supply close

22% – Water pump and fire hose

25% – Equipment suitable for creating fuel breaks (bulldozer, cat, skidder, etc.)

Respondents were asked to complete a fuel hazard rating worksheet to assess their home's fire risk rating. An additional column titled "results" has been added to the table, showing the percent of respondents circling each rating (Table 2.3).

Circle the ratings in each category that best describes your home.

Table 2.3. Fuel Hazard Rating Worksheet		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%
Additional Factors	Rough topography that contains several steep canyons or ridges	+2	Average -1.9 pts
	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	

Calculating your risk

Values below are the average response value to each question for those living in both rural and urban areas.

Fuel hazard	1.5	x Slope Hazard	1.5	= 2.3
Structural hazard		+	4.2	
Additional factors		(+ or -)	-1.9	
Total Hazard Points		=	4.6	

Table 2.4. Percent of respondents in each risk category as determined by the survey respondents.
00% – Extreme Risk = 26 + points
02% – High Risk = 16–25 points
26% – Moderate Risk = 7–15 points
72% – Low Risk = 6 or less points

Respondents were asked a series of questions regarding mitigation activities they had recently done or currently do on their property. The first question asked if their property had been professionally assessed for wildfire danger in the last 7 years; only 8% said that their property

had been assessed. The second question asked if they conducted a periodic fuels reduction program near their home; a majority; 54% said that they did. Finally respondents were asked if livestock was grazed around their home and 41% indicated that there was.

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.

	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.

2.3.3 Committee Meetings

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

NAME **ORGANIZATION**

- Cocao Anderson ..... Elk City Volunteer Fire Department
- Loren Anderson..... Elk City Volunteer Fire Department
- Mark Anderson..... Kooskia & Stites Volunteer Fire Departments
- Dale Anderson ..... Bureau of Land Management
- Laura Barrett ..... USDA Forest Service
- David Bearman ..... Ridge Runner Volunteer 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 Coen ..... Idaho County Mapping Department
- Jim Colla ..... Northwest Management, Inc.

- Vincent Corrao ..... Northwest Management, Inc.
- Holly Cotton..... Idaho Soil & Water Conservation District
- Mark Craig..... 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 McCarly..... Idaho County Light and Power
- Dennis McCollum ..... Salmon River Rural Fire Department
- Ihor Mereszczak..... USDA Forest Service
- Jim Meyer..... Ridge Runner Volunteer Rural Fire Department
- Danyel Morrow ..... Harpster Volunteer Fire Department
- 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.....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 Volunteer Fire Department
- Dave Summers .....Idaho Department of Lands
- Dennis Thomas .....Northwest Management, Inc.
- Mike Vanderpass .....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.....Bureau of Land Management
- James Zehner .....Idaho County Mapping Department
- Bob Zimmerman.....Mayor, City of Riggins
- Jerry Zumalt .....Idaho County Disaster Management

2.3.3.1 Committee Meeting Minutes

Committee Meetings were scheduled and held from March 2005 through September 2005.

2.3.3.1.1 March 21st, 2005 – Idaho County Courthouse

This meeting took place at a regular scheduled county commissioners meeting. The purpose of the meeting was to give the commissioners and overview of the planning process, answer any questions or concerns they may have and get their input on to which whey would like to have on the committee. This is a public venue; members of the media were present along with some county staff and members of the public.

Bill Schlosser presented a power point presentation outlining the over al Wildfire Mitigation Planning process. The slide show was a half hour long and included some general discussion on the goals of the plan, unique local considerations and state and federal requirements.

After the presentation the commissioners discussed their support for going forward with the planning process. There was a discussion about the overall goals of the committee and what groups/governing bodies/individuals and stakeholders should be present/ represented at the committee level for the FMP.

The commissioners made the decision to send letters of invitations to the departments, cities and groups and individuals they felt should be invited. They committed to sending the letters of invitation.

The date for the first meeting of the Wildfire Mitigation planning committee was set for Tuesday April 12th at 9 am. At he USFS office in Grangeville.

2.3.3.1.2 April 12th, 2005 – Nez Perce National Forest Supervisors Office

The meeting was chaired by William (Bill) Schlosser and Toby Brown of Northwest Management Inc.

Bill: open – introduction and sign-in sheet.

Toby: Mission, Vision & Goals: Toby discussed each and gave overview of the MVG. Discussion from the group: USFS/BLM definition of WUI is critical. Added/ changed some language (ethic to concept) in vision statement. In goals would like the WUI defined first. Add Idaho State Strategy plan and also language about "including but not limited too" on providing recommendations for treatment

Handed out and reviewed Press release. Points of contact in the press release should be the county commissioners and NMI. Some editing comments. Group will have until Friday to e-mail additional comments on the release to Toby. Toby will collect and send to group a media contacts list of which media outlets should receive press released.

Walked through public mail survey. Answered questions and talked about some possible additional questions. Additional questions was decided on at the meeting regarding: being a member of a subscription district; turn around s at the ends of driveways; drive way width, home being professional surveyed for fire danger.

Review of Community Assessments and which communities were completed

Reviewed the communities assessed and group decided they covered all the communities in the county that needed to be assessed. Toby reviewed the layout and format of the assessments and asked for comments back on the drafts by the next meeting.

Old resource and capability assessments were handed out to the fire districts represented at the meeting. Toby will track down districts not represented and get them their copies. Requested the districts to update their information and include a small write up about their district for submission into the final plan. An example of what a write up should contain was passed out to everyone.

County commissioners suggested that additional groups with firefighting capabilities should be contact, the state prison and the communities for Burdon/Warren and Powell.

Bill: Led an in-depth discussion of how NMI defines the WUI area based on structure density. Bill stressed that this is only one part of the overall WUI definition, focusing on structure and by extension population for the protection of people and structures. Infrastructure must be looked at as another layer in the WUI definition. Bill handed out a written description of the WUI defining process.

A general discussion ensued about the WUI: Impact on USFS. The USFS has to adopt the WUI as defined by the county. This will have a significant impact on the work the USFS will do on their ownership within the WUI. This will help them define the location of future projects. Positive feedback from the agencies (USFS/IDL) on the WUI definitions and mapping progress to date.

Next meeting date was set for May 17th at 2 pm USFS SO in Grangeville.

This was also the date set for all updates/corrections/additions to be submitted.

2.3.3.1.3 May 17th, 2005 – Nez Perce National Forest Supervisors Office

Toby Brown began the meeting with committee introductions at approximately 2 pm. The first order of business was for the committee to review the vision statement, mission statement, and project goals that would be written into the plan.

Members of the committee commented that residents had been receiving public surveys from Northwest Management and had seen the press releases in the local paper. Toby also reminded the committee to review and comment on the community assessments as soon as possible. The committee decided that Dixie and Orogrande should be combined in the assessments. New communities they thought should be included were: Tahoe Ridge, Big Cedar, Red Fir, Diamond Springs near Pollock, Whitewater Wilderness Ranch, Wind River, Powell, Middle Fork River Community, and Twilliger. The Twin River area and the area across from White Bird should be included with the White Bird assessment.

Toby commented that not many of the Resource and Capabilities forms had been returned by the various fire departments and that he was missing some of the contact information. The committee said that Al Bolder was the contact for the White Bird Department and Paul Schmidt was the mayor and road district foreman for Ferdinand. Some similar comments from the Resource and Capabilities forms included: many departments are lacking the minimum training due to a lack coordinated training classes with other departments, lack of cross training opportunities, communications are now dependent on County Sheriff's System, need more certified trainers, communication is often interrupted by rugged terrain, equipment updates, only one clearing house for burn permits, PPE updates, standardization of equipment (i.e. hoses, nozzles, etc.), and mutual aid argreements.

The committee engaged in a general discussion regarding fire district insurance and taxing districts. Some of the points made were:

- Cottonwood, Grangeville, and Kamiah are taxing districts
- Other departments are 501c3, not subscription based
- Range of options for departments: subscription, organized, full volunteer (501c3)
- Individuals pay for insurance if they want it
- Ridge Runner Fire Department is not interested in being within a taxing district

The committee also discussed putting the state and federal fire districts on maps and public meeting dates and sites.

The next committee meeting was set for July 14th at 2pm in the Grangeville Supervisors Office.

2.3.3.1.4 July 14, 2005 – Nez Perce National Forest Supervisors Office

Bill Schlosser began the meeting at 2 pm with a brief introduction of the plan. For the first half and hour Mr. Schlosser presented the committee draft of the fire mitigation plan and discussed what was in the document and how the plan was set up. Then, the group split into working groups to discuss specific areas of the county. There was a Grangeville/Cottonwood table, a Kooskia/Kamiah table, a Riggins/Pollock table, and an Elk City table. There was one Northwest Management, Inc. staff at each table to take notes and lead the discussion. The goal of the working groups was to identify and map current fuel mitigation projects going on in the county

and discuss ideas for proposed projects. The following is a compilation of the results from the working groups.

Commissioner Doman requested that the USFS Roadless Areas be included on the maps and in the plan to help determine location of roadless areas next to county WUI. This will help determine treatments priorities on federal lands under HFRA.

The following areas have been identified on maps to be included in the plan as proposed treatment areas.

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 FS Ranger Station.

Kooskia/Stites Area – proposed defensible space/ fuels mitigation treatment areas

- Timbered areas next to town
- Clear Creek Breaks North face
- Upper Clear Creek area
- Button Bench east face 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

Grangeville Area – proposed defensible space/fuels mitigation treatment areas

- Old Fish Hatchery area
- Harpster Grade/Mount Idaho Grade Loop
- Old White Bird Grade Subdivisions
- Happy Hollow/Grangeville-Salmon Road
- Cove Road area

White Bird Area – proposed homeowner education and weeds eradication project

- Twin Rivers Subdivision

Burgdorf/Warren Area – proposed defensible space/fuels mitigation treatment areas

- Burgdorf townsite
- Warren townsite
- Homes along Warren Wagon Road

Harpster Area – proposed defensible space/fuels mitigation treatment areas

- Urban interface areas west of Harpster to USFS boundary south.
- Wall Creek area
- Sears Creek Area

Syringa – proposed defensible space/ fuels mitigation treatment areas

- High value homes along Hwy 12 in the Wild and Scenic River Corridor.
- Sutter Creek (mile post 79 to Syringa).

Ridge Runners Fire District – proposed defensible space/ fuels mitigation treatment areas

- Leitch Creek Subdivision
- Sally Ann Ck/Silt Creek Estates
- Big Cedar/Crane Hill Area
- Big Horse Canyon/The Horn

The following roads need improvement (widening, turnouts, surface, bridges, etc.) and roadside fuels treatments.

Kamiah Area

- Woodland Grade
- Adams Grade
- Tom Taha Grade
- Beaver Slide

Grangeville Area

- Harpster Grade/Mount Idaho Grade Loop
- Cove Road
- Fish Hatchery Road
- Old White Bird Grade

Burgdorf/Warren Area

- Forest Route 246
- Warren Wagon Road

Kooskia Area

- Kidder Ridge road
- Harris Ridge Road
- Sutter Creek Road
- Clear Creek Road
- Leitch Creek Road

Woodland Area

- Pardee Corner Roads, Adjacent to BLM lands qualify for Partnership funds.
- Carrot Ridge Road (used in past as alternate emergency by pass route)

Other Project Information (via Dave Summers)

Projects currently funded by USFS and administered by IDL

- $54,000 available in the Syringa, Lowell, Selway area to land owners for fuels treatment defensible space projects.
- $35,000 available in the Cove/Fish Creek area for defensible space projects.

Other Needs

- IDL needs a small boat to get personnel and equipment across the Clearwater River between Greer and Kamiah.
- Close the gap between Grangeville Rural Fire District and Harpster Volunteer Fire Department
- Expand the Salmon River Rural Fire Department to cover the north side of the Salmon River Road

- Grangeville Rural Fire District substation located in Mount Idaho
- Tanker and 2-ton quick response engine for Grangeville Rural Fire District to help cover new homes in Fish Hatchery Road and Old White Bird Grade area
- Improve phone communications in Mount Idaho area
- Improve Avista line from Grangeville to Elk City (entire line goes down at once)
- Develop a county map of all available water resources and their limitations for rural fire districts

Due to the extensive participation and immediate need, the discussions from the Elk City working group were more detailed and extensive. They are included here in their entirety.

Six community residents were at this table, with approximately four additional agency representatives who participated in differing degrees during input and discussions. The group was facilitated by William Schlosser.

The participants felt strongly that the proposed BLM and USFS projects were critical to their ability to sustain wildfire defense activities in the region. They expressed their overwhelming support for these projects to be implemented. Discussions were focused on what can be done; the following summarizes their support for a variety of projects.

- High priority support for the 3 listed BLM projects
- High priority support for the Corridors Project by the BLM
- High priority support for the American / Crooked River Project by the USFS
- High priority support for the Red Pines project by the USFS
- High priority support for the Dixie Summit project by the USFS
- The team discussed fuel breaks and fuel reduction projects in the region as necessary to hold wildfires that threaten homes in this region
- High priority support for the development of a Watershed Management Plan for the Elk Creek Watershed which supplies Elk City with municipal drinking water
- Participants defined the need for a Corridors type project to build from the work being done by the BLM to include private and USFS managed lands. These roads identified as needing road side fuels treatments included:
    - State Highway 14 from Elk City to Mount Idaho
    - Old Elk City Wagon Road from Newsome to Highway 14
    - Crooked River Road from Highway 14 to Orogrande
    - Dixie Road (FEMA Secondary Access) from Elk City to Dixie
    - Red River Road from Dixie Road to Red River Hot Springs
    - Jack Mountain Road from Dixie Road through the Big Mallard Creek Road
- There was considerable discussion about the WUI as defined including some areas of the Wilderness (along the Salmon River). This was defined as not being a problem from the standpoint of defining the WUI, but this may need to be defined in more detail for readers not familiar with the WUI.
- Discussions focused on Resources and Capabilities for the Brigades identified during the public meetings. The participants concluded that these Brigades do not necessarily need fire trucks and buildings as many are part-time communities and the resources are not in place to maintain trucks. However, an alternative was identified to equip each Brigade with a basic set of equipment including a portable pump, fire hose, sprinkler system, and hand tools. Also, this equipment would have to be accompanied with

training in wildland fire and structural fire protection. These communities, if they choose to participate, would be part of the regional fire protection team. The Fire Protection would be Known as the "South Fork Clearwater River Volunteer Fire Department", Brigades include:

  - Fall Creek Brigade
  - Mallard Creek Brigade
  - Newsome Brigade
  - Orogrange Brigade
  - Red River Brigade
  - Red River Hot Springs Brigade

- In addition, three 300 gallon "Slip Tanks" with pumps and hose, would be made available for Mallard Creek, Red River Hot Springs, and Orogrande.
- Additional equipment needed for Elk City Fire Department includes a new pumper truck and a 3,000 gallon water tender with a new heated building to house them both. The existing equipment is aging and has been used extensively in the past.
- Dixie Fire Department has equipment, but area residents are hard pressed to identify who is the Fire Chief, where the keys to the fire station are, and who will respond to a fire in the community. In one anecdotal story, Elk City Fire was dispatched to Dixie because 911 dispatch could not locate anyone in Dixie to roll their fire equipment. The one way trip took 2 hours with the Elk City Fire Truck, and the Elk City Fire Department had to cover the costs of the fuel to make the run. The Dixie Fire Department needs motivation to take on the responsibilities for fire protection with the equipment they have.
- The powerline system from Grangeville to Elk City and surrounding communities received substantial discussion. The poles maintaining the system are wooden, and provide low elevation lift to the lines. This is the only grid power supply to the region. The recommendations for this powerline system is to convert the wooden poles to metal towers with increased lift above the surrounding vegetation. Additionally, fuels treatments under the powerlines should be conducted and provide a fuels break in addition to making the powerlines more likely to sustain a wildfire in the vegetation under them.
- Training for rural homeowners was identified as a need in the Elk City, Dixie, Red River, Mallard Creek, Salmon River, Newsome, and Orogrande areas. Homeowners have been receptive to home defensible space education and more is needed.
- Home defensible space discussions were focused on the successes that have already occurred and the need for more such treatments. The conclusion that each listed community needs home site inspections and home defensibility space included:

  - Elk City – 70% need treatments
  - Newsome – 0% need treatments, they have been done
  - Orogrande – 0% need treatments, they have been done
  - Dixie – 30% need treatments
  - Red River Hot Springs – 90% need treatments
  - Red River – 30% need treatments
  - Mallard Creek – 100% need treatments
  - Salmon River – 0% need treatments

- In addition, those areas which have been treated will need re-treatment on a schedule of approximately every 5 years. Communities that currently have been treated and should be scheduled for future treatments include:
    - Elk City, beginning in 2008 - 30%
    - Newsome, beginning in 2008 - 60%
    - Orogrande, beginning in 2009 - 100%
    - Dixie, beginning in 2007 - 67%
- Residents identified the need for a USFS fuel treatment project in the areas surrounding Dixie to build on the treatments completed by the USFS and area residents. The treatments 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 USFS 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 an area that is 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.
- Residents also identified an area to the east and north of the Elk City Township that is currently a part of the roadless area, but not included as an area of treatment by the USFS. 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 is needed in order to provide protection in the case of a wildfire.

The notes taken during the working group sessions have been summarized here (above) and the mapping to accompany these discussions has been included in the map section of the appendix. In addition, specific projects have been articulated in Chapter 5, the recommendation section.

2.3.3.1.5 August 18, 2005 – Soltman Center Meeting Room, Grangeville ID

Toby Brown began the meeting at 3pm. In addition to the regular committee members three members of the Type 2 Management team currently working on fires in the Grangeville are were in attendance. The main purpose of this meeting was to review the additions/changes to the committee draft of the FMP and to discuss how/ when to go to public review.

The plan and maps in the appendices was projected onto a screen so everyone could review the plan at the same time. Comments or changes/ additions to the plan included:

On acknowledgement page add: St. Mary Hospital, Grangeville city fire department and Cottonwood City Fire Department.

For those communities currently affected by fires the communities may add a sentence or two about the current impacts of these fires, they will send to NMI for incorporation into the plan.

For the Elk City WUI make sure the Structures in the upper American River area were included for the WUI map.

In the all communities section of the plan talk about the importance of the rural addressing systems that is in process but not completed. This was a big issue for the fire team responding to the Blackerby fire in the Cove Road area outside of Mt Idaho just 5 miles from Granville.

For the proposed project areas, try and add labels to the maps if the data was provided by USFS/BLM. (Note the data was not provided so labels can't be added).

Look at more clearly defining the map legends in regard to both color (for roadside treatments) and names.

There are no R.A.C. projects listed on the maps or in the write-ups. Contact Eyehore at the Kamiah USFS office 935-2513 to get a list of RAC projects. Many are not fire related, but some may be.

There was a general discussion on the "costs" of treatment projects. Because this is a general plan without specific proposed treatments it is difficult to come up with a detailed cost estimate for each project. This should be done when projects are applying for actual funding. In general projects were assigned a cost of $1,000/ ac to give a project treatment cost for projects in the WUI.

On pg 219 change Boise Corp to Potlatch or Bonnet.

On pg 223 change Elk City Council to Elk City water and Sewer.

Add a recommendation that Fire response teams be able to post up-to-date fire information on the county website so adjoining fire districts can check in on fire progress. During the recent fires there was the issue of "rumors" of fire behavior circulating to outlying areas with no way for the districts to check up on the validity of the rumors or of current fire behavior.

Another discussion ensued about the overall importance of being able to physically located structures and roads based on names and address numbers.

The Forest Service fire data is missing cost of fire suppression. If it is available add to the data set.

The committee agreed that now is the time to take the plan out for Public review. Review should run from August 22 to September 12th. Hard copies of the plan should be made available at all city halls, the county courthouse the USFS office in areas with no city hall, and in Libraries where there is no city hall or USFS office. Jerry will look into getting the plan posted on the County website. Also the announcement of the plans availability for public comment can be posted on the scrolling announcement on the county's homepage.

2.3.3.1.6 October 3, 2005 – Soltman Center Meeting Room, Grangeville ID

14 people in attendance

I. Introductions and Welcome- William Schlosser, Ph.D., NMI, Moscow

A. Brief overview-

Clearwater RC&D crowd- grants from BLM, 2003 initial draft.

This process wraps up the update process.

County-wide committee seven groups, several committee meetings, 5 public meetings, 30 day public review process

B. Signature pages review

II. Appendix IV review, comment by comment review/discussion/clarification

A. Discussion regarding Idaho Conservation League letter refceived during public involvement.

1. Idaho County commissioners apparently have decided not to respond specifically to ICL's various comments

Mark Craig, BLM; ICL has a history of comparing various plans and citing specific concerns to demonstrate inconsistency in the future.

B. Idaho County Power and Light representatives mentioned/questioned whether past comments (to USFS) have been incorporated Action - IDCP&L will forward comments ASAP to NMI

C. Mark Craig, BLM, will search through plan and attempt to cross-reference to ID Cons. League comments

D. Mark Craig suggested title change to "Idaho County, Idaho, Wildfire Mitigation Plan" title and photo in sidebar.

III. Schlosser; Is this the final plan, meeting all committee member's satisfaction?

A. Jerry Zumalt; Yes, this is correct realizing the plan is not a static, but rather a flexible document.

B. Bill S.; All changes need to be sent and returned to NMI by Wed., Oct. 5

Dan Pierce (RC&D) asked about printing costs for individuals requestinga bound, color copy (281 page Main Document and 169 page Appendix). Dr. Schlosser indicated that NMI could reproduce cpies for approximately $35-45 per set.

Dr. Schlosser, Northwest Management, Inc., extended the thanks of the County Commissioners and Northwest Management, Inc., for the extreme dedication all of the planning committee and public members who participated in this planning process. The final adoption by the County Commissioners and other signatories will be on October 11, 2005 (10:00 A.M.) in Commissioners Chambers. Everyone please attend!

Adjourn- 2:48 P.M.

Dan Pierce,

Recorder

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 and were attended by a number of individuals on the committee and from the general public. The public meeting announcement is attached below in Figure 2.9.

Figure 2.11. Public meeting announcement for June 2005 meetings.

Idaho County

idahocounty.org

Idaho County, Idaho
Fire Mitigation Plan
Public Meetings!

Elk City: Tuesday, June 14, 6:30 PM
USFS, Red River Ranger District Office
Cottonwood: Tuesday, June 14, 7:00 PM, City Hall
Grangeville: Wednesday, June 15, 7:00 PM, Elks Lodge 1825
Riggins: Thursday, June 16, 7:00 PM, City Hall
Kooskia: Thursday, June 16, 7:00 PM, City Hall

These public meetings will address the **Wildland-Urban Interface Wildfire Mitigation Plan** for our communities. These meetings are open to the public and will include slideshow presentations from wildfire mitigation specialists working on the Idaho County Wildfire Mitigation Plan. Public input is being sought in order to better frame the County's efforts of wildfire mitigation treatments, fire district resource enhancements, and public land management.

This meeting will last for approximately 1.5 hours.

Please attend and participate!

Learn about the assessments of Wildfire Risk and the Wildland-Urban Interface of Idaho County. Discuss ***YOUR*** priorities for how our communities can best mitigate these risks.

For more information on Wildfire Mitigation Plan projects in Idaho County, contact your county Commissioners, Dan Pierce with the Clearwater RC&D office at 208-882-4960 ext.4, or William Schlosser at Northwest Management, Inc. 208-883-4488.

2.3.4.1 June 14th, 2005, Elk City

Presented by Dr. William Schlosser, assisted by Jim Colla, Northwest Management, Inc.,

Attendees:

Agency (4), USFS, BLM, Idaho County Commissioners

General Public (12)

Dr. Schlosser opened the meeting at 6:30 p.m. by giving the history, background, purpose and objectives of the Idaho County plan and explained the purpose of the meeting was to obtain public input on proposed plan elements. He then presented background information and preliminary analyses on individual plan elements, providing opportunity for comment and answering questions throughout the presentation.

Comments related to risk assessment

- A few years ago we a lot of time was spent adopting the Kootenai County plan to Idaho County, it was explained that plan was insufficient to meet FEMA requirements
- Let burn policies on federal lands should not be adopted until such time that adequate treatments have been applied on the ground to reduce fire risk and the forest is brought back to a low risk condition
- What can be done about groups that continue to bring lawsuits and halt federal projects designed to reduce fire risk
- Fuel treatment projects will not be a panacea to reduce all the risk
- Elk City is in a high risk area, broad scale satellite data needs to ground truthed to best describe the situation
- At what point will FEMA assist communities pre-disaster mitigation, it was explained a disaster plan needs to be in place before FEMA can respond with pre-disaster funding, otherwise a may only be available if a large fire occurs, and the event is declared a disaster
- A high degree of mixed severity regimes exist around Elk City, which has been fueled in recent years by the ongoing beetle epidemic
- The beetle problem must be brought under control, it is in both young and old lodgepole pine stands

Comments related to WUI areas

- WUI map matches up well with what locals think, additional inputs are placed on the map
- Highway 14 and power corridor should be included in WUI
- Highway 14 may or may not be an escape route for Elk City, alternate routes, the Selway Falls road, should be designated an alternate and reopened as an escape route if needed
- An fire evacuation plan should be developed for Elk City and other small communities and plans made to address electricity and water loss during a fire

Comments related to preparedness

- Elk City VFD is all volunteer without a tax base or formally defined operating area and often responds to Dixie
- Dixie has a fire truck, but no real volunteer force or active local chief
- Responses made to Dixie and other areas leaves Elk City temporarily without fire protection

- Insurance rating in town is 8 and should be 9 in rural areas in about a year
- Biggest needs are for a new pumper truck, some training and gear
- VFD staffing of about 12 people will suffer when the mill closes
- Orogrande, Red River, Dixie are places ECVFD has responded too, but the VFD cannot afford to any additional equipment to support this need
- The need for additional response capability is obvious, but there is no many, hopefully this plan can help
- Elk City proper has a fairly good safety zone compared to other, smaller communities nearby
- It is important to recognize the discreet needs of each small community

Comments related to public involvement

- Once the plan is adopted, it is hoped that mitigation on federal lands can proceed in a timely manner without threat from appeals
- Federal actions will always be subject to appeal no matter the plan identifies as issues, but it may help let the plan move forward and see what evolves from that
- There isn't time to be involved in everything that goes on in a small community, the same people volunteer for everything
- This process can be used to identify projects on federal lands that should be undertaken to mitigate fire risk
- Get plan draft should be prepared and out for review as soon as possible as it is on target

The meeting adjourned at 8:30 p.m.

2.3.4.2 June 14th, 2005, Cottonwood

Cottonwood Community Center

Meeting Began at approximately 7:00 pm

16 people attended the meeting

Dennis Thomas gave intro and PowerPoint slide presentation of the planning process, funding agencies and requirements that will go into developing the plan. Currently the planning process is at the public meeting stage to obtain input from the public on recommendations for the plan.

After the presentation, a break was taken to allow guests to talk and look at maps then the floor was opened for public recommendations. Following is a list of those recommendations/ comments.

- Important to have sources of water identified
- Road identification-are roads properly signed
- Communication equipment and apparatus are two big expenses continually faced by local fire departments/districts
- Communications interoperability, inconsistencies of communications equipment
- Communications equipment needs to be practical.
- Development of 911 data base
- Idaho counties could use some development/strengthening of mutal aid agreements
- What about road/lanes, bridges? Are they safe, rated properly.
- Need to reduce regulation to allow helicopter dipping out of fish protected streams during a wild fire. This inhibits rapid attack.

Meeting ended 8:55 pm

Notes recorded by Dan Pierce

2.3.4.3 June 15th, 2005, Grangeville

Elks Lodge, Grangeville, Idaho

Meeting Began at approximately 7:00 pm

17 people attended the meeting

Bill gave an overview presentation of the planning process, funding agencies and requirements that will go into developing the plan. Currently the planning process is at the public meeting stage to obtain input from the public on recommendations for the plan.

After the presentation, the floor was opened for public recommendations. Following is a list of those recommendations/ comments.

- Will the plan require landowners to treat their timber by forcing them to cut trees?
- The mitigation of fuels is hard work is there assistance available and labor available through the plan to do this work, or is the landowner going to have to do the work them selves?
- Is it possible to get assistance now, or do we need to wait until the plan is adopted?
- More clarification is needed on if the plan will force people to perform fuels treatments around their property to help protect their neighbors from the spread of wildfire.
- Referring to condition class, can prescribed fire bring back a forest to the historical fire regime?
- How is the landowner able to know the risk that is present on their property, they are not experts, is there assistance available to assess their property for risk?
- Is the objective of the plan to clean up the WUI and make it a lower risk?

<u>Recommendations</u>

- More fire trucks are needed
- Some districts want to expand, more talk needs to take place to do this.
- In the Clearwater area there are gray areas that are not covered by fire protection these areas need to be addressed so the local fire districts know who has jurisdiction.
- There are a lot of road problems in the Grangeville area that need to be improved i.e. not wide enough for emergency vehicles
- Need to figure a way to inform the public, fliers were sent out once with now reply.
- How are you suppose to know if the fire department will come if you call 911, FedEx cannot find my property, how is the fire department suppose to. (There is a new mapping system for 911 going on line in the county that will address the issue)
- Need to put names and numbers on drive ways and do better job of signing roads.
- Best source of informing the public and getting volunteers to mitigate their defensible space is coming from the rural fire departments. They are getting groups together to evaluate and mitigate.
- Homeowners need consultation service on assessment of their situation beyond general guidelines provided.
- Need to set priorities. In the past the squeaky wheel got the attention and priority was based on size of ownership. A system is needed that allows priority based on needs and most benefit etc.

- Need site-specific fuel inventory, is intensity factored in based on what will happen in areas that have light fuels vs areas with heavy fuels. This affects potential and priority should factor this into the equation.
- In WUI must deal with Privacy and private rights vs public safety policy, ie doing the most good for the most people, this is a planning and zoning and building code issue.
- Priority should be safety, like improving access, infrastructure to isolated areas.
- Possibly need incentives to reduce taxes or find insurance companies that will lower rates based on mitigation.

Meeting ended at 9:10 pm

Notes recorded by Vaiden Bloch

2.3.4.4 June 16th, 2005, Riggins

Riggins City Hall

Meeting Began at approximately 7:00 pm

14 people attended the meeting

Toby Brown gave intro and PowerPoint slide presentation of the planning process, funding agencies and requirements that will go into developing the plan. Currently the planning process is at the public meeting stage to obtain input from the public on recommendations for the plan.

During and after the presentation, the public provided constructive criticism and recommendations on the planning process, priorities and the needs of the county that will help improve the wild fire situation in the community. Following is a list of those recommendations/ comments.

- Questions were asked on why the 2002 Fire Mitigation Plan did not get approved.
- 2002 plan did not make it to the State level because the commissioners did not approve it.
- The disaster services groups need to be added to the list of cooperators on the Idaho County Interface Committee list on the presentation.
- The question was asked if prescribed fires by the Forest Service are a wild fire and are they on the map showing historic fires.
- Elk City has mitigation projects that have been stopped by the courts. What is going to keep all the proposed projects that come out of this plan from being stopped also? What good is it to do all this planning when it will only get balled up in the courts any way?
- The Forest Service is the problem. When the people could go out and log the forest and burn the clear-cuts it took care of the fire hazard. Now the public lands are managed for a bunch of recreation idiots. This took away the logging jobs and closed the mills, and messed up the land so that now we need to make a plan to fix what was doing fine in the first place.
- I own 6 acres near Florence and the Forest Service taxes me for owning property in the forest, what is that for?

<u>Recommendations</u>

- Communications are poor in the county, especially the deep canyon areas near Riggins. Improvement of the communications is needed.
- One citizen was wondering if the Cold Springs repeater has ever been put in. If not it is needed. (It was recommended a few years ago at another meeting)

- Improvement of the road signing and house numbering needs improvement, (Squaw Creek Example)
- If you ask the sheriff he will tell you that there is no communication problem in the county. There is a communication problem but officials wont say it. Need more cooperation or maybe circumvent the situation.
- House numbering system is only on subscription property. This is used as addressing in many places. The fire district knows this numbering system and locations, other agencies need to know this system also and have maps etc to locate properties.
- Proposed narrow bandwidth radios will not be feasible in this area unless they plan to put a repeater on every hilltop. (Project 25)
- More education opportunities for homeowners are needed. Awareness is the problem. Education will reduce paying for ignorance.
- Expand on mutual aid agreements.
- Need to get more insurance for fire departments. Currently the “GEM Plan”?? is only for departments that are officially county entities. This is not available for the volunteer and 501C type departments.
- There is a problem when there is a fire, all the people go out to watch and this congests the access so emergency vehicles cant get in.
- There is an issue of safety and liability when a citizen tries to extinguish a fire on their property. Once a guy was hand cuffed by the sheriff to prevent him from putting out a fire on his own property. No one can make me not put out a fire on my property. (More education needed)
- There is currently talk of forming an Idaho Co. Fire Chiefs Association. The group would hold meetings to compare notes, equipment capabilities. This should include law enforcement. There is currently a local Emergency Planning committee that holds monthly meetings, and is well attended.
- What is the purpose of this Plan (answer was pre-mitigation)
- $706000 was given to Idaho County in grants ($80,000 for terrorism) some of the activities that are proposed in the plan. Where did this money go?
- Are man caused fires terrorism (in some cases, accident no, deliberate yes)
- Planning is a bad work in Idaho Co. after what the FS did with their Forest Planning attempt several years ago.
- There is a dire need for better communications in community. Divide and QWest phone systems need changes and need to be more compatible.
- Need a repeater on Sheriffs point.
- Radio Frequency issues
- When are they going to get the cell towers working so that we have cell phone service?
- School district communications problems with the busing.
- Two critical systems that have a problem. There is a 9-mile gap in the power grid and 16 mile gap in the phone system. If phone goes down in New Meadows it shuts off phone system in Riggins until fixed. Old antiquated incompatible power system is being used that needs upgrading.
- 45 miles of fiber optics cable was not put in back in the 90s that would have connected north and south Idaho. Back then, this would have cost around 3.5 million dollars and would have eliminated most of the phone system problems that are currently present. Now it will cost probably 4 times that to put in.

Meeting ended 9:10 pm

Notes recorded by Vaiden Bloch

2.3.4.5 June 16th, 2005, Kooskia

This meeting was attended by approximately 39 individuals from the Kooskia area and surrounding communities. There was a rather vocal group of individuals whom attended this meeting and made a point to question nearly everything said by the presenter. Because of this, some in the audience received many responses to their questions while others, who were more reserved, did not.

Dr. William Schlosser of Northwest Management, Inc., provided an introduction to the planning process and followed the slide show prepared for this meeting.

Significant comments/discussion were centered around FEMA - not a popular agency with most folks.

Bill explained importance of FEMA approval and how it ties to the Pre-Disaster Mitigation Grant program.

Plan Compatibility:

- FEMA
- Idaho NFP Implementation Strategy
- HFRA

Comments:

- Road Access: Need access on all roads in WUI areas- both federal and private industry forestlands; i.e. road need to be open and accessible for wildland fire use.
- WUI- some disagree with the term "urban" in the rural area out of city limits. This was discussed in terms of the 4 categories of WUI: Intermix, Interface, Occluded, and Rural
- Need more clarity about definition of "community". This was discussed in terms of incorporated cities, and those communities not incorporated, but within the county.
- Repeated comments from a few individuals that dislike any form of government assistance, funds, etc. This was a theme of some individuals, and inappropriately, some took the opportunity to denigrate the Federal Agencies and the people who work for those agencies.
- Need more cooperation among fire departments. This was discussed in terms of developing a new fire department in the Gleenwood area and creating mutual aid agreements between the fire departments.
- Need to establish equipment contacts in remote areas that can be activated quickly- to help cover "uncovered" areas.
- Need equipment upgrading in all of the local fire departments; pumpers, water tenders, facilities.
- Need personnel training improvement. This is an issue for wildland fire qualifications as well as keeping up qualifications for structure fire fighting.
- Need increased awareness (public) of "needs" of local fire districts.
- Enter into mutual aid agreements.
- Biggest problem: USDA Forest Service immediately adjacent to other lands- NOT being managed. Management of the lands where they affect the WUI is very critical and needs

to be accomplished. Identification of WUI mitigation projects needs to be completed and appeals should be halted.

- Question about "environmental" challenges, appeals- Under HFRA, if environmental groups aren't at the table and part of the planning process, they can't fight appeals to prohibit implementation of projects.

The meeting ended at approximately 9:20 pm

2.3.4.6 Elk City Forest Tour

Elk City, Idaho – A Threatened Forest Environment

June 29, 2005

Opening Meeting:

This meeting was facilitated by Idaho County Commissioner Jim Rehder and hosted by Susie Borowicz (Save Elk City). Forty-five people attended the all day meeting and field trip. The group met at the Red River Ranger District Office in Elk City.

The purpose was to revisit the area with new players (Commissioners Rehder and Forest Supervisor Jane Cottrell), discuss points of consideration and roadblocks to action.

Congressional Reps. Jeff Sayre (Senator Craig), Mitch Silvers (Senator Crapo) and Bonnie Butler (Congressman Butch Otter) were present. The representatives have made several visits to the Elk City area in the past three years. They are seeking a collaborative process in a non-confrontational manner. Congressionals have deep concerns about forest health issues in the Elk City Area.

Idaho County Commissioner Alice Mattson was present – she is concerned with the lack of timber harvest and wants something done besides talking about it. Idaho County Commissioner Randy Doman had other commitments.

Eric Barker, outdoor reporter for the Lewiston Morning Tribune, and David Rauzi, editor of the Idaho County Free Press were also participants.

Idaho County Fire Mitigation Plan:

Guest speaker Bill Schlosser represents Northwest Management, Inc., a private natural resources management company in Moscow, Idaho that focuses on fire planning. Bill shared a success story by referencing the Utah fires and the homeowners returning to their unharmed homes after the fires. No houses were lost and the homeowners attributed this to the hazard reduction treatment completed by local firefighters earlier in the year. The homeowners left thank you cards for the firefighters.

The National Fire Plan process fits into this situation locally here in the Elk City area – homeowners need to first identify risks and then reduce fire risk by building a defensive area.

Where are we in the Comprehensive Fire Plan process? We've formed committees of fire folks from the Forest Service (FS), Bureau of Land Management (BLM), Idaho Department of Lands (IDL), and local fire chiefs. Public meetings were held recently with high attendance from the local public. There was a good cross-section of input to put into the draft plan. The draft plan is due out for internal review in mid-July, with a date of late August to have the draft out for public review.

After identifying the exposure to risk, information combined with Wildland Urban Interface (WUI) will finalize the plan. A question was asked if the plan is adopted to bypass the court? Schossler replied that the Healthy Forest Restoration Act (HFRA) has clear court direction to give less bearing to appeals. This is not an emergency response plan (putting out fires), it is a preparedness plan.

Tour Stop 1:

Following the opening meeting at the ranger district, the group took a tour of the FS Crooked River Stewardship Project. First stop was to view and discuss the Crooked River timber stand units completed by the region's timber strike teams.

Jane Cottrell gave an overview of past activities/treatments that have occurred on the land and shared a map of the Red River watershed. Jim Gray (Clear/Nez Fire Zone Management Officer) gave a presentation on the Five Year Fuels Plan.

Terry Nevius (Red River District Ranger) and Melany Glossa (Ecosystem Staff Officer) discussed American/Crooked and Red Pines status and time frames. The American and Crooked River project is currently under appeal. The Regional Appeal panel reviewed both appeals the week of June 13. The Appeal Deciding Officer should have a decision by July 8.

Josh Bransford (Red River Fuels Specialist) shared information on the Crooked River project. Josh talked about removing the dead lodgepole and retaining fire resistant trees such as ponderosa pine and larch. Many units in the project are along the Wheeler Mountain Road – the existing road and the ridge along the road are key to keeping fires contained.

Recent rains hampered the groups' ability to tour BLM's Whiskey South and East Townside projects, but Greg Yuncevich (Cottonwood BLM Director) gave an overview of the two projects.

Positive comments were made about the developing partnership between industry and agencies in proposing potential stewardship contracting projects. Jim Borowicz is enthusiastic about getting involved in Categorical Exclusion (CE) projects.

Tour Stop 2:

The second stop was to view and discuss North Central Idaho Resource Advisory Committee (RAC) firewood proposal at the Red River Campground. Discussions involved the history of cooperation between USFS, RAC and Idaho County in implementing the process of removing dead lodgepole for energy assistance families within the county.

Six roadside hazard tree removal sales were advertised with five out of the six sold. The one remaining is Red River Campground and it is the Hazard Tree Project #1 - Salvage Stewardship Sale. The area is from Ditch Creek Campground up to the Blackhawk Road.

The firewood available is dead and dying lodgepole with no economic viability. Four cords of firewood is free to all publics. The project was proposed to the RAC by Susie Borowicz. This is a win-win situation as it benefits the public and is a partnership between the FS, Idaho County and the RAC.

Obstacles/Roadblocks:

Melany Glossa handed out the Basic Stages of USFS Project Development and Litigation Challenges on Projects. She shared definitions of NEPA, National Forest Management Act (NFMA), Endangered Species Act (ESA), etc. These are the obstacles/roadbocks that put restrictions on studies before the project hits the ground. Congress is looking at NEPA and different ways to implement.

Under the Iron Honey ruling from an Idaho Panhandle NF project, the FS is asked specifically to list anything that's happened on private and public land over the last 20 years. Cumulative impacts should be described as to help the decision maker. The current Forest Plan states the measure of cumulative effects. The new Revised Forest Plan will help – there will be more flexibility to use better science.

Collaboration and cooperation with key stakeholders and other agencies is very effective.

Tour Stop 3:

Lunch was shared at the Red River Ranger Station (now closed). Mike Hannah from Three Rivers Mill on behalf of the Intermountain Logging Conference presented Susie Borowicz with the Don McKenzie Award for her dedicated work with the timber industry.

Roundtable Discussion:

The group returned to the Red River Ranger District office in Elk City for two slideshow presentations. First, Joyce Dearstyne from Framing Our Community (FOC) presented FOC's Defensible Space Projects. The purpose of the projects is to selectively thin trees, removing hazard trees and limb the remaining trees. This project is also a partnership between the Nez Perce Forest, RAC and FOC.

Mark Craig, Natural Resource Manager for the Cottonwood BLM office gave a powerpoint presentation on the Whiskey South project. The objective of this project is fuels reduction (creating a fuelbreak to suppress wildland fire), elk winter range and forest health.

It is a stewardship (goods for services) contract project with $1,300,000 to the service side (local hiring) and $1,550,000 going to the forest product side.

The District Court of Idaho issued a permanent injunction against the Whiskey South Project in April due to inadequate cumulative effects. The court permanently enjoined the project pending compliance with National Environmental Policy Act (NEPA). BLM is currently reviewing the judge's order to complete a legally sufficient NEPA analysis.

Roundtable Discussion:

Alice Mattson, Greg Yuncevich, Trent Woods (Framing Our Community), Jane Cottrell, Jim Rehder, and the Congressional Representatives made up the roundtable participants.

Mitch Silvers said there needs to be a collaborative process to get all the stakeholders to the table (i.e. the Elk Collaborative) with players supporting the effort, in lieu of different values. There should be an outside neutral facilitator. Collaborative efforts are time consuming and costly (travel, etc.), yet have proved to be effective. The office of Senator Crapo supports collaborative efforts.

Alice Mattson wants some guidance as to what we can do to take care of the timber around our homes.

Bonnie Butler said the strongest form of government should be the county government. This is a real beginning (i.e. fire plan) although there are still roadblocks to be overcome. Otter asks that Bonnie be available to attend the collaborative meetings. His main question is, "What are the agencies going to do to protect the Elk City area this year?"

Greg Yuncevich said he wished we'd made as much progress in the forest as we've made collaborating with the people. If we're to buy into the fact that we've been preventing fire for the past several years, we need to be smarter and more aggressive. Whiskey South is a good project, but that project is in the "target zone" – the South Fork Clearwater River Watershed. "I think we can reach common ground on 99% of the issues with 99% of the people. But there a

few that make their living opposing treatment projects. There are other areas of treatment proposed, but BLM is lacking the resources at this time."

Trent Woods said the Save Elk City effort began in the late 70s. Everyone in attendance today could and would work together to come up with a plan to help the situation in the area. However, the 1% aren't present today and they are needed at the table.

Jane Cottrell said that the projects are all tied together (BLM/FS/FOC projects). For fire suppression efforts this year we need:

- Cooperative Agreement in place with BLM
- Not high fire activity year so far, but resources are available to us (staff, engines and aircraft)
- Two-Prong Approach – treat vegetation and get projects on the ground.

Future plans are:

- Reaching common ground – shouldn't consider opposition a value.
- Take new laws (direction) to strengthen our case when we do go to court.
- Complete Forest Plan revision.
- Priority treatment in WUI throughout Idaho County.

Community of Elk City is completely behind us in our efforts. Don't give up!

Jeff Sayre shared his confidence in Jane Cottrell's leadership in getting things done. He also expressed his confidence in Greg Yuncevich's abilities. He asked that we continue to ask the environmentalists to come to the table. We need to find a solution. Let the whole State of Idaho know what's going on here (litigation/appeals process). Timber built this community over 50 years ago. Senator Craig is very concerned about the forest health/timber harvest situation.

<u>Question & Answers:</u>

Q: Is the 9th Circuit Court going to be dissolved?

A: Complete delegation of Idaho support moving into a new circuit court.

Q: Elk City's fire season sometimes occurs later – will the resources still be available?

A: Severity resources (when we request folks to come here)

Comment: Sure is a different kind of meeting today. Government employees are willing to jump the hurdles – community is behind you all the way.

Comment: Experiencing better cooperation from the agencies that are trying hard to get things done.

Comment: When you do good things, blow your horn (press releases, articles, etc.).

Q: Where did funding from Elk Collaborative come from?

A: Espri (Boise State), Red Lodge Clearinghouse, the Agency (in-kind contributions), other agencies including the Tribe and environmental groups contributed financially.

Q: 1910 fire occurrence – can we stop an occurrence of this type if/when it happens?

A: Resources are in place (Grangeville Air Center and McCall jumper base), agencies are cooperating - including IDL, earlier completed training for firefighters and smokejumpers.

Comment: Mining industry experienced same situation 20 years ago. Could happen to the timber industry.

Q: How do we get new people in and trained in order to get timber contracts/administration done correctly when employees retire?

A: Money from administrative services savings (Service Centers, etc.) shifted to help pay for skills needed on the ground.

Q: Is FS labor shortage going to encourage more contracting?

A: Yes, more contracting in fish inventories, stand exams and that type of work.

A Memorandum of Understanding (MOU) is required to do competitive sourcing to see if it is more cost effective for the FS. A portion of our organization is looked at each year to determine if contracting is a better choice to get the work done.

Wrap-Up:

It was agreed to by all the participants that we will continue collaboration with all groups.

Notetaker:

Laura Smith, Public Affairs Specialist
Nez Perce National Forest

Figure 2.12. Public meeting slideshow overview.

The public meeting slide show (title slide above) is outlined below.

Table 2.6. Public meeting slide show.

Slide 1

Northwest Management, Inc.

- Serving the Western U.S. since 1984
- Main Office in Moscow, Idaho
  - Hayden, Idaho
  - Caldwell, Idaho
  - Deer Park, Washington
  - Helena, Montana
- Full Service Natural Resource Consultants
  - Wildland-Urban Interface Wildfire Mitigation Planning
  - All Hazards Mitigation Planning

Providing a balanced approach to natural resource management

Slide 2

FEMA All Hazards Mitigation Plan

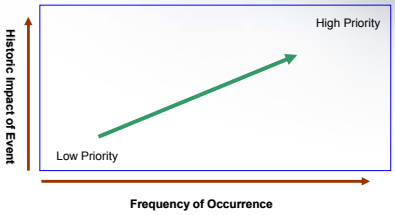
- **Wildland Fire**
- Flooding
- Earthquakes
- Landslides
- Winter Storm
- Tornadoes/Wind Storms
- Terrorism and Civil Unrest
- *Plus others depending on a Hazard Profile*

Each Hazard is one Chapter of the AHMP

Required by November 1, 2004 for all counties

Slide 3

Phase I Hazard Profile



Slide 4

Slide 5

FEMA Requirements

- Adoption by Local Government Body
- Multi-Jurisdictional Planning
- Identification of Hazards & Risk Assessment
  - Profiling Hazard Events
  - Mapping Juxtaposition of Hazards, Structures, Infrastructure
  - Potential Dollar Losses to Vulnerable Structures (B/C Analysis)
- Documented Planning Process
- Assessing Vulnerability
- Mitigation Goals
- Analysis of Mitigation Measures
- Monitoring, Evaluating & Updating the Plan (5 year cycles)
- Implementation Through Existing Programs
- Public Involvement

Slide 6

Wildfire Mitigation: National Policy

- **National Fire Plan (2000)**
  - Preparedness
  - Rehabilitation & Restoration
  - Hazardous Fuel Reduction
  - Community Protection
  - Accountability
- **Statewide Implementation Strategy**
  - Idaho Bureau of Homeland Security
  - Idaho's Implementation Strategy of the National Fire Plan

Slide 7

Healthy Forests Restoration Act

- Recognizes that community plans and priorities have an important role in shaping management on federal and non-federal lands.
- Emphasizes cross-boundary action.
- Engages all branches of government at the local level.

Slide 8

Key Issues from HFRA

- Where is the Wildland-Urban Interface?
- How should federal agencies prioritize their $$$ and projects for community protection?
- What is the role of individuals and communities in reducing their own risk?

Slide 9

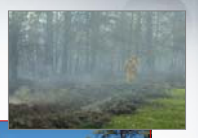
HFRA Language

Wildland-Urban Interface ~ The HFRA gives communities the opportunity to define their own WUI boundary rather than using the default definition of ½ to 1 ½ miles from the community center.

Slide 10

HFRA Language

Prioritization ~ The HFRA directs the USFS and BLM to give special consideration to prioritized project areas and methods of treatment identified in a community plan.



Slide 11

HFRA Language

Individual Responsibility ~ The HFRA states that communities that have a community plan or have "taken proactive measures…to reduce fire risk on private property" should be prioritized for funding.

Slide 12

HFRA Minimum Requirements

- Collaboration
- Prioritized Fuel Reduction
- Treatment of Structural Ignitability

Slide 13

Recommendations

- WUI Safety & Policy
- People & Structures
- Infrastructure
- Resources & Capabilities
- Regional Land Management Recommendations

We will revisit this list at the end of the presentation…

Slide 14

Past Wildfire Mitigation Planning Efforts

- Idaho County and Clearwater RC&D cooperated in developing WUI Wildfire Mitigation Plan in 2002, this plan is not compatible with the Idaho Implementation Strategy, NFP, FEMA, or HFRA.
- Components of that plan will be integrated into this planning effort just as we have done in Clearwater, Latah, Lewis, and Nez Perce Counties.

Slide 15

Idaho County Interface Committee

Formed by, and report to County Commissioner's Office, membership identified through funding agencies:

- County Departments
- City Mayor Offices
- City Fire Departments
- Rural Fire Departments
- RAC
- Cattleman's Association
- USFS
- BLM
- Idaho Department of Lands
- Nez Perce Tribe
- Clearwater RC&D

Meetings are chaired by Northwest Management, Inc., representing County Commissioner's Office

Slide 16

Hazard Mitigation Approach

- Hazard Profile
- Risk Assessment
- Vulnerability Appraisal
- Mitigation Strategy Development
- Prioritization and Planning
- Implement the Plan!

Slide 17

Wildland-Urban Interface

- **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;
- **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; and
- **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.

Slide 18

Defining Idaho County's Wildland-Urban Interface

- Unique to each area & it changes over time
- Based on where structures are currently located
- Uses mathematical formulae and geospatial relationships to visually represent where the WUI exists
- *When you see it, you'll understand what we mean*

Slide 19

Slide 20

Preparedness

- City Fire Protection
- Rural Fire Protection
- Wildland Fire Protection

Slide 21

Public Involvement

- Public Mail Survey was sent to 235 households in Idaho County, May-June
  - Approximately 97 returned as of Monday
- Planning Committee Meetings
- Press Releases
- Public Meetings around the county (x5)
- Public Review of the DRAFT Plans will be facilitated once all sections have been completed and reviewed by the committee

Slide 22

Recommendations

- WUI Safety & Policy
- People & Structures
- Infrastructure
- Resources & Capabilities
- Regional Land Management Recommendations

Are we accomplishing these goals?

Slide 23

2.3.5 Documented Review Process

Review and comment on these plans has been provided through a number of avenues for the committee members as well as the 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 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 by the County Commissioners took place on October 11th, 2005

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 Wildland-Urban Interface Wildfire Mitigation Committee are responsible for the annual review and update of the plan as recommended in the "Recommendations" 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 Wildland-Urban Interface Wildfire Mitigation Committee. 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 Background and Area Description

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 8,484.88 square miles (5,430,323.2 acres).

Table 3.1 summarizes some 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 AND AGE		
Male	7,943	51.2
Female	7,568	48.8
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	(X)
18 years and over	11,641	75.0
Male	5,989	38.6
Female	5,652	36.4
21 years and over	11,093	71.5

Table 3.1. Selected demographic statistics for Idaho County, Idaho, from Census 2000.

Subject	Number	Percent
62 years and over	3,081	19.9
65 years and over	2,598	16.7
Male	1,223	7.9
Female	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
Noninstitutionalized population	125	0.8
HOUSEHOLDS BY TYPE		
Households	**6,089**	**100.0**
Family households (families)	4,326	71.0
With own 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	(X)
Average family size	2.93	(X)
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	(X)

Table 3.1. Selected demographic statistics for Idaho County, Idaho, from Census 2000.		
Subject	**Number**	**Percent**
Average household size of renter-occupied unit	2.18	(X)

3.2 Socioeconomics

Idaho County had a total of 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: 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. 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, all of which compares to the Idaho County median income during the same period of $29,515. Table 3.2 shows the dispersal of households in various income categories in Idaho County.

Table 3.2. Income in 1999.	Idaho County	
	Number	**Percent**
Households	6,089	100.0
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
Median household income (dollars)	29,515	(X)

(Census 2000)

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. In Idaho County, a significant number, 12.5%, of families are at or below the poverty level (Table 3.3).

Table 3.3. Poverty Status in 1999 (below poverty level).	Idaho County	
	Number	**Percent**
Families	541	(X)
Percent below poverty level	(X)	12.5
With related children under 18 years	362	(X)
Percent below poverty level	(X)	18.5
With related children under 5 years	144	(X)

Table 3.3. Poverty Status in 1999 (below poverty level).	Idaho County	
	Number	Percent
Percent below poverty level	(X)	24.3
Families with female householder, no husband present	134	(X)
Percent below poverty level	(X)	34.0
With related children under 18 years	134	(X)
Percent below poverty level	(X)	50.2
With related children under 5 years	51	(X)
Percent below poverty level	(X)	60.7
Individuals	2,445	(X)
Percent below poverty level	(X)	16.3
18 years and over	1,633	(X)
Percent below poverty level	(X)	14.5
65 years and over	249	(X)
Percent below poverty level	(X)	10.0
Related children under 18 years	790	(X)
Percent below poverty level	(X)	21.0
Related children 5 to 17 years	600	(X)
Percent below poverty level	(X)	20.1
Unrelated individuals 15 years and over	666	(X)
Percent below poverty level	(X)	28.2

(Census 2000)

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. Employment & Industry.	Idaho County	
	Number	Percent
Employed civilian population 16 years and over	5,925	100.0
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

Table 3.4. Employment & Industry.	Idaho County	
	Number	Percent
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

(Census 2000).

Approximately 59% of Idaho County's employed persons are private wage and salary workers, while around 21.9% are government workers (Table 3.5).

Table 3.5. Class of Worker.	Idaho County	
	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

(Census 2000)

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 some 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 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. Stock raising 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 sires 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 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 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.

3.2.1.1 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.

3.2.1.1.1 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.

3.2.1.1.2 Nez Perce National Forest

The Nez Perce National Forest consists of 2.2 million acres of beautiful and diverse land. 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 recreation 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, and 4-wheeling opportunities abound, many of which are easily access from paved or well maintained roads.

The Nez Perce National Forest 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 landbase.

3.2.1.1.3 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.

3.2.1.1.4 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 4-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.

3.2.1.1.5 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 landbase. 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 recreation 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.

3.2.1.1.6 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 recreators 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.

3.2.1.1.7 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.

3.2.1.1.8 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.

3.2.1.1.9 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; hundreds of miles of designated snowmobile trails attract many local and out of town thrill seekers.

3.2.1.2 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 & tourism, agriculture, and mining) were evaluated by Harris *et al.* (2003). Their findings indicate the following (Harris *et al.* 2000):

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 is currently planning to close its mill at Elk City and relocate all operations to the Grangeville site in the near future. Three Rivers Mill and Empire Lumber are located in Kamiah (Lewis-Idaho County lines) and continue to operate. Three Rivers Mill has recently added a small log milling side capability to their operation. 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 3.6.

Table 3.6. Levels of direct employment by industrial sector.

Community	Economic Diversity Index	Agriculture	Timber	Travel and Tourism	State / Local Gov.	Federal Gov.	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.

Source: Harris *et al.* 2000

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-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 US 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, identification of TCPs, this can only be done by tribes.)
- Treaties (supreme law of the land) in which 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 1860's 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. Some 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 unallotted 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 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. These sites are summarized in Table 3.7.

Table 3.7. 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 Cr. near jct. with S. Fork Salmon R., Payette NF	Warren	1990	
2	**Elk City Wagon Road-Vicory Gulch--Smith Grade Segment**	Nez Perce National Forest	Elk City	2001	
3	**Fenn Ranger Station**	Selway Rd. 223 near Johnson Cr., Nez Perce NF	Kooskia	1990	Fox,William
4	**First Presbyterian Church**	SE of Kamiah on U.S. 12	Kamiah	1976	
5	**Florence**	NE of Riggins	Grangeville	1971	
6	**Foster, Blacky, House**	Along Salmon R. W of Shoup	Shoup	1992	
7	**Gold Point Mill**	Forest Service Rd. 222	Elk City	2000	
8	**Grangeville Savings and Trust**	State and Main Sts	Grangeville	1989	Nave,James H.
9	**Hells Canyon Archeological District**	Address Restricted	Riggins	1984	
10	**Lochsa Historical Ranger Station**	Address Restricted	Kooskia	1978	US Forest Service
11	**Lower Salmon River Archeological District**	Address Restricted	Cottonwood	1986	
12	**McBeth, Sue, Cabin**	SE of Kamiah on U.S. 12	Kamiah	1976	
13	**Meinert Ranch Cabin**	1.8 mi. SW of Red River Hot Springs on Red River-Beargrass Rd. No. 234	Elk City	1987	Meinert,Emma, Meinert,Irad
14	**Moore, Jim, Place**	Salmon River Canyon	Dixie	1978	
15	**Moose Creek Administrative Site**	E side of Moose Cr. S of Whistling Pig Cr., Nez Perce NF	Grangeville	1990	Parsell,Jack
16	**O'Hara House**	E of Kooskia off U.S. 12	Kooskia	1991	
17	**Old China Trail**	Along China Cr. near jct. with S. Fork Salmon R., Payette NF	Warren	1990	
18	**Arctic Point Fire Lookout**	N of Big Creek, Idaho Primitive Area, Payette NF	Big Creek	1994	
19	**Bemis, Polly, House**	Accessible on Salmon River via boat	Riggins	1988	Klinkhammer,Peter, Shepp,Charlie
20	**Aitken Barn**	SW 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 mi. W of Warren	Warren	1972	
23	**Carey Dome Fire Lookout**	Nezperce National Forest, 9 mi. N of USFS	Burgdorf	1994	

Table 3.7. National Register of Historic Places in Idaho County, Idaho.					
Item Number	**Resource Name**	**Address**	**City**	**Listed**	**Architect, builder, or engineer**
		Burgdorf Guard Sta			
24	**Celadon Slope Garden**	Along China Cr. near jct. with S. Fork Salmon R., Payette NF	Warren	1990	
25	**Chi-Sandra Garden**	Along China Cr. near jct. with S. Fork Salmon R., Payette NF	Warren	1990	
26	**Chinese Cemetery**	Payette National Forest, 0.5 mi. NW of Warren Wagon Rd.	Warren	1994	
27	**Chinese Mining Camp Archeological Site**	NW of Warren, Payette NF	Warren	1994	
28	**Cold Meadows Guard Station**	NE of McCall, Frank Church--River of No Return Wilderness, Payette NF	McCall	1994	
29	**Riggins Motel**	615 S ID 95	Riggins	2001	Rowe, Leonard
30	**St. Gertrude's Convent and Chapel**	W 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**	SW side, Warren Wagon Rd., Forest HWY. 21	Warren	1994	CCC, USFS
33	**White Bird Battlefield**	N of White Bird off U.S. 95	White Bird	1974	
34	**White Bird Grade**	NE of White Bird	White Bird	1974	
35	**Wylies Peak Lookout**	Nez Perce National Forest	Grangeville	1983	
36	**East Kamiah--Site 15**	SE of Kamiah	Kamiah	1974	

(NRHP 2003)

Fire mitigation activities in and around these sites has the potential to affect historic places. In all cases, the fire mitigation work will be intended to reduce the potential of damaging the site due to wildfire. Areas where ground disturbance will occur will need to be inventoried depending on the location. Such actions may include, but not be limited to, constructed firelines (handline, mechanical line, etc.), new roads to creeks to fill water tankers, mechanical treatments, etc. Only those burn acres that may impact 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. Some areas with heavy vegetation may need to be examined after the burn to locate and record any cultural resources although this is expected to be minimal. Traditional Cultural Properties (TCPs) will also need to be identified. Potential impact to TCPs will depend on what values make the property important and will 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, then exits at Kamiah. This paved route is notorious for being narrow, windy, and 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 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 to be 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 fire fighting 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 insure 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 is 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 some 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, Table 3.8.

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 3.8).

Table 3.8. Vegetative Cover Types in Idaho County.	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%
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%
Needleleaf 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 Needleleaf/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%

Table 3.8. Vegetative Cover Types in Idaho County.	Acres	Percent of County's Total Area
Mixed Riparian (Forest and Non-Forest)	5,604	less than 1%
Broadleaf Dominated Riparian	4,925	less than 1%
Needleleaf/Broadleaf Dominated Riparia	2,828	less than 1%
Herbaceous Clearcut	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**	

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 shrublands, 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

3.5.1.1 Kooskia, Idaho (105011)

Period of Record Monthly Climate Summary

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

Table 3.9. Climate records for Kooskia, Idaho (Idaho County).

	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

Table 3.9. Climate records for Kooskia, Idaho (Idaho County).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
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	24.24
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%

3.5.1.2 Fenn Ranger Station, Idaho (103143)

Period of Record Monthly Climate Summary

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

Table 3.10. Climate records for the Fenn Ranger Station, Idaho (Idaho County).

	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%

3.5.1.3 Cottonwood, Idaho (102159)

Period of Record Monthly Climate Summary

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

Table 3.11. Climate records for Cottonwood, Idaho (Idaho County).

	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%

3.5.1.4 Grangeville, Idaho (103771)

Period of Record Monthly Climate Summary

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

Table 3.12. Climate records for Grangeville, Idaho (Idaho County).

	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%

3.5.1.5 Elk City Ranger Station, Idaho (102875)

Period of Record Monthly Climate Summary

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

Table 3.13. Climate records for Elk City Ranger Station, Idaho (Idaho County).

	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%

3.5.1.6 Riggins, Idaho (107706)

Period of Record Monthly Climate Summary

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

Table 3.14. Climate records for Riggins, Idaho (Idaho County).

	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%

3.5.1.7 Warren, Idaho (109560)

Period of Record Monthly Climate Summary

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

Table 3.15. Climate records for Warren, Idaho (Idaho County).

	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. This is 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 dryland 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 underburns. However, the buildup of fuels and consequent high severity fires can cause soils to become water repellent (hydrophobic), and thus greatly increases 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, cobbly clay) 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 a 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 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 which 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 sections 3.35 and 100.01 - .05 of the Idaho water quality standards (WQS). These uses include:

- **Aquatic Life Support:** cold water biota, seasonal cold water biota, warm water biota, and salmonid spawning;
- **Contact 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).

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 to rapidly 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 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. Some wetlands and floodplains have been impacted by past management activities.

Table 3.16. Idaho Water Resources database of municipal water supplies in Idaho County.

Name	Service Type	Source Name	Source Type	Lat	Long	Popu-lation
CLEARWATER WATER DIST	Community	WALL CREEK	Surface Water	45.98025	115.87306	150

Table 3.16. Idaho Water Resources database of municipal water supplies in Idaho County.

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 OHARA BAR CAMPGROUND	Non-community Transient	S E SPRING	Spring-Groundwater	46.08541	115.50861	40
USFS OHARA 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
BLM HAMMER CREEK RECREATION SITE	Non-community Transient	WELL	Groundwater	45.76479	116.32566	25
BLM PINE BAR RECREATION SITE	Non-community Transient	WELL	Groundwater	45.89153	116.33364	25
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

Table 3.16. Idaho Water Resources database of municipal water supplies in Idaho County.

Name	Service Type	Source Name	Source Type	Lat	Long	Popu-lation
COTTONWOOD WATER DEPT	Community	WELL #4 NORTH	Groundwater	46.05959	116.35025	941
COUNTRY COURT MHP	Community	WELL	Groundwater	45.94059	116.15884	89
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

Table 3.16. Idaho Water Resources database of municipal water supplies in Idaho County.

Name	Service Type	Source Name	Source Type	Lat	Long	Population
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 ST GERTRUDES	Community	SOUTHEAST WELL	Groundwater	46.02704	116.37918	200
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 DIST	Community	WELL #1 OLD E	Groundwater	45.37006	116.36858	91
RAPID RIVER HOMEOWNERS WATER SEWER DIST	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
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

3.9 Air Quality

The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (USDA Forest Service 2000).

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 which trap smoke and affect dispersion, causing local air quality problems. This occurs most often during the summer and fall months and would potentially affect all communities in Idaho County.

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: Montana/Idaho Airshed Group Operating Guide (Levinson 2002). An airshed is a geographical area which 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, 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 must be 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 OR, WA, and ID 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. EPA can also declare a burn ban under the "Air Pollution Episodes" rule when air quality degrades to levels that are unhealthful. During a burn ban, open burning is not allowed. When a burn ban is declared, the open burn must be put out immediately or allowed to burn down. However, fires set for traditional or cultural purposes are allowed during a burn ban.

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The act 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 1 area and the Hell's Canyon Class 1 area fall within Idaho County's borders.

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).

The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, OAQPS (Organization for Air Quality Protection Standards) is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. 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).

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 looks at where people and structures are concentrated 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, or where forest fuels meet urban fuels in the case of wildfires (such as houses). 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 be it from wildfire, landslides, or floods. 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 fire fighting, 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 wildland-urban interface that is properly thinned 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 ground 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);

- improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Four wildland-urban interface conditions have been identified for use in wildfire control efforts (Pinchot Institute of Conservation 2002). These include the Interface Condition, Intermix Condition, Occluded Condition, and Rural 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;
- **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; and
- **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.

The location of structures in Idaho County have been mapped and are presented on a variety of maps in this analysis document; specifically in Appendix I. The location of all structures was determined by examining two sets of remotely sensed images. The more detailed information was garnered from digital ortho-photos at a resolution of 1 meter (from 1998). For those areas not covered by the 1 meter DOQQ images, SPOT satellite imagery at a resolution of 10 meters was used (from 2002). These records were augmented with data collected on hand-held GPS receivers to record the location of structures, especially in areas where new housing developments were seen.

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.

By evaluating this structure density, we can define WUI areas 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 of Interface and Intermix WUI, as well as Rural WUI (as defined by Secretary Norton of the Department of Interior). This portion of the analysis allows us to “see” where the highest concentrations of structures are located in reference to high risk landscapes, limiting infrastructure, and other points of concern.

It is critical to understand that in the protection of people, structures, infrastructure, and unique ecosystems, this portion of the analysis only serves to identify structures and by some extension the people that inhabit them. It does not define the location of infrastructure and unique ecosystems. Other analysis tools will be used for those items.

Chapter 4: Risk and Preparedness Assessments

4 Overview

4.1 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, 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 are left with manipulating the third component of the fire environment; 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.

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

4.1.1 Weather

Weather conditions contribute significantly to determining 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.

4.1.2 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. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. 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 the 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 by rolling debris or downslope winds. Steady nighttime downslope/down canyon winds coupled with the midslope thermal belt conditions contribute to fire spread.

4.1.3 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 affect 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 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 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 has 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.

4.2 Wildfire Hazards

4.2.1 Wildfire Ignition Profile

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 1 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).

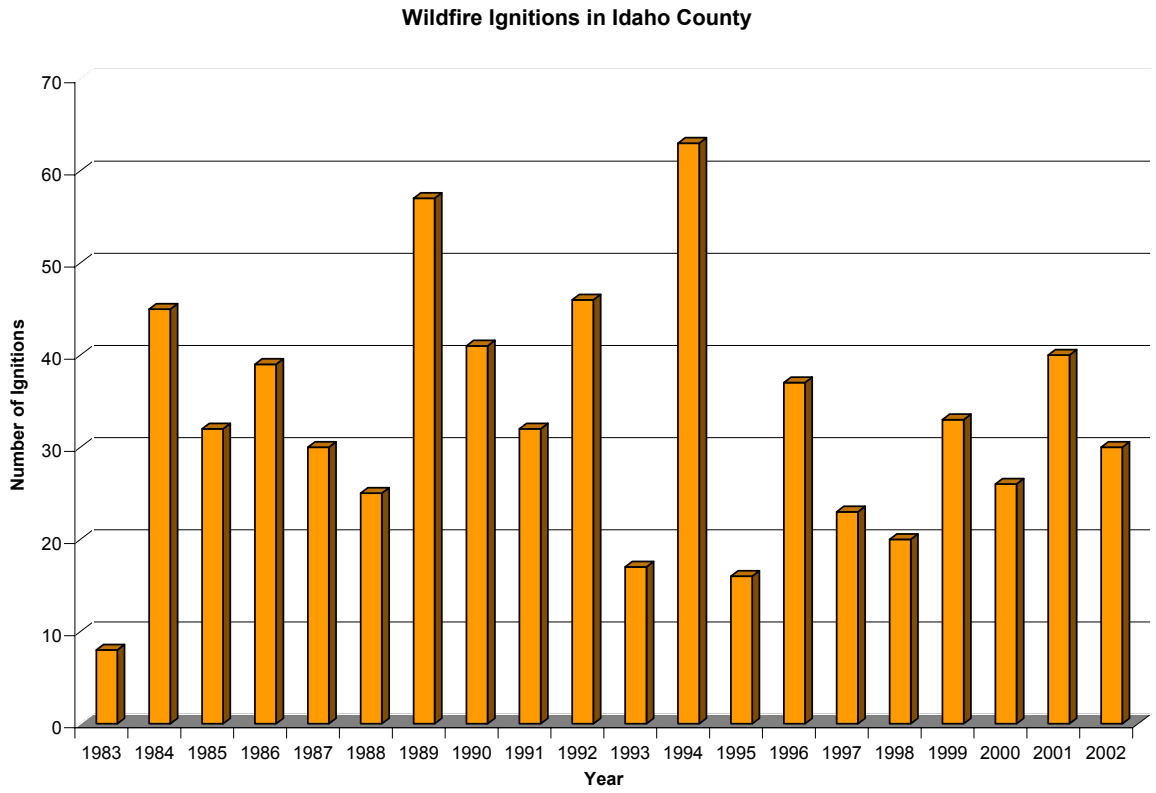
Detailed records of fire ignition and extent have been compiled by the Idaho Department of Lands, and the US Forest Service dating back over the past 50 years.

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
Total	**660**			

Figure 4.1. Idaho County Wildfire Ignition Profile from the Idaho Department of Lands dataset.



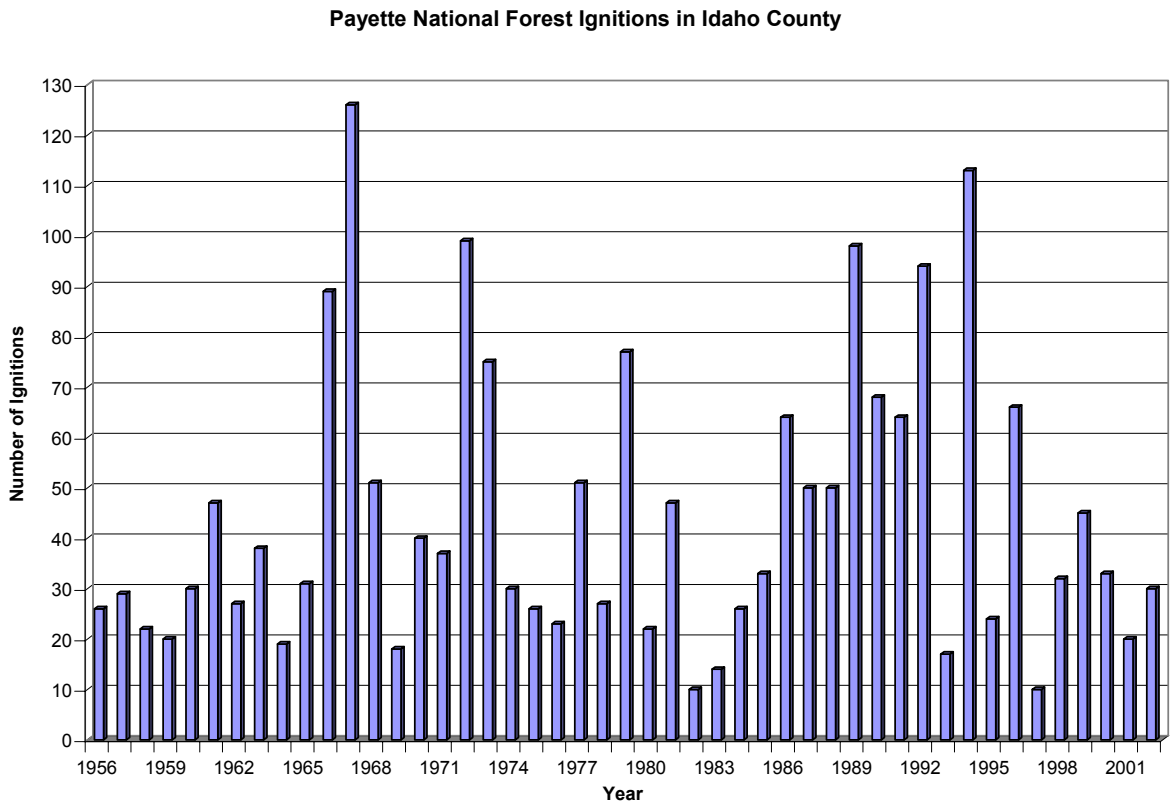
The Idaho Department of Lands dataset is a tabular dataset which does not include specific geographic data on the exact location of the ignitions, but it does include the fire's name. This data is provided in Appendix II.

The Payette National Forest manages the USFS 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 this regions over this period of time (Table 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		588,409

Figure 4.2. Idaho County Wildfire Ignition Profile from the Payette National Forest dataset.

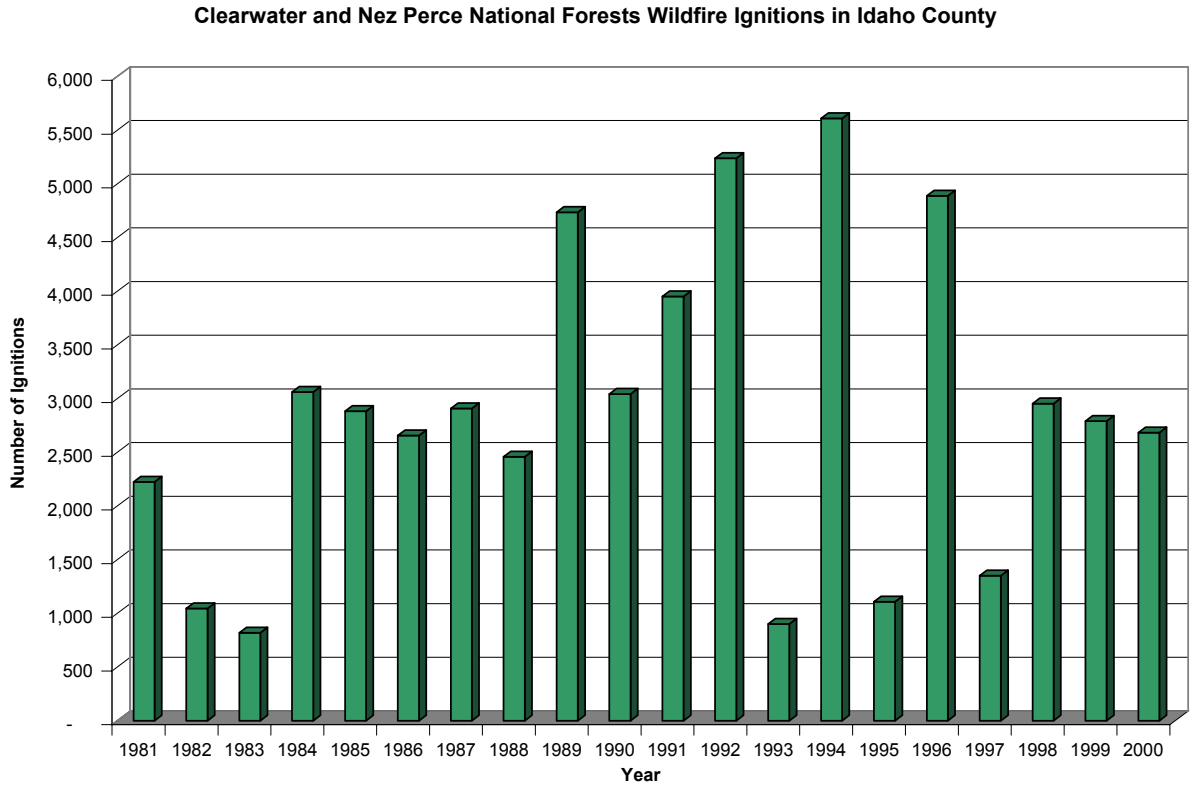


The Clearwater and Nez Perce National Forests manage the USFS lands in the central and northern areas of Idaho County. The Clearwater and Nez Perce National Forests have maintained detailed fire ignition and extent data dating back to 1981. Their record keeping includes the location of ignitions, extent of wildfires, and the cause of the ignition (in 3 categories). An analysis of this data indicates that 57,285 wildfire ignitions have burned approximately 4.7 million acres in these regions over this period of time (Table 4.3). Approximately 90% of these ignitions were caused by lightning.

Table 4.3. Summary of wildfire ignitions in Idaho County from the Clearwater and Nez Perce National Forests database 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		4,754,064

Figure 4.3. Idaho County Wildfire Ignition Profile from the Clearwater and Nez Perce National Forests datasets.



4.2.2 Wildfire Extent Profile

4.2.2.1 Idaho County Summary

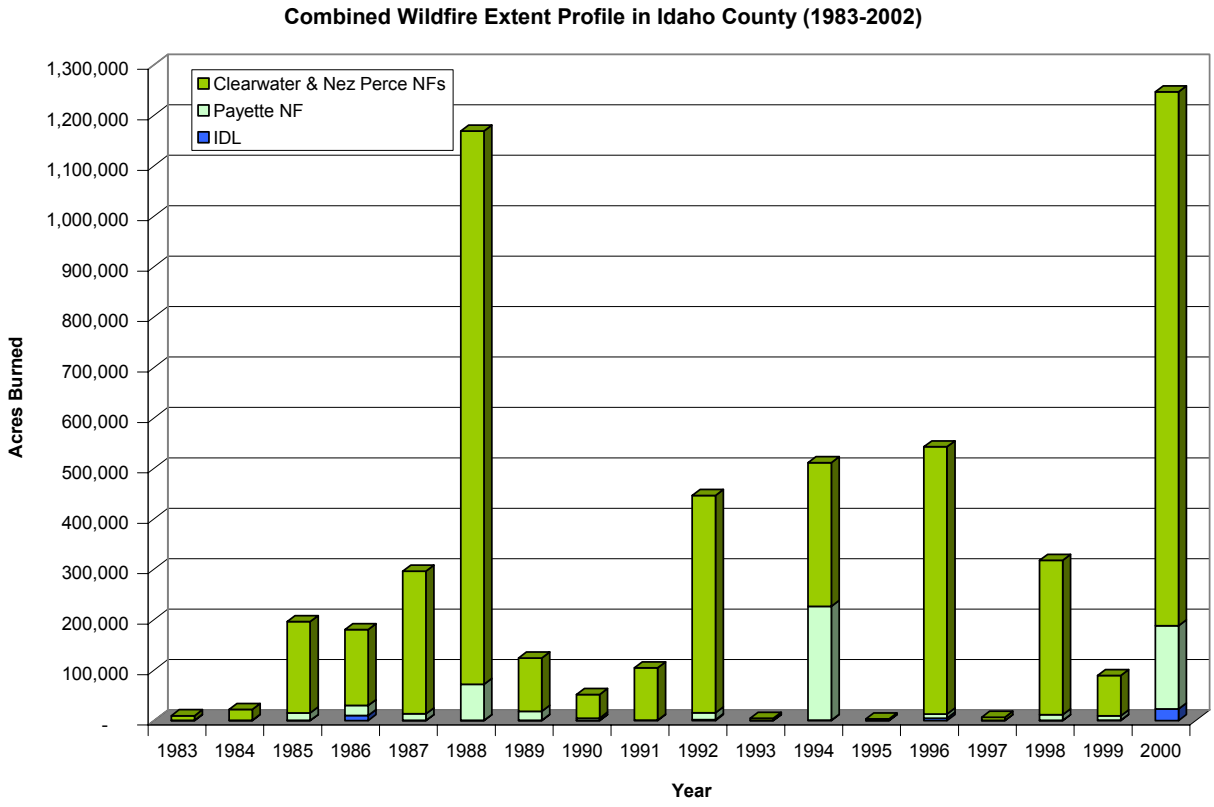
Many very large fires, growing to over 200,000 acres have burned in North Central Idaho, which Idaho County is a part. Many large fires have occurred in and around Idaho County (Appendix II). Tables 4.1, 4.2, and 4.3 detail the number of acres burned in each dataset from the Idaho Department of Lands and the US Forest Service.

Table 4.4 and Figure 4.4. 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 2 National Forests protect the vast majority of lands in the County. The largest number of acres burned in the county, during this period were 1988 (1,169,000 acres) and 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	Payette National Forest	Clearwater & Nez Perce National Forests	Total
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
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. Combined wildfire extent profile for Idaho County 1983-2000.



4.2.2.2 National Summary

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 which 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 10 year moving average number of acres burned reported each year has been increasing constantly since 2000.

Table 4.5. National Fire Season Summaries.

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 National Interagency Fire Center, located in Boise, Idaho, maintains records of fire costs, extent, and related data for the entire nation. Tables 4.3 and 4.5 summarize some of the

relevant wildland fire data for the nation, and some trends that are likely to continue into the future unless targeted fire mitigation efforts are implemented and maintained.

These statistics (Table 4.6) 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. The agencies include: Bureau of Land Management, Bureau of Indian Affairs, National Park Service, US Fish and Wildlife Service, USDA Forest Service and all State Lands.

Table 4.6. Total Fires and Acres 1960 - 2004 Nationally.

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
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			

(National Interagency Fire Center 2004)

Table 4.7. Suppression Costs for Federal Agencies Nationally.

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**

(National Interagency Fire Center 2005)

4.3 Wildfire Hazard Assessment

Idaho County and the adjacent counties of Clearwater, Lewis, Adams, Valley, and Nez Perce Counties, were analyzed using a variety of techniques, managed on a GIS system (ArcGIS 8.2). 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.

This information was analyzed and combined to develop an assessment of wildland fire risk in the region.

4.3.1 Fire Prone Landscapes

Schlosser *et al.* 2002, developed a methodology to assess the location of fire prone landscapes on forested and non-forested ecosystems in the western US. Northwest Management, Inc., a natural resources consulting firm, has completed similar assessments on over 30 counties and Indian Reservations in Idaho, Montana, Nevada, and Washington to determine fire prone landscape characteristics.

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.

Digital Elevation: Digital elevation models (DEM) for this project used 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).

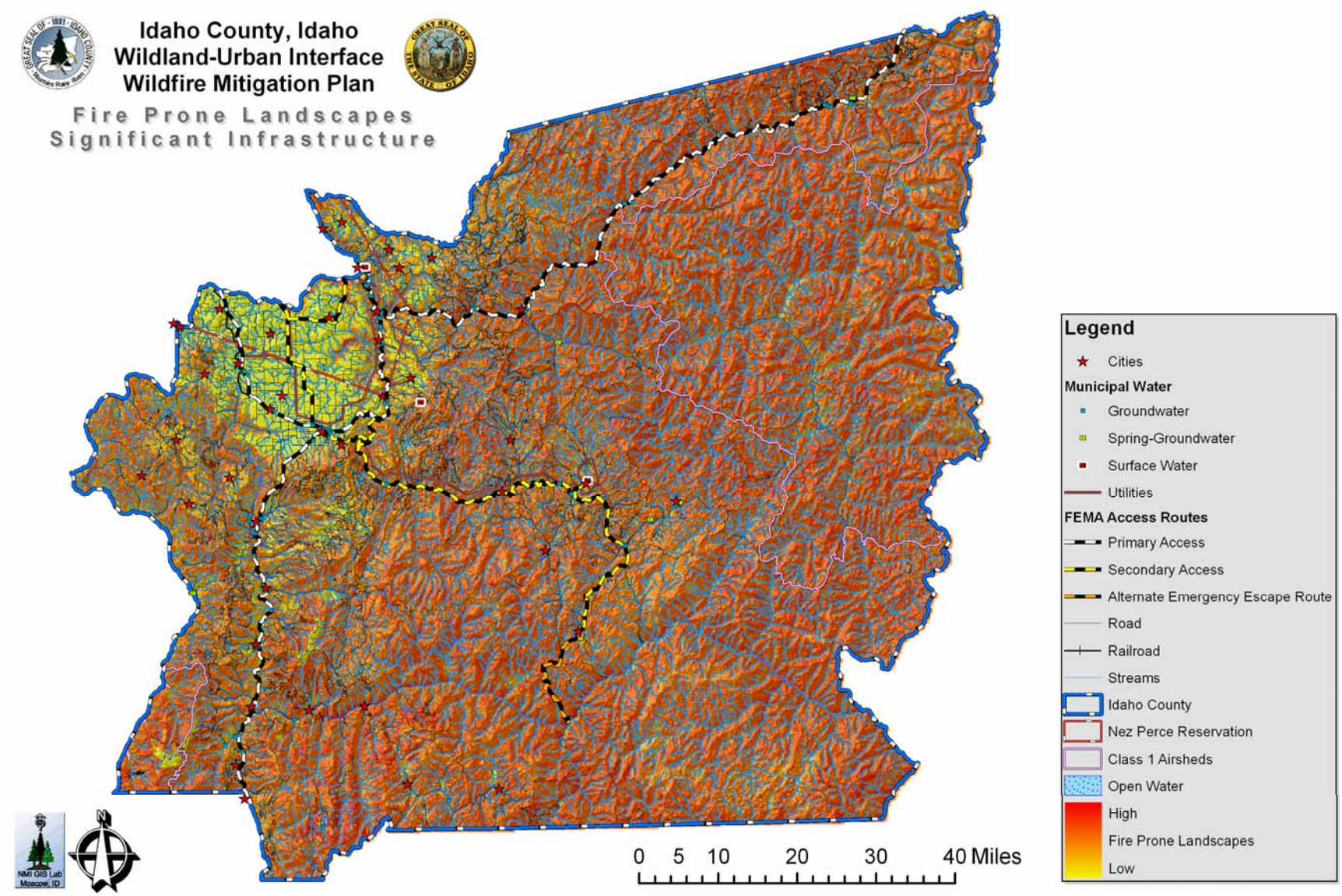
Riparian Zones: Riparian zones were derived from stream layers created during the Interior Columbia Basin Ecosystem Management Project (Quigley *et al.* 2001).

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 USFS 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 case of fire ignition. Specifically, the entire region was evaluated at a resolution of 10 meters (meaning each pixel on the screen represented a 10 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 0 (little to no risk) to 100 (extremely high risk) based on past fire occurrence. In fact, the maximum rating score for Idaho County was 97 with a low of 23.

Figure 4.5. Fire Prone Landscapes in Idaho County, Idaho.

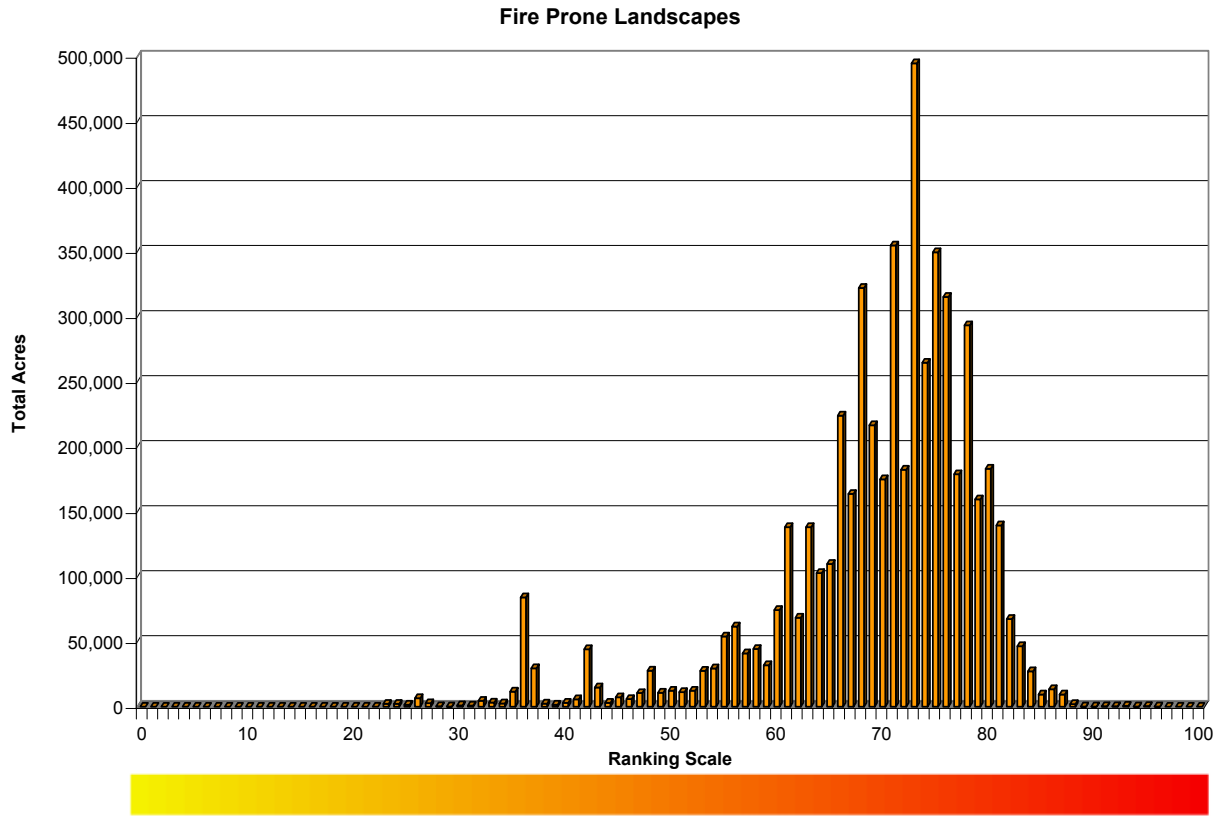


The maps depicting these risk categories display yellow as the lowest risk and red as the highest with values between a constant gradient from yellow to orange to red (Table 4.8). While large maps (16 square feet) have been provided as part of this analysis, smaller size maps are presented in Appendix 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%
	10	-	0%
	20	15,127	.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	.03%
	100	1	0%

Figure 4.6. Distribution of Fire Prone Landscapes in Idaho County by ranking scale.



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.

4.3.2 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 need to understand historical fire regimes (that is, fire frequency and fire severity prior to settlement by Euro-Americans) to be able to define ecologically appropriate goals and objectives for an area. Moreover, managers need 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.

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 was 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 subregional 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.

4.3.2.1 General Limitations

These data were derived using fire history data from a variety of different sources. These data were designed to characterize broad scale patterns of historical fire regimes for use in regional

and subregional 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).

Figure 4.7. Natural Historic Fire Regimes in Idaho County, Idaho.

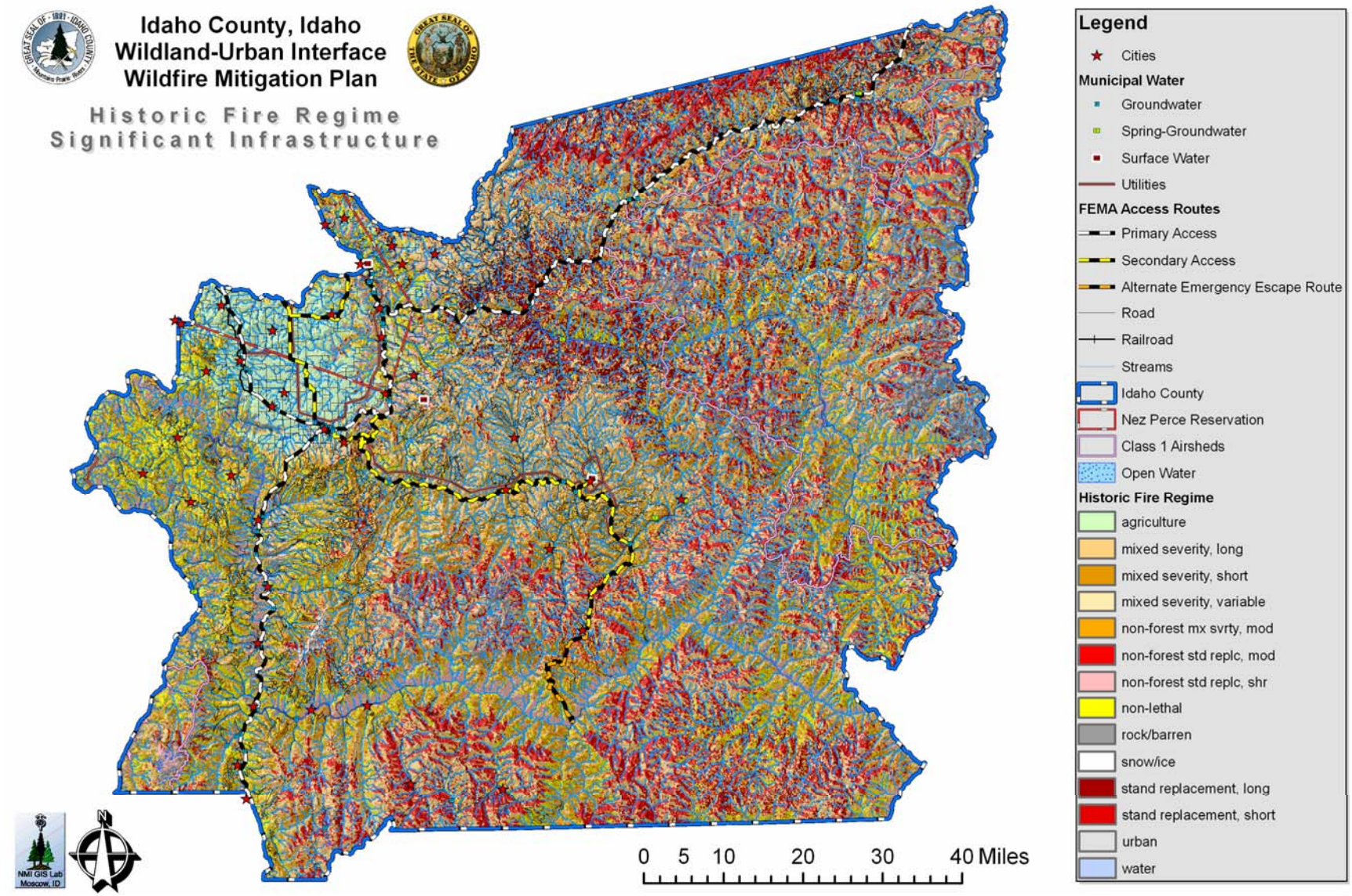


Table 4.9. Natural Historic Fire Regimes in Idaho County, Idaho.

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

4.3.3 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). 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 diseased 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). The central tendency is a composite estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated natural disturbances. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside.

Characteristic vegetation and fuel conditions are considered to be 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), "high graded" forest composition and structure (e.g. large trees removed 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.

An analysis of Fire Regime Condition Class in Idaho County shows that approximately 43% of the County is in Condition Class 1 (low departure), just about 24% is in Condition Class 2 (moderate departure), with 23% of the area in Condition Class 3 (Table 4.9).

Table 4.11. FRCC by area in Idaho County.

Condition Class		Acres	Percent of Area
1	Low departure	2,328,842	43%
2	Moderate departure	1,326,225	24%
3	High departure	1,255,008	23%
4	Agriculture	201,170	4%
5	Rock / barren	286,084	5%
7	Urban	1,667	0%
8	Water	15,902	0%
9	No info	19,847	0%

See Appendix I for maps of Fire Regime and Conditions Class.

The US Forest Service has provided their assessment of Fire Regime Condition Class for the natural vegetation areas of Idaho County to this WUI Wildfire Mitigation Plan analysis (Jones 2003). These measures of forest conditions are the standard method of analysis for the USDA Forest Service.

4.3.4 Predicted 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 US Forest Service (Flathead National Forest) did not attempt to model 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).

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 US Forest Service researchers defined 3 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, 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).

4.3.4.1 Purpose

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 has affected vegetation patterns, fuels, and fire behavior. The US 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).

4.3.4.2 General Limitations

These data were designed to characterize broad scale patterns of estimated fire severity for use in regional and subregional 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).

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 better understand our estimate of current fire severity.

Table 4.12. Predicted Fire Severity by area in Idaho County.

Predicted Fire Severity		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 std replc, shr	209,971	4%
7	non-forest mx svrty, mod	25,010	0%
8	non-forest std replc, mod	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%

See Appendix I for a map of Predicted Fire Severity.

4.3.5 On-Site Evaluations

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. The on-site evaluations have been summarized in written narratives. These evaluations included the estimation of fuel models as established by Anderson (1982). These fuel models are described in the following section of this document.

4.3.6 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 4 basic groups: grass, chaparral and shrub, timber, and slash, provide the basis for communicating fuel conditions and evaluating fire risk. There are a number of ways to estimate fuel models in forest and rangeland conditions. The field personnel from Northwest Management, Inc., that evaluated communities and other areas of Idaho County have all been intricately involved in wildland fire fighting and the incident command system. They made ocular estimates of fuel models they observed. In an intense evaluation, actual sampling would have been employed to determine fuel models and fuel loading. The estimations presented in this document (Chapter 4) are estimates based on observations to better understand the conditions observed.

The following is a brief description of each of the 13 fire behavior fuel models.

4.3.6.1 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 shrub 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 aresurface 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 ofspread and fire intensity under the influence of wind. Approximately one-third or more of the stand is dead or nearly dead.

4.3.6.2 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.

4.3.6.3 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.

4.3.6.4 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. Clearcut 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 change in conditions occur. Fuels generally total less than 35 tons per acre and are well distributed. Heavily thinned conifer stands, clearcuts, 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. Clearcuts 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.

4.4 Idaho County Conditions

Idaho County is comprised of three ecological subregions, the Camas Prairie in the northwestern corner of the County, the arid Snake and Salmon River canyonlands, and the vast forestlands of the Clearwater Mountains.

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.

Coniferous woodlands associated with the national forest and wilderness areas cover the majority of the county. The transition zone between forest and meadow-steppe or river breaklands vegetation consists of a complex interfingering 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.

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 Burunt Flats Fire east of the community of White Bird. This event clearly illustrates 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.

4.4.1 Countywide Potential Mitigation Activities

There are four basic opportunities for reducing the loss of homes and lives to fires. There are many single actions that can be taken, but in general they can be lumped into one of the following categories:

- Prevention
- Education/ Mitigation
- Readiness

4.4.1.1 Prevention

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. It's impossible to say just how effective such efforts actually are, however the low costs 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 devise. 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.

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.

4.4.1.2 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 and 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, fire fighting 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 financially assist the landowner making the necessary changes to the home.

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.

4.4.1.3 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 can improve response times and subsequently reduce the potential for resource loss.

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.

4.5 Idaho County's Wildland-Urban Interface

Individual community assessments have been completed for all of the populated places in the county. The following summaries include these descriptions and observations. Local place names identified during this plan's development include:

Table 4.13. Idaho County Communities.

Community Name	Planning Description	Vegetative Community	National Register Community At Risk?[1]
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
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

[1]Those communities with a "Yes" in the National Register Community at Risk column are included in the Federal Register, Vol. 66, Number 160, Friday, August 17, 2001, as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires". All of these communities have been evaluated as part of this plan's assessment.

4.5.1 Mitigation Activities Applicable to all Communities

4.5.1.1 Homesite Evaluations and Creation of Defensible Space

Individual homesite evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Current management of the vegetation surrounding homes provides good 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 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.

4.5.1.2 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.

4.5.1.3 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.

4.5.1.4 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 to quickly and concisely 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.

4.6 Rangeland Communities in Idaho County

4.6.1 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, and 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 starthistle, etc are also common in much of the canyon breaklands. 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 junegrass. 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 Whitebird. This patchwork helps to break the continuity of fuels that are available to burn; however, 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 cheatgrass, yellowstar thistle, and several other invasive species. Cheatgrass and yellowstar 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 fire prone species, particularly in high use areas where disturbance is common.

4.6.2 Overall Fuels Assessment

Fuels throughout the entire rangeland community in Idaho County are fairly consistent, dominated by grasslands, cultivated fields, and in some 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.

4.6.3 Individual Community Assessments

4.6.3.1 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.

4.6.3.1.1 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 untillable 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 4 miles south of Keuterville. The breaklands 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 pick ups are used regularly in farming operations.

4.6.3.1.2 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 criss-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.

4.6.3.1.3 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, some 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 is currently active, but seldom used. This line historically transported grain, lumber, fertilizer, and other products to and from Camas Prairie markets.

4.6.3.1.4 Fire Protection

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

4.6.3.1.5 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. Nevertheless, recent harvesting operation practices have lessened 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.

4.6.3.1.6 Mitigation Activities

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. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.

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 insure that their structures and families are protected from wildland fire.

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.

4.6.3.2 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.

4.6.3.2.1 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 untillable 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 fires are also commonly started by vehicles driving through dry fields or on unimproved trails. Grain trucks, ATV's, and pick ups are used regularly in farming operations.

4.6.3.2.2 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 Nezperce and Kamiah. Greencreek is accessed by Greencreek Road, a paved two-lane short-cut between U.S. 95 and Powerline 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 criss-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.

4.6.3.2.3 Infrastructure

Residents of Fenn, Greencreek, Winona, and Ferdinand are either 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, some 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 is currently inactive. This line historically transported grain, lumber, fertilizer, and other products to and from Camas Prairie markets.

4.6.3.2.4 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.

4.6.3.2.5 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.

4.6.3.2.6 Mitigation Activities

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. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space.

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.

4.6.3.3 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 5 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 Christmas Ranch 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 the new RV park along Fish Hatchery Road.

4.6.3.3.1 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 untillable 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

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 fairly 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; 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 pick ups are used regularly in farming operations.

4.6.3.3.2 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.

4.6.3.3.3 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, some 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 3 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/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 impact the community of Grangeville via potential flooding, erosion, and degradation of water quality.

4.6.3.3.4 Fire Protection

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

4.6.3.3.5 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 Christmas Ranch 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. 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.

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.

4.6.3.3.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Grangeville 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.

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.

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.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.6.3.4 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 breaklands. 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.

4.6.3.4.1 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/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 fairly 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. Grain trucks, ATV's, and pick ups are used regularly in farming operations.

4.6.3.4.2 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 of these 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, the Rapid River Fish Hatchery, and the Whitewater Wilderness Ranch. This is a well-maintained gravel route with 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.

4.6.3.4.3 Infrastructure

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

4.6.3.4.4 Fire Protection

The Salmon River Volunteer Fire Department maintains a station on Rapid River Road to provide structural fire protection in this area. The US Forest Service is responsible for wildland fire protection.

4.6.3.4.5 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, located along the Rapid River Road, 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 do, fortunately, 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 safely 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.

4.6.3.4.6 Mitigation Activities

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 a structure or other valued resources, the probability of that

structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. 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.

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.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.6.3.5 Riggins

The community of Riggins is located at the intersection of the Main Salmon and the Little Salmon Rivers. Drainages coming off of 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 tourist’s 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.

4.6.3.5.1 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 fairly 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.

4.6.3.5.2 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, fisherman, 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. 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, which is a forest route 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.

4.6.3.5.3 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 power that operates the pumps on the wells could potentially be interrupted or damaged leaving all or a portion of the community without water.

4.6.3.5.4 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 10 mile mutual aid area. 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.

4.6.3.5.5 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 safely 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.

4.6.3.5.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Riggins 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.

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.

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. 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.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.6.3.6 Upper Salmon River Inholdings

The Upper Salmon River community is a number of isolated ranches and homes scattered along the main Salmon River, up river from the end of the Salmon River Road. This includes: Shepp Ranch, Polly Bemis, Indian Creek Ranch, James Ranch, Romine Ranch, Allison Ranch, Campbell's Ferry, China Bar, Five Mile Bar, Jim Moore(historical), Painter Bar, 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 breaklands.

4.6.3.6.1 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/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 inholdings 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 fairly 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.

4.6.3.6.2 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 inholdings have trail access also. Mackay Bar and White Water Ranch have road access via narrow, seasonal dirt roads accessible by ATV or 4 wheel drive vehicles.

4.6.3.6.3 Infrastructure

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

4.6.3.6.4 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.

4.6.3.6.5 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 some 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 safely 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.

4.6.3.6.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents on the Main Salmon River should be encouraged to work with local 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.

4.6.3.7 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 Slate Creek 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.

4.6.3.7.1 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 fairly 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.

4.6.3.7.2 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 routes on the ridgetop. 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 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.

4.6.3.7.3 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.

4.6.3.7.4 Fire Protection

The White Bird Volunteer Fire Department is responsible for structural fires in Slate Creek and the Riggins Fire Department is responsible for structural fires in Lucile. Wildland fire protection is provided by the US Forest Service and the Idaho Department of Lands.

4.6.3.7.5 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 is compromised, residents would have to travel up the canyon to Forest Route 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 safely 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.

4.6.3.7.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Slate Creek, Lucile, and the surrounding areas 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 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.

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

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.6.3.8 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 star thistle and cheatgrass, 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.

4.6.3.8.1 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 cheatgrass and other nonnative species have become established. Cheatgrass's fine structure and ability to completely dominate 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, cheatgrass 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 fairly 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 pick ups are used regularly in farming operations.

4.6.3.8.2 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 of 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 of the Old Highway 95 loop through Swiftwater. Both of these access routes are narrow gravel roads, which may not support two-way truck traffic in some spots. Additionally, most homeowners have narrow private driveways with inadequate turnaround or turnout areas, which may limit emergency vehicle admittance.

4.6.3.8.3 Infrastructure

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

4.6.3.8.4 Fire Protection

The White Bird Volunteer Fire Department is responsible for structural fire protection in the White Bird area. Wildland fire protection is provided by the US Forest Service and the Idaho Department of Lands.

4.6.3.8.5 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 Route 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.

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.

4.6.3.8.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of White Bird 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 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.

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.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.7 Forestland Communities in Idaho County

4.7.1 Vegetative Associations

Vegetative structure and composition in Idaho County is 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 some 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 very 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 by Idaho County borders. 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.

4.7.2 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. 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, 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 has 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, some 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 pose 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 by 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.

4.7.3 Individual Community Assessments

4.7.3.1 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 USFS 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, fishermen, 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 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 off point for overnight trips into the Loon Lake area.

Although it is listed as a ghost town, Warren has 9-15 year round and 45-60 summer time residents. There are several cabins and businesses at the old Warren town site still catering to tourists and travelers. Adventurers drive and 4-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 manned 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 some 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.

4.7.3.1.1 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 some areas, rock piles and mounds of dirt are common throughout the forestlands, in some 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 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 Route 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 some 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.

4.7.3.1.2 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 Route 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 Route 340 continues from Warren towards Big Creek in Valley County. Although escape on this route is possible, Forest Route 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 routes in the area; however, these are generally dead end roads that lead to more remote regions of the Payette National Forest.

4.7.3.1.3 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 as a result 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 drilled personal wells. These water resources are unlikely to be severely affected by wildland fire.

4.7.3.1.4 Fire Protection

The Secesh Volunteer Fire Department is responsible for structural fire protection in the Burgdorf, Secesh, and Warren 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 fully operational department. It would be in the best interests of residents to know who to call in the case of a fire emergency, especially during the winter months when there is limited response personnel in the immediate area.

The US Forest Service provides wildland fire protection.

4.7.3.1.5 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.

4.7.3.1.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Burgdorf, Secesh, Warren, and the surrounding areas should be encouraged to work with 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.

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 lands. Furthermore, building codes should be established to provide for more fire conscious construction techniques such as using fire resistant siding, roofing, and decking.

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.

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.

4.7.3.2 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 10 miles east of Grangeville. The small community of Clearwater lies

about 4 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 and Bennett Forest Industries has large timber holdings with the community boundaries.

4.7.3.2.1 Fire Potential

Fuels Assessment

The terrain along the river is generally identified as very steep breaklands; 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 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. Some 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 also 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.

4.7.3.2.2 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 of 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, which have a much lower risk of being blocked by fire.

4.7.3.2.3 Infrastructure

Although most newer construction 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.

4.7.3.2.4 Fire Protection

The Harpster Volunteer Fire Department 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 Ridge Runners are 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 US Forest Service is responsible for wildland fire protection on National Forest 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 either been formalized or are in-process. In addition, an Idaho County Fire Department Association has recently been formed with the intent of even further improving inter-agency communication and collaboration.

4.7.3.2.5 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 fire fighting 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 some of 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, there are many other mitigation activities that would significantly improve the survivability of this community in the event of a wildland fire.

4.7.3.2.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Harpster-Clearwater-Tahoe Ridge/Big Cedar 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.

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.

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.

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 powerline corridors, and strictly enforcing fire-use regulations.

4.7.3.3 Mount Idaho

Mt. Idaho is located 2 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.

4.7.3.3.1 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 forest service 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 fairly 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 pick ups are used regularly in farming operations.

4.7.3.3.2 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 Route 279 (Cove Creek Road) providing a thru road to the river throughout the fire season.

4.7.3.3.3 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.

4.7.3.3.4 Fire Protection

The Grangeville Rural Fire Department provides structural protection in Mount Idaho, but only extends approximately one mile to the east. The Harpster Rural Fire Department is attempting to extend their coverage to meet up with the Grangeville rural district boundaries along the Mount Idaho Grade. Nevertheless, this would not cover structures in the Cove Road area.

The US Forest Service and the Idaho Department of Lands provide wildland fire protection. The Bureau of Land Management is not responsible for wildland fire suppression in Idaho County; however, they do have limited abilities to respond if requested.

4.7.3.3.5 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 safely 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.

4.7.3.3.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Mount Idaho 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 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.

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.

New developments in the wildland urban interface should be regulated by building codes that protect residents from the effects of wildfire. Insuring 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.

4.7.3.4 Dixie and Orogrande

Dixie is located approximately 35 miles southwest of Elk City along Forest Route 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 near the Bennett Forest Industries Mill. Dixie and Orogrande are located within the Nez Perce National Forest. Both Dixie and Orogrande are old gold mining communities which 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.

4.7.3.4.1 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 under-story is mostly bear-grass, huckleberry, alder, and various other brush species. Thick patches of regeneration, in various stages of development, are also occurring in some areas. Much of this area has not burned or been otherwise managed for many years; thus becoming unnaturally dense, which significantly increases the fuel build up 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 and 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 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 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.

4.7.3.4.2 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 Route 222 (Mackay Bar Road) from Dixie to the Mackay Bar area on the Salmon River serves as the sole escape route for residents and recreators 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, there are very few drivable routes that could serve as an adequate escape route. Many of the forest routes 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 insure 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.

4.7.3.4.3 Infrastructure

The economy in Dixie, and Orogrande to a smaller degree, are completely reliant on tourism. Warm weather attracts adventurous campers, hikers, 4-wheelers, and other recreatonalists, 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.

4.7.3.4.4 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 USFS takes control of the majority of the wildfire suppression duties. The USFS has a guard station located approximately 4 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.

4.7.3.4.5 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 cabins within the area have taken an active management approach to protect their properties and performed some type of 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. 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.

4.7.3.4.6 Mitigation Activities

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 home or other valued resources, the probability of that structure surviving a passing fire front is largely dependent on the structural and landscaping characteristics of the home. 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 that reduce the ignitability of the home.

"Living with Fire, A Guide for the Homeowner" is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Idaho County 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.

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.

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.

4.7.3.5 Elk City, Newsome, and Red River

Elk City is located within the BLM'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% BLM (13,173 acres), 78.4% US 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 BLM's ECMA is isolated from other BLM 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 townsite, which is now mostly recreational cabins and campgrounds, is located on Forest Route 1858 about 6 miles north of State Route 14 and approximately 10 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.

4.7.3.5.1 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 regrowth 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, the 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 some 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 also 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.

4.7.3.5.2 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 Route 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. Currently, this roadway is gated and sometimes locked due to recovery measures occurring in the area.

Forest Route 1858 is the only developed road into the Newsome area. This is a fairly well-maintained gravel route that 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 4-wheel drive access only and would not support emergency vehicles. The Forest Route 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.

4.7.3.5.3 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 is open year round and typically 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; however, they are currently in the process of installation. Sanitation could be a problem over an extended period of time 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 some 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 impact 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. Some 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 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 increases 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.

4.7.3.5.4 Fire Protection

The Elk City Volunteer Fire Department is responsible for structural and wildland fire protection for the communities of Elk City, Orogrande, Red River Area, Newsome, Junction Flats, Mallard

Creek, Fall Creek, Upper American River, Bennett Forest Industries Mill, 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.

Due to the closure of the Bennett Forest Industries mill in Elk City scheduled for late 2005, the Elk City Volunteer Fire Department will likely lose many of its members; thus, possibly reducing some of its response capabilities.

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.

4.7.3.5.5 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 clearcuts 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 U.S. 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 5-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 situation. 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 some of 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, there are many other mitigation activities that would significantly improve the survivability of this community in the event of a wildland fire.

4.7.3.5.6 Mitigation Activities

Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Elk City, Newsome, and Red River must be made aware that home defensibility starts with the home. Once a fire has started and is moving toward a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Elk City 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.

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. Through their Whiskey South Project, the BLM and Forest Service have initiated forest management activities in this area that are consistent with mitigating forest fire risk; however, this project was recently stopped due to a District Court lawsuit. The federal land agencies should revisit the analysis and continue development and implementation of this project. We strongly support these management activities.

There are over 50 square miles of high risk landscapes adjacent to Elk City. The BLM 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 Forest Service and the 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.

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.

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.

4.7.3.5.7 Elk City Fire Plan

FIRE Prevention and Planning Goals:

- Emphasize prevention of wildland urban interface fires using a proactive, cooperative approach with incentive measures.
- Develop road system that provides for efficient fire fighting and clear evacuation routes.
- Promote effective fuel treatment programs for homeowners and businesses that are carried out on an ongoing basis in all wildland urban interface
- Encourage responsible practices for land development, recreational activities, and commercial operations to reduce loss from wildland urban interface fire on public and private land.
- Provide the appropriate resources through grants and state and federal funding, to maintain an effective emergency response system to wildland urban interface fires.
- Sustain a coordinated and cooperative program of timely information and educational programs to residents, businesses, and recreational homeowners.

Fire Mitigation Actions:

Prevention (activities that reduce and/or keep hazards from getting worse)

- Institute a program for creating and maintaining neighborhood fire prevention plans in wildland urban interface areas.
    - Neighbors helping neighbors to establish a fire prevention program to help build familiarity with local fire issues and create neighborhood preparedness.
    - Who: Fire Protection and Planning Committee
    - When: Now
    - Resources: RC &D, Wildland Urban Interface Community & Rural Assistance Program, BLM; Community Development Block Grant Program, Idaho Dept of Lands, Northwest Management, USFS, Department of Agriculture.
- Designate Local Emergency Planning Committee for promoting the mitigation plan.
    - Who: Fire Protection and Planning Committee
    - When: initiated in 2003
    - Work toward developing improved access.
- Road access and maintenance was a primary concern of fire districts. The inability to access properties through narrow, poorly maintained, or steep driveways or roads increases risk to the individuals living along these roads and the amount of possible property damage is one of the most important issues that needs to be addressed by this plan.
    - Who: Private property owners, BLM, USFS, Road Dept.
- Encourage utility companies to reduce ignition fuels and windfall hazards in power line corridors and install underground lines in new subdivisions and when replacing older lines.
    - Downed power lines are a source of ignition for wildland fires. Firestorm 1991 was started by high winds downing power lines and igniting fuel on the ground. Reducing fuel in these corridors and placing lines underground would help reduce the hazard.
    - Who: Fire Protection and Planning Committee
    - When: Ongoing
- Provide emergency access to water supply via hydrants and other water sources along service delivery lines.
    - Lack of sufficient water supply makes it difficult for firefighters to suppress fires. Whenever possible use of all sources can help this problem by increasing access to water along their delivery lines.
    - Who: Fire Protection and Planning Committee
    - When: Done
    - Resources: Elk City Water and Sewer, Fire Dept.

        Extra Pumps for stream water
        We have 15 new Fire Hydrants
        We have a new 1952 Fire Truck

- Contact outside communities and agencies to learn what wildland urban interface fire prevention techniques worked and those that did not and incorporate this knowledge in future fire prevention and planning activities.
    - Wildland fires and wildland urban interfaces exist throughout North America. There is no need to reinvent the wheel. Ideas can be shared by staying in contact with the activities of these communities.
    - Who: state and federal agencies with responsibilities for fire in the wildland urban interface.
    - When: Ongoing
    - Resources: National Resources Conservation Services, etc.
- Encourage
    - requirements for adequate water supply for fire fighting,
    - two means of ingress and egress where feasible,
    - incentives for construction with fire resistant materials,
    - additional fire protection measures for large structures
    - pertinent sections of the Wildland Urban Interface Fire Code.

Property Protection (activities undertaken by property owners)

- Establish a program for homeowners offering an assessment of the fire safe worthiness of their property and an incentive system to use fire safe building materials and reduce fuel loads on their property.
    - One of the major actions that can reduce risk and property loss is the creation of a fire safe home and property. Currently, Fire Protection and Planning Committee has the ability to assist property owners in the creation of survivable space through its grant award. This needs to be a major short-range goal.
    - Who: Fire Protection and Planning Committee
    - When: Immediately and ongoing.
    - Resources: 2002 Grant Programs, and in the future, the following programs: Wildland Urban Interface Community & Rural Fire Assistance, BLM; Economic Action, State Fire Assistance and Volunteer Assistance, USFS, RC& D
- Encourage Businesses to give a discount to homeowners purchasing materials to complete fire prevention tasks around their homes. Send with homeowner a verification letter to business.
- To develop source for use of an emergency generator connected to home electric and pump systems.
    - Some monies need to be allocated to this process. The Committee will address getting a generator for water system.
    - Who: Idaho Department of Lands, Bureau of Land Management, University of Idaho, Fire Protection and Planning Committee
    - When: 2003 summer

    - Resources: Agency research and development budgets, university grant programs, government surplus, RC&D.

- Offer individual homeowners a fuel treatment plan that reduces large pieces of wood into fireplace wood and disposes of other debris and organize community service projects to assist elderly and handicapped homeowners reduce fuel loads on their property. Sponsor an annual clean-up, fuels reduction week with incentives. Explore the potential of making slash and deadfall available for firewood for senior citizens and handicapped or low-income residents and use good wood for lumber for charitable purposes.
    - Again, making good use of debris encourages efficient clean up and helps those not capable of clearing their property. Fuels will continue to collect on the floors of the wildland urban interface zone even after their original clean-up. Sponsoring an annual clean-up day will encourage property owners to continue to clear their property. Often fuel treatment programs dispense of the debris on a property. The property owner may be more likely to be involved if the debris can be put to use rather than discarded. Assisting homeowners who are not capable of clearing their own property helps reduce risk to neighboring properties.
    - Who: Community service agencies, Fire Protection and Planning Committee
    - When. Ongoing
    - Resources: 2002 WUI grant programs; Student Conservation Association; Wildland Urban Interface Community & Rural Fire Assistance, BLM; Economic Action, State Fire Assistance and Volunteer Assistance, USFS
    - Action: Create a List of Homeowners needing help. Create a List of volunteers willing to help.

Natural Resources Protection (activities to preserve or restore natural areas or natural functions)

- Identify "road blocks" federal agencies encounter in treating slash fuels and fuels in general.
    - Federal agencies must deal with a variety of environmental constraints to fuel treatment. Also, public perceptions can create confusion about treatment issues. Can some of these restraints be reduced? Are there methods to insure that environmental damage is minimal during fuel treatment activities? Can public perceptions be changed? These questions need to be explored to help make federal fuel treatment activities efficient and timely.
    - Who: USFS, BLM and other local land management agencies.
    - When: ongoing
    - Resources: Web sites, ongoing education programs, publicity.
- Encourage property owners to use grant programs to create retention facilities which can serve a dual purpose as water supplies.
        - As noted above, water supplies for fire fighting are critical. Having additional water supplies at the location of homes can help provide an additional resource. Cisterns or ponds.
        - Who: Fire Protection and Planning Committee

- When: Ongoing.
- Resources: USDA, Natural Resource Conservation Service

Emergency Services (measures taken to prepare for, during and after a fire to minimize its impact)

- Maintain and activate an interagency joint information center of local, state and federal agencies during wildland fires that ensures accurate, up to date information is delivered to the public.
    - Emergency service personnel noted that information that is provided to the publicly different agencies involved in fire fighting is often confusing if not contradictory. Having one public information officer who coordinates all information would lead to better clarity.
    - Who: County Disaster Services and all local, state and federal fire agencies
    - When: Immediately
    - Resources: Local person that would contact the right source for information and relay it in a responsible manner.
- Maintain an interagency radio link to assure effective communication
    - Effective communication between various agencies during a wildland fire is imperative. Often there are too many people on a network causing confusion and increasing the possibility of misinformation. Maintaining an effective link is an important tool in being effective.
    - Who: Fire Districts and Departments and all other government entities with wildland urban interface fire responsibilities,
    - When: Immediately and ongoing thereafter.
    - Resources: Assistance to Fire Fighters Grant Program, USFA
- Assist efforts of fire districts to coordinate a minimum standard for wildland urban interface training, have Public Information Officers, and maintain a sufficient number of Type III qualified personnel.
    - Local fire districts struggle to recruit and train personnel. An effort to increase their training capabilities helps to improve the effectiveness of fire fighting in the wildland urban interface zone.
    - Who: USFS, IDL, BLM
    - When: Ongoing.
    - Resources: Assistance to Fire Fighters Grant Program, USFA. Department of Lands (helping to locate training for our Firefighters). In Need of more fire fighters.
- Produce, on an ongoing basis, up-to-date hard copy and electronic county maps with evacuation routes, hospitals, road names, and current addresses and latitude and longitude.
    - Property owners who must evacuate during a wildland fire or are in need of emergency services need to know where appropriate facilities are

located. The purpose of these maps would help inform them in case of an emergency.

    - Who:, Idaho Department of Lands, USFS and BLM, Idaho county.
    - When: Ongoing.
    - Resources: County Assessor Budget, fees for map duplication.

- Keep current and distribute evacuation plans with safety zones and information which encourages homeowners to evacuate in a timely manner.
    - Evacuation routes need to be predetermined to assist homeowners in case of emergencies. Delivering these evacuation plans to homeowners would assist in this.
    - Who. Fire Protection and Planning Committee
    - When: As soon as possible
    - Resources: Fire Districts; Volunteer Agencies, e.g. American Red Cross; Telephone companies; State Fire Assistance Program.
- Encourage families to designate a meeting place and phone contact during and after fire evacuation
    - Maintaining contact with family members during an emergency reduces fear and anxiety. Having a known place to call or go to during the emergency helps family members know where each other are.
    - Who: state and federal agencies with wildland urban interface fire responsibilities. Idaho County
    - When: Ongoing
    - Resources: None needed.

Public Information (activities that advise about hazards and ways to protect people and property)

- Develop an interagency agreement to assure consistency during emergencies between information and education programs for homeowners to avoid people getting “different stories”.
    - During discussions about education programs, several people mentioned the information coming from different agencies was often contradictory. Creating consistency helps the learning keep facts and actions straight.
    - Who: Idaho County, Elk City Fire Department, Idaho Department of Land, Bureau of Land Management and Forest Service.
    - When:
    - Resources:
- Put up more signs for fire danger update: Out close to the Junction Flats, Crooked River area, Orogrande, table meadows and all campgrounds of any size.
    - Work with local educators to establish a wildland fire component in the public schools’ fire education program.

- Fire prevention personnel need to work closely with the schools to help insert these programs into the normal education program.
- Who: Jill Wilson
- When: ongoing
- Resources: USFS

- Develop an interactive Internet site with a wildland urban interface fire theme for questions, comments, sign-up for home evaluations, volunteer opportunities, and targeted information for recreational homeowners.
  - Given the extent of the use of the internet, the creation of a wildland urban interface home page would make it possible for the public to have quick access to appropriate information.
  - Who: Cynthia Sherrer and anyone else that would like to assist
  - When: Immediately
  - Resources:

4.7.3.6 Lowell and Syringa

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, and 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 7 miles west of Lowell also along the Highway 12 corridor. There are only a few permanent homes and a roadside café remaining at the townsite. 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).

4.7.3.6.1 Fire Potential

Fuels Assessment

Both Lowell and Syringa sit at the bottom of the Middle Fork of the Clearwater River drainage with steep slopes rising from both sides. The southeast and northwest aspects surrounding Lowell and the north and south aspects rising from Syringa 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, oceanspray, and other brush species are common. In some 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 also 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 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.

4.7.3.6.2 Ingress-Egress

The primary access into both Lowell and Syringa 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.

4.7.3.6.3 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 drilled personal wells or multiple home wells. These water resources are not likely to be severely affected during a wildland fire.

Public transmission lines have been strung from Kooskia to homes and businesses in the Lowell and Syringa area; 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.

4.7.3.6.4 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 – 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 U.S. 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.

4.7.3.6.5 Community Assessment

The communities of Lowell and Syringa 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.

Some 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.

4.7.3.6.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Lowell and Syringa and the surrounding areas 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.

Beyond the homes, forest management efforts must be considered to slow the approach of a fire that threatens Lowell or Syringa. 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.

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.

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.

4.7.3.7 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 US Forest Service Powell Ranger Station. This area includes the USFS 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 very 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.

4.7.3.7.1 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, Englemann 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 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.

4.7.3.7.2 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.

4.7.3.7.3 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 dependant 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 county 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.

4.7.3.7.4 Fire Protection

Wildland fire protection is provided during the summer fire season by the US Forest Service fire crew based at the Powell Ranger Station. They have approximately 16-20 personnel and 2 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.

4.7.3.7.5 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.

4.7.3.7.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Powell 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.

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 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.

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 access roads and creating a turnaround area for large vehicles.

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.

4.7.3.8 Kamiah

Kamiah is located at the junction of U.S. Highway 12 and State Highways 162 and 64 approximately 7 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.

4.7.3.8.1 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 fairly 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 5 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 also spark fires, especially during windy conditions. 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; however, ignitions due to downstrikes 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.

4.7.3.8.2 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 also 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 some 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.

4.7.3.8.3 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 insure power line corridors are kept clear of fuels.

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

The First Subdivision of the 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.

4.7.3.8.4 Fire Protection

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

4.7.3.8.5 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 townsite 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.

4.7.3.8.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Kamiah 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.

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.

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.

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 powerline corridors, and strictly enforcing fire-use regulations.

4.7.3.9 Kooskia and Stites

The towns of Kooskia and Stites are located 3 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 3 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 which increases only slightly outside the city limit.

4.7.3.9.1 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. Some 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 also 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.

4.7.3.9.2 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 some 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.

4.7.3.9.3 Infrastructure

One of the key components of the economy in Kooskia and Stites is the existence of Clearwater Forest Industries sawmill. The wood products industry has been one of the chief employers in this area for many decades. The loss of productive timber ground as a result of a large wildfire may affect the mill'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 the Clearwater Forest Industries sawmill 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.

The First Subdivision of the 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. 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 sub station on Depot Street in Kooskia. These cross an east aspect slope that is partly timbered and could be threatened by fire.

4.7.3.9.4 Fire Protection

The Kooskia Fire Department and Stites 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 Fire Department operates out of a station located on Main Street in Stites. Both departments are equipped for both structural and wildland fire suppression.

4.7.3.9.5 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 some of 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, there are many other mitigation activities that would significantly improve the survivability of this community in the event of a wildland fire.

4.7.3.9.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Kooskia and Stites 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.

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.

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.

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.

4.7.3.10 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 First Subdivision of 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 townsite is currently owned by the 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 townsite. Residents in this area are very isolated with an incredibly narrow, winding road as their sole access route. The Caribel townsite 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 8 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. Some landowners have cleared acreage for agricultural purposes; however, most of this area is covered by forestlands. The Clearwater National Forest boundary lies about 3 miles to the east, while much of the area to the south is managed by the Idaho Department of Lands.

4.7.3.10.1 Fire Potential

Fuels Assessment

Many homes in the Woodland, Pardee, Caribel, and Glenwood areas have some 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 effectively 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 townsite. Although most homeowners have cleared a defensible space, some 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 are 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, oceanspray, 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 5 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 also spark fires, especially during windy conditions. 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; 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.

4.7.3.10.2 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 4 miles west of Glenwood. The Beaver Slide Road descends into Kamiah just south of the Tom Taha Grade. This is a very steep, narrow, and winding road that 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 some additional maintenance, guard rails, turn outs, and signing.

4.7.3.10.3 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 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 insure power line corridors are kept clear of fuels.

The economy in this region is dependent on agriculture and the timber industry. Three Rivers Timber, Inc. and a few smaller sawmills near Kamiah have employed many residents of Woodland, Pardee, Caribel, and Glenwood for many decades. The loss of productive timber ground as a result of a large wildfire may affect the mill's ability to continue operating efficiently, especially in today's shrinking log markets.

The First Subdivision of the 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. 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.

4.7.3.10.4 Fire Protection

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.

4.7.3.10.5 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.

4.7.3.10.6 Mitigation Activities

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 a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home. “Living with Fire, A Guide for the Homeowner” is an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Woodland, Pardee, Caribel, Glenwood, 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.

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 situation. 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 emergency situations.

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 powerline corridors, and strictly enforcing fire-use regulations.

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.

4.8 Fire Fighting 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 on during wildland fires, floods, landslides, and

other events. There are many individuals in Idaho County serving fire protection districts in various capacities. The following is a summary of the departments and their resources.

The Fire Fighting Resources and Capabilities information provided in this section is a summary of information provided by the Rural Fire Chiefs or Representatives of the Wildland Fire Fighting Agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. These summaries indicate their perceptions and information summaries.

4.8.1 Ridge Runner Fire Department

Ben Anderberg, Chief
Ridge Runner Fire Department
PO Box 652
Kooskia, Idaho 83539

Department Overview:

Ridge Runner Fire Dept. (RRFD) is the first responder for wildland fire protection within Ridge Runner Fire District. The District encompasses approximately 39 square miles of land east of Kooskia, ID, and south of the Middle Fork of the Clearwater River, and includes almost 4 square miles of Nez Perce Indian Reservation lands. The District shares almost $8^1/_2$ miles of its eastern boundary and 3 miles of its southern boundary with the Nez Perce National Forest, and its northern boundary abuts 6 miles of privately held land within the Clearwater Wild & Scenic River corridor. Practically all of our district can be considered wildland/urban interface.

RRFD is an all volunteer organization which was formalized in 1983 as an association of neighbors determined to help each other in the event of fire, relying solely on donations from residents within its district for the acquisition of basic needs. It soon became a non-profit corporation to qualify for such things as the loan of a brush truck and water pump from Idaho Dept. of Lands and decommissioned hose, handtools, headlamps and wildland hardhats from the US Forest Service. For almost 21 years RRFD was barely equipped to attack wildland fires and we've had to rely on neighboring Kooskia Fire Dept. for structure protection.

Within the last year, the community has enthusiastically supported a radical restructuring of the department. Membership has been split into "General" — community residents who have limited voting oversight of the department which services them — and "Active" — currently 21 volunteers who have increased their level of participation, training and professionalism for organizational, incident-command, insurance, etc. purposes. RRFD is a 501(C)3 non-profit corporation, qualifying for such things as Homeland Security grants and the acquisition of de-commissioned military vehicles. Mutual aid agreements with Idaho Dept. of Lands, neighboring fire departments, the Nez Perce Indian Tribe, "independent fire contractors" and the Nez Perce National Forest either have been or are in the process of being formalized. Among other things, we've initiated a program of home assessments to inform both homeowners and firefighters of specific areas of concern, begun mapping individual structures by their GPS coordinates and are putting together a lending-library of videos available to community residents.

On average we're called to 4-6 fires a year which break down roughly to 20% structure fires and 80% wildland fires.

Priority Areas (in no particular order):

Public Education & Resources: While firefighters are regularly exposed to many fine videos and other educational materials covering fire behavior, firewise construction, firewise siting, etc., we observe that the general public is exposed to few such resources and remains largely unaware of the issues involved. Even were these resources available to them, people like

retirees and the handicapped may be physically or financially unable to adequately treat their living space.

Fuels Buildup: Timber harvesting methods of the past have created a "jackstraw" forest floor in many places. The decline of the forest products industry has encouraged a state of benign neglect of timberlands. The steady advance of intervening years between the last time a major wildland fire affected our area and the present has contributed to a sense of inadvertent complacency among district residents. Livestock herds (which used to graze down grasses and brushy fuels plus break up surface dead-and-down fuels) have been significantly reduced in number or sold off entirely due to the depression of the livestock market. Each of these factors have helped create an alarming buildup of fuels over much of our district.

Resident Boom/Residential Design, Construction & Siding: Our district's resident population has increased roughly five-fold since the department's inception and this trend shows no sign of abating in the foreseeable future. What began as a scattered community of rural farm- and timber-workers has largely taken on the character of ex-urban dwellers, including a large and rapidly growing number of retirees, unfamiliar with the issues involved in living so close to nature. Inadequate design, the use of inappropriate building materials, the siting of structures within or up against esthetically pleasing timber, siting dwellings at the end of steep, narrow driveways which frequently branch off of steep, narrow public and private roads.... Each of these factors have contributed to a situation in which many of the homes within our district would be totally indefensible in the event of a significant fire incident.

Structure Protection Equipment: To date the department has been limited to one 1978 Type 6 brush truck (on loan from Idaho Dept. of Lands) and 5 home-built water trailers of 200 gallon, 200 gpm pumping capacity. The nearest structurally equipped department is in Kooskia, ID, a minimum of 30 minutes away from their nearest entry point into our district. We need to replace these aged vehicles with all-weather, all-terrain, 4WD, large water capacity, high gpm/psi pumping capability engines and water tenders as quickly as possible so as to make rapid response structure fire protection at least possible within our own district and department.

Identification and/or Development of Local Resources: Since we lack a community water system, identifying and mapping "wild" water resources such as pools within creeks and private ponds, and installing dry hydrants would benefit emergency fire service.

Communications: Topographical features within our district make radio communications with Idaho Co. Sheriff's Dispatch and other agencies difficult or impossible in many areas within our district. The department has recently purchased several Vertex narrow-band, handheld radios for on-incident communications but still needs additional units to fully outfit our current complement of trained volunteers.

New Department Personnel: Our department is surely not alone in trying to figure out ways to attract new volunteers into our organization. There are any number of "good causes" one might volunteer for, but few have the potential for such immediate danger to health and life itself as firefighting.

Personal Protective Equipment: Few of our volunteers have complete sets of personal protective clothing and the rest must fulfill their duties in their regular daily clothing.

Unsafe or Illegal Burn Practices: Property owners often attempt in-season burning of fields or slash piles while being understaffed and/or inadequately equipped and their legal fires get out of hand.

Illegal burning of household trash, weeds, etc., during "no burn season" needs to be addressed by law county commissioners and/or state lawmakers. Effective disciplinary measures need to

be implemented and aggressively inforced so as to effectively discourage scofflaws. Volunteer firefighters tend to agree across the board that they give of their time to primarily attack fires with the preservation of life and property as their goal, not police their neighbors or enforce the law.

4.8.1.1 Resources and Capabilities

Table 4.14. Equipment List for Ridge Runner Fire Department.

PO Box 652	Kooskia, Idaho 83539	6/28/05			
	Item	**Description**	**Existing**	**Needed**	**Details**
Personnel	Active Members	RRFD volunteers who participate in monthly training sessions and otherwise maintain "Active" status.	21		
Handtools	Shovels		30		
	Pulaskis		17		
	McClouds		16		
Communications	Mobile Radio	1980s Midland	1		No longer in use/obsolete
	Portable Radios	1980s King	2		No longer in use/obsolete
	Portable Radio	1980s Midland	1		No longer in use/obsolete
	Portable Radios	Vertex, narrowband, analogue	11	10	
	Dispatch		2		911 paging & local phone tree
Mechanical Equipment	Brush Truck	1978 Dodge p/u, 200 gal., 200 gpm	1		on loan from IDL
	Fire Wagons	1980s home-built, 200 gal, 100 gpm	5		
	1000 gal tanks	Portable but currently on the ground	2		1 on loan from IDL, 1 donated
	4WD Utility Vehicles	To carry 2-1000 gal tanks		2	"Marriages" to become watertenders
	Portable Pumps	Submersible		2	
	Chainsaws	Stihl 044, 24" bar (or equivalent)		3	
	Structure Truck	4WD, 500-750 gal. cap., high-gpm/psi, CAFS-equipped		1	

Summation:

RRFD is working hard to overcome its current limitations, identify and address areas of particular concern within its district and become a fully effective organization as rapidly as possible. To this end, we look forward to seeking the input of, and working closely with, other departments and agencies toward these goals in the future.

4.8.1.2 "Questions for Federal/Rural Fire Managers" Survey Response

Survey was distributed at the May 17, 2005 North Idaho Fire Mitigation Plan Meeting in Grangeville, ID.

Question #1: "What are your fire protection responsibilities (all timber lands, structures, etc.)?"

Ans: We are the first responders to all fires in our district.

Question #2: "Where are your recently completed/proposed treatment areas?"

Ans: Practically all (estimated to be 240 in number) residences are within or next to wildland, whether grass, timber or a mixture of both. Practically all of these structures could benefit from treatment as only a very few residents have addressed the situation to any meaningful extent.

Question #3: "Where is the biggest potential for an urban interface nightmare?

Ans: Our biggest potential for an urban interface nightmare are those dwellings situated within or around the head of valleys/drainages, particularly those on the south-facing slopes of these drainages. Big Cedar Creek valley from Clearcreek to the top of Crane Hill Road is perhaps our most dangerous situation, but this is not meant to overlook the potential for disaster along/above Leitch Creek, Tinker Creek, Big Horse Canyon, or fires originating on the Nez Perce National Forest or along the Wild and Scenic River corridor along the Middlefork of the Clearwater River.

Question #4: "How would you consider your urban interface situation... presently bad, emerging, not too bad, etc."

Ans: Presently bad.

Question #5: "Where are your resource concentrations?"

Ans: Our five home-built 200 gallon capacity "water wagons" and our one Type 6 brush truck are each sited strategically around our fire district. Firefighters are also scattered throughout our district.

Question #6: "Where do you see the greatest potential for effective mitigation work (consider possibility of cross-boundary treatments)?"

Ans: The greatest potential for effective mitigation work in our district would be around practically all residences/structures and, by extension, along driveways. While mitigation around structures would possibly enable a home owner to fight off a fire on their own or otherwise lessen the danger to their structures, in many cases our fire department is reluctant or unable to enter a driveway because it is narrow and/or overgrown, with no adequate space for turning around or allowing two vehicles to pass each other. In addition, we share $11^1/_2$ miles of our fire district boundary with the Nez Perce National Forest. In general, we are largely unaware of what timber sales (which lead to slash treatment realities) and/or other fuels mitigation programs are planned in the Nez Perce N.F. which might affect us. Formal notification of such programs might allow us to help prepare homeowners of potential concerns.

Question #7: "How are your working relationships with cooperating agencies/fire departments?"

Ans: Excellent. We have written mutual aid agreements with several departments/agencies in place and various others in process.

Question #8: "Do you have a current operational plan?"

Ans: We're in the process of designing several plans for our department and have moved forward on a few of those fronts (for instance: individuals have responded to the need for further training, we've applied for grants which would help us acquire modern/effective vehicles, and we've begun doing home assessments).

4.8.2 Riggins City Fire Department

Riggins City Fire Dept.
Fire Chief, Ann Wilson (208-628-3579.)
Box 249 Riggins Id. 83549
208-628-3394

Infrastructure:

Riggins is a small rural community. Its population is approximately 410.The city itself is long and narrow and is situated about 60ft above the Big Salmon River. There are few vacant lots for building. Consequently people split their property and sell of a portion for a new residence. The trend now is to go up, rather than out and we are seeing more two storied building begin to appear.

Riggins population tends to be of retirement age. Homes are in close proximity to each other, and there are lots of trees around homes. We have two schools at separate locations and several motels.

The City has two wells and a large storage tank above the high school. We are well supplied with water, lots of hydrants which makes fire fighting in the City easier.

Idaho 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 4 miles south of Riggins. It is a community of homes and lots for sale. They have there own wells, and sewage system. There is also some farm land for sale in bigger lots. My guess is as time goes on these too will be divided and built on. This power line continues on to the hatchery and also up Shingle creek.

2.Squaw Creek. Again this has been ranch land split up for building lots. Each lot has its own water supply(well, spring) The line goes on to Papoose Creek, where again there are several homes, surrounded by timber. Papoose creek is quite steep, and some fire fighting equipment have difficulties getting up the grade (about10%)

3. Race Creek. Again ranch land opened up for housing. The power line goes to the confluence of Race creek and Bean Creek, continues up Bean creek under ground, to Baders 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 time, Squaw creek road can be a challenge. High rise to the hills around and lack of sunshine on the creek /valley floor cause ice to remain in shaded areas.

Fire Protection:

Riggins City volunteer fire dept has the privilege of protecting the cities residences. We have a 10 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 Dept of Lands and the Bureau of Land Management.

Response times within the City are between 5-7 minutes, outside the City between 10-25 minutes depending on where the fire is. Usually we can beat the Rural Fire Dept. to the scene.

Our Fire house is relatively new and houses two fire trucks and the cities two ambulances.

4.8.2.1 Resources and Capabilities

Riggins City Fire Dept has two trucks.

1956 pumper. Does not conform to NFPA standards. It works, draughting only. The tank leaks.It is our second out vehicle.

1973 American La France 1000 gpm. Fully stocked .It pumps well. We have had trouble with the impellor being worn, the transmission and wonder when it will break!!!

We have 10 sets of turnouts hanging on the wall. These are mix and match, combination 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 at this time are trained at the essentials level. We plan to have SCBA training at least quarterly. Five of the six men are wildland trained as well.

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 some type of recruitment and retaining method, maybe a small remuneration for their effort.

Training is one of our needs. We train once a month, but it doesn't seem to be enough. State funding for training as well as State level training is getting harder to come by. 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 can't change the way homes are built close together, but we can educate them about their wood piles, trees, etc.

Summary:

For a small community we have some good gear.

6 new sets of MSA SCBA`s (Low pressure). We have a cascade system and are getting a compressor and filling station, 6 New Vertex radios, sets of hazmat, Level B suits complete with boots, gloves, and tape, 2 full face masks with all the different chemical filters, and a Hazmat shower, pool, brushes, and wand. All of this came through Homeland Security grant for which we are thankful.

Our continued needs are people, training, effective communications, and live fire practices.

4.8.3 Elk City Volunteer Fire Department

Loren Anderson, Chief
208-842-2466
chocolateelk@yahoo.com
P.O. Box 311
Elk City, ID 83525-0311

District Summary:

Elk City Volunteer Fire Department is responsible for structural and wildland fire protection for the City of Elk City, Orogrande, Red River Area, Junction Flats, Upper American River and all surrounding areas. There is one (1) fire station, and it is located at 101 Sweeny Hill Road,, Elk

City, Idaho (this is located in Elk City). This an all-volunteer department with a total of 12 firefighters. Our 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, be they structural fires or wildland fires. We have a working agreement with the U.S. 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 these 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 are located in among the dead and dying timber.

Communications: Communications in our area are much more improved from prior years, but are still far from perfect. In certain areas our county dispatch and other agencies are impossible to read or contact. There is hope of a tower in the future to improve our communications, satellite, or radio phone work sporadically, and cell phone not at all in our location.

Fire Fighting Vehicles: Due to very limited funds, the age and capabilities of the fire fighting vehicles in our department have become a concern. In certain situations the forest service arrives with their equipment, but this is no guarantee. During the winter they are not up and running, and in the summer, they can be out of the area on fires, etc.

Burn Permit Regulations: Weed and trash burning without forethought, and burning during the permit season, all increase our awareness to much deeper thinking as to a solution.

4.8.3.1 Resources and Capabilities

We have 12 volunteers in our department, with 2 – Military surplus trucks acquired from the Idaho Dept. of Lands, (1967 Kaiser 4x4 jeep, & 1966 6x6 Kaiser Jeep pumpers.) We currently have 12 handheld radios, wildland clothing, and miscellaneous tools.

Our needs at this time are:

Newer faster trucks that can traverse the snow and mud
Hardline hoses – 200 feet
Drop tank – 1000 gallon
Hose reels – 2
1 ½ " hose – 300 ft.
2 ½ " hose - 300 ft.
Larger capacity pump – 500 gpm
Good training videos
We also need building materials to finish our building:
R19 insulation for a 2000 sq. ft. building
Lumber & plywood
Metal roofing and siding

4.8.4 Salmon River Rural Fire Department

Dennis McCollum, Chief
208-628-2772
Djmccol@ctcweb.net

Pollock, Idaho

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 from fire. We cover from White Bird pass, along the U.S. Highway 95 corridor into Adams County to Smokey Boulder Road. We are approximately sixty four miles long and ten miles wide. There are six stations along this strip of highway. Station 6 is at 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 approximately fifty-five firefighters. Our primary area of concern is structural fire protection, but do to the nature of our district, we could be called out to wildland fires, car fires, hazardous material incidents, or any other emergency situation that may occur. We have mutual aid with the city of Riggins and the city of White Bird. We also have mutual aid with the Nez Perce and Payette National Forests, the Idaho Department of Lands, and the 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 some areas.

Firefighting Vehicles: Due to the age of our vehicles ranging from 1961 thru 1981 and to limited funding, we have great concerns for the safety of our firefighters and the citizens in our district.

Training: Our department continues to emphasize the importance of training to our firefighters. We have firefighters certified with the red card for wildland fires, Hazmat awareness and operations, EMS first responder, 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 finally received a government grant and were able to start outfitting our personnel with new turnouts. We also received ten new SCBAs, but we still have a long way to go before our firefighters will have the proper equipment.

4.8.4.1 Resources and Capabilities

Table 4.15. Salmon River Rural Fire Department Equipment List.

Station 1 – Pinehurst	1973 Ford F750 2-ton	Structural Engine	500 gal.	1000 GPM
	1994 Chevy 1-ton	Type 6 Wildland Engine	300 gal.	35 GPM
Station 2 – Whitewater Wilderness Ranch	1971 Am General 6x6 2 ½-ton	Structural Engine	500 gal	500 GPM
	1976 Chevy 1-ton	Type 6 Wildland Engine	300 gal.	35 GPM
	1966 Kaiser 6x6 2 ½-ton	Water Tender	1200 gal.	35 GPM
Station 3 – Rapid River Subdivision	International 2 ½-ton	Structural Engine	2000 gal	250 GPM

Table 4.15. Salmon River Rural Fire Department Equipment List.

	1967 Kaiser 6x6 2 1/1-ton	Water Tender	1000 gal.	35 GPM
	1975 Chevy 1-ton	Type 6 Wildland Engine	300 gal.	35 GPM
Station 4 – Lucile	1974 Chevy 1 ½-ton	Strucutral Engine	500 gal.	500 GPM
Station 5 – Slate Creek	1981 FMC Spartan	Strucutral Engine	750 gal.	1250 GPM
	1966 GMC	Water Tender	1500 gal	35 GPM
Station 6 – Hoots Restaurant	1961 GMC 2 ½-ton	Structural Engine	500 gal.	500 GPM
	1979 Dodge 1-ton 4x4	Type 6 Wildland Engine	300 gal.	35 GPM
	1968 Am General 6x6 2 ½-ton 4x4	Water Tender	1200 gal.	35 GPM
Others	1994 Ford F-150 ½-ton	Chiefs Vehicle	50 gal.	12 GPM
	1978 Chevy 1-ton	Ambulance		

***The 1971 Am General and 1966 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 operating costs.*

Future Considerations:

Salmon River Rural Fire Department will continue to upgrade their firefighters 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 respond from each station is high on the list. In the future we may become a taxed district instead of a subscription department. We will continue to train our personnel in all aspects of the fire service. Purchasing radios that comply with radio standards today is high on the list. These future considerations will take some time to accomplish due to the fact that Salmon River Rural Fire has a small annual budget.

4.8.5 BPC Volunteer Rural Fire Department

Table 4.16. BPC Volunteer Rural Fire Department.

Keith Jepson, Chief, Clearwater, ID Phone: (208) 926-7872 01/10/03

BPC Volunteer Rural Fire Department is a community based volunteer organization housed in a 32X40 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 3 hours.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member	Trained in structural and wildland	14		4 basic members are trained for structural fires, while 10 basic members are trained for wildland fires
	Intermediate Member	Higher experience level	12		4 Intermediate members are trained for structural fires, and 8 intermediate members are trained for wildland fires

Table 4.16. BPC Volunteer Rural Fire Department.

Keith Jepson, Chief, Clearwater, ID Phone: (208) 926-7872 01/10/03

	Advanced Member	Leadership/Instructor			
Training	Basic Wildland Training			8	Provided by IDL
	Basic Structural Training			8+	
	First Aid Training			18	
	Haz Mat Training			3	
	Basic Safety Training			13	
	Advanced Safety Training	Flash over training		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	
	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		
	Mobile Radios	Midland	1		
	Portable Radios	Bendex King	4		
	Hand-held Radios	Vertex	5	5	with chargers
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week - radio or telephone
Vehicles	Structural Engine	1976 Chevrolet Class I, 7750 gpm, 700 gal	1		
	Wildland Engine	1976 3/4 ton 200 gal , 35 gpm	1	1	need newer
	Wildland Engine	1972 6X6, 1,650 gal, 35 gpm @ 200 psi	1		
	Wildland Engine	4X4 1 ton pick-up with 500 gal tank, fully equipped		1	

Table 4.16. BPC Volunteer Rural Fire Department.
Keith Jepson, Chief, Clearwater, ID Phone: (208) 926-7872 01/10/03

	Water Tender	1684 Military 6 wheel drive, 2,00 gal with 4" pump and 1 1/2" pump	1	
	Aid-unit	1995 Class 1 Ford Wheeled Coach	1	
Other Equipment	Tank	2500 gal Fold-a-Tank		1
	Portable Pump	Hale 450 gpm		1
	Blower Fan	gas operated		1
	Flares			2 cases
	Portable Pump	Mark III		1
	Foam Equipment	20020 Venterii Type	1	2
Structures	Fire Station	At north end of district to house two units		

4.8.6 Carrot Ridge Volunteer Fire Department

Table 4.17. Carrot Ridge Volunteer Fire Department.
Phil Puckett, Chief, Kamiah, ID Phone: (208) 935-2366 01/10/03

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 two incidents and the recovery requirements take between 2 and 3 hours.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member	some members have received limited wildfire training	35-50		Farmer/neighbor organization
Training	Basic Wildland Training	More basic fire training in initial attack		X	Provided by IDL or private agency
	Basic Agricultural Training			X	
	First Aid Training			X	
Protective Equipment	Shirts	Nomex	15	0	
	Pants	Nomex	15	0	
	Boots	Leather			Use personal
	Gloves	Leather			Use personal
	Hard Hats				Use personal
	Goggles				Use personal
	Headlamps		15		
	Fire Shelters		0	15	
Hand Tools	Shovels		X		Adequate supply
	Pulaski's		X		Adequate supply
	McLeod's		X		Adequate supply
	Chainsaw				Use personal

Table 4.17. Carrot Ridge Volunteer Fire Department.

Phil Puckett, Chief, Kamiah, ID Phone: (208) 935-2366 01/10/03

	Hand-held radios		2	
	Dispatch		1	Phone tree
Other Equipment	Water tank	8 10,000 gallon tank	2	
	Water tank	4 6,000 gallon tank	1	Filled in summer only
	Tank	250 gal metal tank mounted on trailer with motor, 1 1/2" garden hose	2	

4.8.7 Cottonwood Volunteer Fire Department

Table 4.18. Cottonwood Volunteer Fire Department.

Rod Behler, Chief, Cottonwood, ID Phone: (208) 962-3171 08/26/05

Cottonwood Volunteer Fire Department is a city based organization, and is managed by the City Council. Cottonwood responds to structural, wildland and agricultural fires.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member		16	20	Need volunteers
	Intermediate Member		4		Need volunteers
Training	Basic Wildland Training		X	X	Mostly agricultural fires.
	Basic Structural Training	"Essentials of Fire Fighting" course	X	X	Some firemen need additional training.
	Basic Agricultural Training		X	X	Some firemen need additional training
	First Aid Training	Refresher course	X		
	Basic Safety Training		X	X	Some firemen need additional training
	Advanced Safety Training		X	X	Some firemen need additional training
	Haz Mat Training	First Responder	X	X	Some firemen need additional training
Protective Equipment	Shirts	Nomex	20		Nomex coveralls
	Pants	Nomex	20		Nomex coveralls
	Boots	Rubber	20		Structural only
	Gloves	Leather	20		Structural only
	Structural Turnouts		20		
	Hard Hats	Structural Helmets	20		Structural and could be used for wildland
	Goggles	Wildland		20	
	Structural Gloves		20		

Table 4.18. Cottonwood Volunteer Fire Department.

Rod Behler, Chief, Cottonwood, ID Phone: (208) 962-3171 08/26/05

	Headlamps		No	No	
	Fire Shelters		No	No	
	Breathing Apparatus	SCBA	12		
	Shovels		2		Per truck
	Axes		2		Per truck
	Flappers		2		Per truck
	Chainsaw	Stihl 038	1		
Communications	Portable Radios	Vertex	20		VHF handheld
	Mobile Radios	Vertex	4		VHF
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week-County Sheriff
Vehicles	Structural Engine	1988 FMC Pumper	1		1250 gpm pump, 500 gallon tank, Foam Equipped
	Structural Engine	1992 Beck Ottawa	1		1,500 gpm pump, 500 gallon tank, Foam Equipped

4.8.8 Dixie Volunteer Fire Department

Table 4.19. Dixie Volunteer Fire Department.

Andy Hairston, Treasurer, Dixie, ID Phone: (208) 983-2933 01/29/03

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.

	Item	Description	Existing	Needed	Details
Personnel	Member		X		All members are volunteers and most are only part time residents
	Intermediate Member			4	Need trained members
	Advanced Member			2	Need advanced trained members
Training	Basic Wildland Training			X	
	Basic Structural Training			X	
	First Aid Training			X	
	Haz-Mat Training			X	
	Basic Safety Training			X	
	Advanced Safety Training	Flash over training		X	

Table 4.19. Dixie Volunteer Fire Department.

Andy Hairston, Treasurer, Dixie, ID Phone: (208) 983-2933 01/29/03

Protective Equipment	Shirts	Nomex	5	5	
	Pants	Nomex	5	5	
	Gloves	Leather	10	5	
	Hard Hats		10	5	
	Goggles	Wildland	10	10	
	Headlamps			15	
	Fire Shelters		10	10	
	Breathing Apparatus				
	Shovels and axes		25		
	Fire Extinguishers		6		
	Chainsaw	Stihl 036	3		
Communications	Mobile Radios		0	5	
	Portable Radios		0	5	
	Base Station		0	2	
	Dispatch		0	2	
Vehicles	Structural Engine	1953 Ford	1		Used for wildland fires
	Structural Engine	1940s 2 1/2 ton tanker	1		Used for wildland fires
Other Equipment	Slip Tank	with pump	2		
	Pump	2" pump	2		

4.8.9 Grangeville Rural Fire District

Table 4.20. Grangeville Rural Fire District.

Bill Spencer, Chief, Grangeville, ID Phone: (208) 983-2576 01/16/03

Grangeville 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 1/2 and 1 hours.

	Item	Description	Existing	Needed	Details
Personnel	Active Volunteers	Completed "Essentials of Fire Fighting" course and various other training	20		Need volunteers with willingness to serve, train, and respond to fires - this is currently the #1 need
Training	Basic Wildland Training	Update existing training		X	Provided by IDL or private agency
	Basic Structural Training	Ongoing		X	
	Haz Mat Training	Update existing training		X	

Table 4.20. Grangeville Rural Fire District.

Bill Spencer, Chief, Grangeville, ID Phone: (208) 983-2576 01/16/03

	Basic Safety Training	Ongoing		X	
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 5/year until all are updated
	Breathing Apparatus	MSA & ISI SCBA	16	5	
	Shovels		X	10	
	Pulaski's		X	10	
	Axes		X	10	
	Water Back Packs		X	6	
	Chainsaw	Stihl	2	2	
Communications	Mobile Radios	GE/Phoenix	2		
	Pagers	Motorola	6		
	Base Station	Idaho County Sheriff	1		
	Repeaters		4		Through Sheriff's office
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week
Vehicles	Engine	1986 Ford f-350 Attack	1		
	Engine	International/Central States pumper	1		
	Water Truck	3,000 gal or bigger		1	
Other Equipment	Foam Equipment		X		

4.8.10 Harpster Volunteer Fire Department

Department Summary:

Harpster Volunteer Fire Department (HVFD) is an organization that was established within the last 5 years. We are currently in the process of becoming fully equipped and fully trained.

HVFD provides firefighting support to an area that is primarily in a location that makes fire fighting difficult. The terrain in many locations is rugged and difficult to access. Cultivated, open pastures, stands of trees, dense underbrush or all of the above, may surround the rural

residences. Nez Perce National Forest lands and dense stands of trees most often surround open fields.

Equipment:

The department is currently in desperate need of heavy and personal equipment. The limited amount of personal equipment has primarily been donated and is either too small for our firefighters, no longer meets OSHA standards or both. Having both structural and wild land firefighting concerns our personnel are in grave need of proper protective clothing of both types as well as firefighting equipment of both types.

Personal equipment on hand:

- 12 pair Nomex pants-all donated but to small for current personnel
- pair leather gloves-good condition
- hard hats-all donated but no longer meet OSHA standards
- full sets structural turn out gear-no longer meets OSHA standards
- 4 breathing apparatuses-all donated in used condition. May or may not be operational

Heavy equipment on hand:

- 1976 International w/300 gallon tank-unit is on loan from BLM. Motor on pump suffered complete failure during recent Blackerby Fire and is currently inoperative. Truck runs poorly
- Water tender truck w/2000 gallon tank-unit is on loan from BLM. This unit is designed for flat terrain. Due to it's top-heavy design it is not practical for use on our hilly/mountainous terrain.
- 2000-gallon portable tank
- 450gpm river pump
- 2 Pulaski tools
- 2 McCleod tools
- 2 shovels
- 2 backpack water tanks

Communications equipment on hand:

- handheld radios

Table 4.21. Harpster Volunteer Fire Department.

Danyel Morrow, President, Harpster, ID Phone: (208) 983-2963 01/15/03

Harpster Volunteer Fire Department is a community based organization and is managed by a board of directors. Harpster responds to structural and wildland fires. Currently the incident capacity is one incident and the recovery requirements take approximately 1 hour.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member	Some training	10		Need more volunteers
Training	Basic Wildland Training			X	
	Basic Structural Training			X	

Table 4.21. Harpster Volunteer Fire Department.
Danyel Morrow, President, Harpster, ID Phone: (208) 983-2963 01/15/03

	Basic Agricultural Training			X	
	First Aid Training			X	
	Haz Mat Training			X	
	Basic Safety Training			X	
	Advanced Safety Training			X	
Protective Equipment	Shirts	Nomex	12		
	Pants	Nomex	12		
	Boots	Leather	0	12	
	Gloves	Leather	6	6	
	Hard Hats		0	12	
	Goggles	Wildland	10	2	
	Full Turnout		0	4	
	Headlamps		0	12	
	Fire Shelters		0	12	
	Breathing Apparatus		0	4	
	Shovels		2	2	
	Pulaski's		2	2	
	McLeod's		2	2	
	Chainsaw	Stihl 036 20" bar	1	0	
Communications	Portable Radios	Motorola	8		
	Mobile Radios	Midland	1	2	
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week - phone tree
Vehicles	Structural Engine	Ford 1901 Class 1,050 gpm, 500 gal		1	
	Wildland Engine	1976 International 300 gal	1	1	On loan from BLM
	Water Tender	Truck and 2000 gal 5th wheel trailer	1	1	On loan from BLM
Other Equipment	Portable Tank	Collapsible 2,000 gal	1		
	Tank	Fold-a-tank 1,500 gal	1		
	Flares			2 Cases	
	Portable Pump	Trash pump 450 gpm	1	1	
	Foam Unit		0	1	

Department Needs:

Personal equipment needed:

HVFD currently has an active firefighting force of ten people. We do not however have adequate personal equipment for even one. To fully equip our active firefighting force the following equipment is needed. One-two additional sets of gear would be beneficial for the instances when our volunteer force on scene is larger than 10.

- 10 complete sets of structural turnout gear
- 10 complete sets of wild land fire turnout gear
- 10 structural helmets
- 10 wild land helmets
- 10 face shields
- 10 pair goggles
- 10 emergency fire shelters
- 10 pair gloves
- 10 breast field packs
- 10 headlamps

Heavy equipment needed:

- 1 Wild land engine-Ford, GM, or Dodge 1-2 ton dual wheel truck, gas or diesel. (Five speed transmission with 2 speed rear-end. Must be in good working condition.)
- 1 structural engine in good working order
- 1 water tender in good working order suitable for our terrain
- spotlight-1,000,000 candlepower
- 2-4 Pulaski tools
- 2-4 McCleod tools
- 2-4 shovels
- 2-4 backpack water tanks
- Numerous 2-inch hoses

Communications equipment needed:

The Harpster coverage area is generally an area without cell phone coverage making radio communications essential. We currently do not have a sufficient number of radios to equip our active firefighters. This lack of equipment means we send our firefighters out into remote areas to fight fires with no way to call for help if they are injured or become surrounded by the fire. There is also no way to notify them if they need to evacuate an area. We also have no way for our team in the field to communicate with our base. This means they cannot be recalled, updated or moved. Our team in the field has no way to call for help and no way to update the base on the status of a fire. The lack of communication equipment poses a serious risk to firefighters and the public.

- 2 base station radios
- 4-6 handheld radios with chargers

Training needed:

In addition to equipment needs our firefighters need training. Some have had Wild land Urban Interface training but most are going into the field with skills learned in other areas of their lives. Our firefighters need any available fire fighting training as well as First Aid/CPR. Our fire chief and assistant chief need training on working with other agencies and familiarization with interagency procedures.

Summary:

Harpster community has a group of dedicated individuals who are hampered by lack of equipment and training. These individuals could be an even greater asset to our community and other communities if outdated inefficient engines, insufficient communications equipment, and lack of personal gear and training did not limit them. They work diligently on the scenes of fires to prevent loss of life and property despite shortages and will continue to provide this service to the best of their abilities.

We can foresee in the future being able to focus more on providing community awareness and educating homeowners on how to protect their homes and properties.

4.8.11 White Bird Volunteer Fire Department

Table 4.22. White Bird Volunteer Fire Department.

Bill Wisenor, Chief, White Bird ID Phone:208-939-2441 07/25/03

White Bird Volunteer Fire Department is a community based organization with two bays in a city-owned building. Fire Chief manages and administers the department. Responds to fires outside city limits for 12 miles. Has cooperative agreements with Salmon River, Grangeville and USFS fire services. Currently the incident capacity is two structures or two wildfires. Recovery time approximately two hour.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member		1		
	Intermediate Member		1		
	Advanced Member		2		Structural and wildland
Training					
	Basic Wildland Training		2	2	
	Basic Structural Training		1		
	Basic Agricultural Training				
	First Aid Training				
	Haz Mat Training				
	Basic Safety Training				
	Advanced Safety Training				
Protective Equipment	Shirts	Nomex	None	12	
	Pants	Nomex	None	12	
	Gloves	Leather	None	12	
	Hard Hats		0	12	
	Goggles	Wildland	None	12	

Table 4.22. White Bird Volunteer Fire Department.
Bill Wisenor, Chief, White Bird ID Phone:208-939-2441 07/25/03

	Headlamps		20	0	
	Fire Shelters		None	12	
	Breathing Apparatus		None	1	Will also need training
	Shovels		4	6	
	Axes		2	6	
	McLeod's				
	Chainsaw	Stihl 036 20" bar		0	
Communications	Portable Radios		0		
	Mobile Radios	Hand held VHF	2	2	No base station. No repeaters
	Dispatch				
Vehicles	Structural Engine				
	Wildland Engine	1976 2 ½ ton Dodge	1		Needs foam system
	Wildland Engine	1960 Chevy one ton	1		Needs foam system
	Water Tender			One portable pump	Department has installed three-inch pump in creek drafting 169 gpm and is used by White Bird and others.
Other Equipment	ATV		None	1	

4.8.12 Kooskia Fire Department

The Kooskia Fire Department provides local fire protection and primary response. This department has mutual aid agreements with Stites Fire Department, BPC Rural Fire District, and the Idaho Department of lands. The Kooskia Fire Department provides 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.

Burn permits are handled through the Idaho Department of Lands.

We are experiencing a large amount of growth in the areas surrounding town. Many of the people moving into the area are retirees. This is significantly increasing our urban wildland interface fire protection problem.

Future goals:

We plan to work toward strengthening our training program, increasing recruitment, and upgrading older equipment. We currently have a good mix of trucks. We have been working on upgrading them for the last several years. We need to replace engine 3. It is worn out and inadequate for the job. Engines 1, 2, and 3 have foam capability. We lack CAFS capability and

need to acquire it, possibly with an upgrade to engine 3. We also need more wildland equipment.

4.8.12.1 Resources and Capabilities

Table 4.23. Kooskia Volunteer Fire Department.

Mark Anderson, Chief, Kooskia, ID Phone: (208) 926-0992 01/10/03

Kooskia Volunteer Fire Department is a city based organization and is managed by the City of Kooskia. Kooskia responds to structural and wildland fires. Currently the incident capacity is two incidents and the recovery requirements take between 2 and 3 hours.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member	Member has completed the Forest Service/IDL fire school, or "Essentials of Fire Fighting" course	6		
	Intermediate Member	Experience and additional training	5	8	Need volunteers that are trained to intermediate level
	Advanced Member	Leadership and management training	4		
Training	Basic Wildland Training	More basic fire training in initial attack		X	Provided by IDL or private agency
	Basic Structural Training	Fire ground command and operations, refresher courses		X	Essentials Class in progress through in house training in cooperation with Idaho Emergency Services Training
	First Aid Training		4	8	Can train in-house
	Haz Mat Training		6	4	Some trained through the Tech level
	Basic Safety Training		12		
	Advanced Safety Training	Flash over training	3	16	
Protective Equipment	Shirts	Nomex	12	18	
	Pants	Nomex	12	18	
	Gloves	Leather	20	12	
	Hard Hats		10	16	
	Goggles	Wildland	0	24	
	Structural Gloves		20	10	
	Headlamps		12	12	
	Fire Shelters		3	21	
	Breathing Apparatus		15	0	All sets pressure/demand 11 compliant with latest NFPA/OSHA, including integrated pass and heads up display.
Hand Tools	Shovels		8	12	

Table 4.23. Kooskia Volunteer Fire Department.

Mark Anderson, Chief, Kooskia, ID Phone: (208) 926-0992 01/10/03

	Pulaski's		8	12	
	McLeod's		1	6	
	Swatters		1	6	
	Chainsaw	Stihl 026 20" bar	1	1	
	Chainsaw	24" bar	0	1	
Communications	Mobile Radios	Motorola	3		2 narrow band compliant
	Mobile Radios	Midland	2		Have wide band (USDAFS going to narrow)
	Mobile Radios	Johnson	1		Have wide band
	Handheld radio / pagers		7	4	1 Kenwood 6 vertex
	Hand-held Radios	Assorted	6		Enough if use EMT/now fire cross trained 4 Bendix King, 2 Midland
	Base Station	Vertex	1		New 2004 including roof mount antenna and power supply in main station.
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week
Vehicles	Structural Engine	1979 Chevy Type 1 1000 gpm, 750 gal tank	1		Has foam Engine 1
	Structural Engine	1961 Mack pumper, 1250 gpm, 500 gal tank	1		1961 Mack Needs foam capability Engine 5
	Wildland Engine	1964 Am General Type 3 250 gpm, 1200 gal	1		2 ½ tons 6x6. has new poly tank to be installed spring 2005. Has foam. Carries 2500 gal fold a tank Engine 2
	Wildland Engine	1977 Dodge Type 6 WGC 4 pump, 200 gal tank, has foam	1		Needs new chassis. We are attempting to replace this engine Engine 3
	Structural Engine	1964 International 500 GPM pump, 4X4 600 Gallon tank	1		1964 International Engine 4
	Ambulance	2003 Ford/Med Tech 4x4	2		We also have.1995 Chevy coach converted to rescue use These units belong to and are operated by the City ambulance service, which is a separate entity from the Fire Dept.
Other Equipment	Tank	2500 gal Fold-a-Tank	1		
	Floating Pump	Hale 450 gpm	1		
	Generator	1973 Chrysler	1		1500 watt portable

Table 4.23. Kooskia Volunteer Fire Department.

Mark Anderson, Chief, Kooskia, ID Phone: (208) 926-0992 01/10/03

	Generator	80 KW Kohler/John Deere Diesel	1		Stationary Installed at station as backup power supply for station and city well # 4. This unit also has an automatic transfer switch that engages it when the power goes out.
	Air fill station	Bauer	1		
	Portable Pump	Mark III	0	1	
	Flares		0	2 cases	
	Positive Pressure Vent Fan		1		On Engine 1
	Foam Equipment		3		Installed on Three engines

4.8.13 Kamiah Volunteer Fire Department

Headquarters:

Chuck Doty, Chief
515 10th Street, Box67
Kamiah, Idaho 83536
Phone: 208-935-0049
Email: cedoty@camasnet.com

Department Summary: Kamiah Volunteer Fire Department is a city based volunteer organization housed in one building and is managed by the city of Kamiah, and rural fire district commissioners. Kamiah responds to structural, agricultural and wildland fires. Currently the incident capability is two incidents and the recovery requirements take between 3 and 4 hours.

Table 4.24. Current Resources-Kamiah Volunteer Fire Department.

Resource	Item	Description	Existing	Needed	Details
Personnel					
	Basic Member		15	10	5 members in training; need volunteers
Training					
	Basic Wildland Training			X	
	Basic Structural Training			X	
	First Aid Training			X	
	Haz-Mat Training			X	
	Basic Safety Training			X	
	Advanced Safety Training			X	
Protective Equipment					
	Shirts	Nomex	20	25	Need newer

Table 4.24. Current Resources-Kamiah Volunteer Fire Department.

Resource	Item	Description	Existing	Needed	Details
	Pants	Nomex	20	25	Need newer
	Coveralls	Nomex	0	25	
	Boots	Leather	0	20	
	Gloves	Leather	0	20	
	Hard Hats		24		
	Goggles	Wildland	0	20	
	Headlamps		5	15	
	Fire Shelters		3	20	Current are out of service
	Breathing Apparatus		10	10	
Hand Tools					
	Shovels		10	10	
	Pulaski's		10	10	
	McLeod's		3	17	
	Back Pack pumps		8	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		
	Dispatch	Lewis County Sheriff	1		24 hours/day, 7 day/week
Vehicles					
	Structural Engine	1978 Chevrolet pumper, 150 gallon, 1,000 gpm	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 6, 250 gallon, 100 gpm	1		
	Water Tender	1970s Kenworth, 4,000 gallon	1		
	Utility Vehicle	4X4	1		Command and communications
	Ambulance	1995 wheel coach Type 3	1		At least one ambulance rolls on every fire
	Ambulance	1999 wheel coach Type 3	1		At least one ambulance rolls on every fire

Table 4.24. Current Resources-Kamiah Volunteer Fire Department.

Resource	Item	Description	Existing	Needed	Details
	Ambulance	1983 Van	1		At least one ambulance rolls on every fire
Other Equipment					
	Tank	1500 gallon Fold-a-Tank	1		
	Thermal Imaging Tool		0	1	
	Generator		0	1	
	Flares		0	2 cases	
	Portable Pump	Hale 450 gpm	0	1	
	Flares		0	2 cases	
	Foam Equipment	Injection type	1		Installed on Type 6 engine

4.8.14 Cottonwood Rural Fire District

Table 4.25. Cottonwood Rural Fire District.

Rod Behler, Chief, Cottonwood, ID Phone: (208) 962-3171 08/29/05

Cottonwood Rural Fire District is managed by the Rural Fire Commissioners. Cottonwood Rural responds to structural, wildland and agricultural fires.

	Item	Description	Existing	Needed	Details
Personnel	Basic Member		6		
	Intermediate Member		4		Need volunteers
Training	Basic Wildland Training		X	X	Mostly agricultural fires.
	Basic Structural Training	"Essentials of Fire Fighting" course	X	X	Some firemen need additional training.
	Basic Agricultural Training		X	X	Some firemen need additional training
	First Aid Training	Refresher course	X		Some firemen need additional training
	Basic Safety Training		X	X	Some firemen need additional training
	Advanced Safety Training			X	All firemen need additional training
	Haz Mat Training	First Responder	X	X	Some firemen need additional training
Protective Equipment	Shirts	Nomex	20		Nomex coveralls
	Pants	Nomex	20		Nomex coveralls
	Boots	Rubber	20		Structural only
	Gloves	Leather	20		Structural only
	Structural Turnouts		20		
	Hard Hats	Structural Helmets	20		Structural and could be used for wildland

Table 4.25. Cottonwood Rural Fire District.

Rod Behler, Chief, Cottonwood, ID Phone: (208) 962-3171 08/29/05

	Goggles	Wildland		20	
	Structural Gloves		20		
	Headlamps		No	No	
	Fire Shelters		No	No	
	Breathing Apparatus	SCBA	12		
	Shovels		2		Per truck
	Axes		2		Per truck
	Flappers		2		Per truck
	Chainsaw	Stihl 038	1		
Communications	Portable Radios	Vertex	22		VHF handheld
	Mobile Radios	Vertex	3		VHF
	Dispatch	Idaho County Sheriff	1		24 hours/day, 7 day/week County Sheriff
Vehicles	Structural Engine	1995 International Pumper, Type 2	1		Foam equipped, 1,100 gal tank, 1,250 gpm pump
	Tender/pumper	1997 Freightliner	1		500 gpm, 2,000 gallon tank
	Wildland Engine	Surplus Army 4x4	1		1,100 gallons and a 300 gpm pump

4.9 Wildland Fire Districts

4.9.1 USDA Forest Service – Clearwater National Forest

Table 4.26. US Forest Service - Clearwater National Forest.

Jim Gray, Clear/Nez Forest Fire Management Officer

	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

Table 4.26. US Forest Service - Clearwater National Forest.
Jim Gray, Clear/Nez Forest Fire Management Officer

Vehicles	Wildland Engine	Type 4	4	
	Wildland Engine	Type 5	4	
	Wildland Engine	Type 6	4	
	Water Truck		2	
	Utility Vehicle		2	
	4X2 Pickup		20	
	4X4 Pickup		20	
	Passenger Vans		2	
	ATV		10	
	Shop Truck		2	
Aircraft	Passenger Airplane	Twin Otter	1	Seasonally
	Observer Airplane	Cessna	3	
	Air Traffic Control	Light Twin	1	
	Helicopter	Bell 206 L-3	2	
Other Equipment	Drip Torch		75	
	Terra Torches		1	
	Sphere (machine)		3	
	Gel Torch (Heli)		1	
	Portable Pumps		10	
	Chainsaws		75	

4.9.2 USDA Forest Service – Payette National Forest

Available Resources:

- Engine 1-1, Type IV 4x4 750 gallons (Council)
- Engine 1-2, Type VI 4x4 300 gallons (Council)
- Engine 2-1, Type IV 4x4 750 gallons (Weiser)
- Engine 2-2, Type VI 4x4 300 gallons (Weiser)
- Engine 3-1, Type IV 2x4 750 gallons (New Meadows)
- Water Tender 3, Type II 2600 gallons (New Meadows)
- Engine 4-1, Type IV 4x4 750 gallons (McCall)
- Engine 4-2, Type VI 4x4 300 gallons (McCall)
- Helicopter, Type III w/ 16 Rappellers (Krassell)
- Helicopter 69H, Type II Bell 205++ w/ 15 Rappellers (Price Valley)
- Helicopter, Type II w/ 10 Rappellers (Price Valley)
- Jumper 4-1, Twin Otter w/ 9 Smokejumpers (McCall)
- Jumper 4-2, Turbine DC-3 w/ 8 Smokejumpers (McCall)
- Lead 4-7, Beach Baron (McCall)
- Air Attack, Type II Cessna 206 (McCall)
- Air Attack, Type II Cessna 206 (McCall)
- Detection/Recon, Cessna 206 type (5-7 aircraft) (McCall)

Pumps-Hose-Radios-misc-Firefighting Equipment, Payette Warehouse (McCall)

4.9.2.1 New Meadows District Ranger Office

New Meadows District Ranger Office
PO Box J
3674 Highway 95
New Meadows, ID 83654
(208) 347-0300

Price Valley Guard Station
2295 Price Valley Road
New Meadows, ID 83654
(208) 347-0327 ext. 3001

The New Meadows Ranger District protection responsibilities include 285,839 acres of National Forest System land and about 80,000 acres of non-National Forest System land (BLM, State of Idaho, private). The area is from the Salmon River at French Creek south to State Hwy 55, west to US Hwy 95 to Fruitvale, north to boundary with Nez Perce NF and east to French Creek. The Station operates 7 days a week from during the period of July 1, through October 15 annually. The Station operates other times as available and required by the District office in New Meadows.

Personnel:
• 24 Heli-rapellers,
• 6-person Type 4 wildland engine,
• 1 person Type 2 Tactical water tender,
• 1 fire prevention technician.

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 some FS system land).

Top Resource Priorities:
More consistent funding and less cumbersome processes to make resource management decisions.

Resources most at risk of loss from wildland fire:
Homes, other improvements and some 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.

Equipment Description:

Table 4.27. New Meadows Ranger District Equipment List.

Truck #	Assigned Station	Year	Make/Model	Capacity (gallons)	Pump capacity (GPM)	Type
E3-1	New Meadows	1994	Ford F-600	700	80	Wildland
Prevention 3	New Meadows	2000	Dodge ¾ ton	50	11	Fire Prevention

Table 4.27. New Meadows Ranger District Equipment List.

Water Tender 3	New Meadows	1978 GMC	JE77013	2600	300	Wildland
T2 Copter	Price Valley GS	N/a	Bell 205	300	Heli-rappel crew (12)	Wildland
T2 Copter	Price Valley GS	N/a	Bell 205	300	Heli-rappel crew (12)	Wildland

Operational Challenges:
Our ability to retain adequate suppression resources when budgets vary so dramatically from year to year. Secondly, the extreme difficulty the Forest Service faces in funding and implementing legitimate hazardous fuels reduction projects when critics/appellants can so easily derail the project.

4.9.3 USDA Forest Service – Nez Perce National Forest

4.9.3.1 Slate Creek Ranger District

Kevin Chaffee, FMO
208-839-8811

4.9.3.1.1 "Questions for Federal/Rural Fire Managers" Survey Response

Survey was distributed at the May 17, 2005 North Idaho Fire Mitigation Plan Meeting in Grangeville, ID.

Question #1: "What are your fire protection responsibilities (all timber lands, structures, etc.)?"

Ans: Per the 2005 Statewide Annual Operating Plan with IDL, USFS, and DOI, Salmon River R.D. Fire Management protects all lands (timbered and non-timbered) in the Salmon River Canyon from Skookumchuck on North to the Idaho/Adams County line on south.

Question #2: "Where are your recently completed/proposed treatment areas?"

Ans: Fire Management currently has 2 on-going fuels treatment/defensible space projects @ Adams Camp & Boufford Ridge.

Question #3: "Where is the biggest potential for an urban interface nightmare?

Ans: Biggest potential – White Bird Ridge & Twin Rivers Estates. No real potential for fuels treatment due to FM 2 (grass) light flashy fuels.

Question #4: "How would you consider your urban interface situation... presently bad, emerging, not too bad, etc."

Ans: Emerging with the continued growth in population in the Salmon River canyon.

Question #5: "Where are your resource concentrations?"

Ans: Slate Creek Ranger Stations – 3 wildland fire engines with approx. 16 firefighters

Question #6: "Where do you see the greatest potential for effective mitigation work (consider possibility of cross-boundary treatments)?"

Ans: Adams Camp, Boufford Ridge, and in and around other private inholdings near/adjacent USFS lands.

Question #7: "How are your working relationships with cooperating agencies/fire departments?"

Ans: Good relationships with Cottonwood BLM, Craig Mountain IDL, Salmon River Rural Fire Department, Payette National Forest, and Wallowa-Whitman National Forest.

Question #8: "Do you have a current operational plan?"

Ans: Yes. 1) Statewide Annual Operating Plan (IDL, USFS, BLM, FWS), 2) Cooperative Fire Protectio Agreement (SRRFD, NPF, PAF), and 3) Snake-Salmon Fire Management Complex (AOP).

4.9.4 Idaho Department of Lands – Maggie Creek Area

Headquarters:

Rt 2 Box 190
Kamiah, Idaho 83536
Phone: 208-935-2141
Email: dsummers@idl.state.id.us

Table 4.28. Idaho Department of Lands - Maggie Creek Area.
David Summers, Fire Warden Phone: (208) 935-2141

	Item	Description	Existing	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		18	
	Breathing Apparatus		0	
Hand Tools	Shovels		45	
	Pulaski's		40	
	McLeod's		10	
	Combination		10	
	Green Grubber		3	
	Chainsaw		10	
Communications	Hand-held Radios	King	16	
	Mobile	Midland, Motorola	12	
	Base Station	Motorola	1	
	Repeaters		3	Wood rat, Teaken, Cottonwood Butte
	Dispatch		1	24 hours/day, 7 days/week
Vehicles	Wildland Engine	2001 Ford F450 4x4 Type 6, 300 gal	1	
	Wildland Engine	1995 Chevrolet 3500 4X4 Type 6, 250 gal	1	

Table 4.28. Idaho Department of Lands - Maggie Creek Area. *David Summers, Fire Warden Phone: (208) 935-2141*				
	Wildland Engine	1988 GMC 7000 Type 4, 700 gal	1	
	Utility Vehicle	1993 GMC Crew cab	1	
	Utility Vehicle	1999 Chevrolet Tahoe	1	
	4X4 Pickup	1991-2002 1/2 ton	8	
	Truck	1950's 2 1/2 ton flatbed	1	
	ATV	Honda 4 wheel drive	3	
	ATV	Yamaha 2 wheel drive	1	
Other Equipment	Volume Pump	Honda	1	
	Pump	Mark III	2	
	Pump	Mark 26	1	
	Tank	2500 gal port-a-tank	1	
	Tank	1500 gal port-a-tank	1	
	Portable Pumps		2	
	Blower	Portable Gas	2	
	Drip Torches		8	
	Torches	Propane	6	
	Foam Equipment		1	Unit on Type 4 engine

4.9.5 Idaho Department of Lands – Craig Mountain Area

Headquarters:

PO Box 68
Craigmont, Idaho 83523
Phone: 208-924-5571
Email: thawkins@idl.state.id.us

Table 4.29. Current Resources-Idaho Department of Lands, Craig Mountain Area.

Equipment	Item	Description	Existing	Needed	Details
Outfits		Protective Clothing & Equipment	50		
Hand Tools					
	Chainsaw		17		
	Misc.		50+		
Communications					
	Portable Radios	King	21		

Table 4.29. Current Resources-Idaho Department of Lands, Craig Mountain Area.

Equipment	Item	Description	Existing	Needed	Details
	Base Station	Motorola	1		Craigmont
	Repeaters		2		
	Dispatch		1		Secretary, full-time
Vehicles					
	Wildland Engine	Type 4	1		
	Wildland Engine	Type 6, 4X4	3		
	Wildland Engine	1970 Type 6 Gamma Goat, 200 gal	1		
	Water Tender	1969 Type 3, 6X6, 2 1/2 ton, 1,200 gal	1		
	4X4 Pickup	1991-2002 1/2 ton	8		
	Crew cab Pickup	1 ton, 4X4	3		
	Stake body Truck	Type 5	1		
	Backhoe		1		
	Dozer	Cat D-5	1		
	Transport	35 ton lowboy	1		
	ATV	Yamaha & Honda	3 & 1		
Aircraft					
	Helicopter		1		
	Air Tankers		2		
Other Equipment					
	Trailer	ATV	3		
	Air Tankers	802	2		
	Water Trailer		1		

Table 4.29. Current Resources-Idaho Department of Lands, Craig Mountain Area.					
Equipment	**Item**	**Description**	**Existing**	**Needed**	**Details**
	Water Tank	1,800 gal	1		
	Water Tank	2,000 gal	1		
	Water Tank	2,100 gal	1		
	Pressure Pump		3		
	Volume Pump		3		
	Backpack Pump		2		
	Torches	Propane	6		
	Foam Equipment		1		unit on Type 4 engine

4.10 Issues Facing Idaho County Fire Protection

4.10.1 Grangeville Watershed

The community of Grangeville is primarily dependent on surface runoff from the Three Mile Creek Watershed for their water resources. Water is collected, treated, and then piped to homes and 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.

4.10.2 Accessibility

Fire Chiefs throughout the County have identified home accessibility issues as a primary concern in some 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.

4.10.3 Persistent Rapid Growth

Growth will continue to present the greatest challenge to fire management in the urban interface over the long term. 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 into the future, as

forestland and rangelands are sold for real estate development. This will have 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.

4.10.4 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 equip themselves with the new radios, communication between the two systems may be complicated. Communication is key in a wildfire or any other emergency situation; thus, it should be a high priority to improve communicative abilities countywide.

4.10.5 Glenwood-Caribel Volunteer Fire Department

Currently, the community of Glenwood and Carible and homes in the surrounding area including many of those on Glenwood Road are unprotected by any formal structural fire protection district. The U.S. Forest Service and the Idaho Department of Lands provide wildland fire protection; however, response time for emergency personnel from Kamiah or Kooskia would be relatively slow. Due to the combination of timber and rangelands, a wildfire could potentially spread to residential areas before suppression resources arrived. Depending on the location of the fire, it is also possible that emergency response vehicles would have difficulty accessing the Glenwood-Caribel area safely due to their location at the bottom of the canyon and Glenwood and Caribel being near the summit. These communities and private landowners have taken 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 area. Through recent grant funding this small start-up fire department has acquired a piece of property for a future facility, a used pumper truck as well as a 1,200 gallon tender, and other used equipment. They have also received funding for start-up costs and communications. It will become increasingly important to support the efforts of this small volunteer department as they become a fully active district within Idaho County. Equally important will be the formation of mutual aid agreements with other structural as well as wildland fire departments and agencies.

4.10.6 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 2 or 3 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 would consist of having 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 new department, the Elk City Volunteer Fire Department, would also be dispatched to provide back up and refilling capabilities to the brigade.

4.10.7 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, and Kooskia Volunteer Fire Department) 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 as much as possible in order to protect them and their firefighters and continue providing fire protection service.

4.10.8 Grangeville – Elk City Power Supply

The power line system from Grangeville to Elk City and surrounding communities has become 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 its 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.

4.10.9 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.

4.10.10 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; however, they are currently in the process of installation. 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.

4.11 Idaho State Fire Plan Working Group 2004 Annual Report

Over the past five years, Idaho County and its communities have continued to make strides toward becoming more resilient to wildland fire. The following tables summarized many of the grant monies Idaho County received from 2001 – 2004.

Figure 4.8. State of Idaho Assistance Summary for 2001 - 2004.

County	Grant Recipient	Granting Agency	2001-2003	2004	Project Description
Idaho	Battle Ridge-BPC VFD	BLM RFA		$1,350.00	Equipment
Idaho	BPC VRFD	BLM/NPS RFA	$2,697.30		Equipment
Idaho	BPC VRFD	IDL/FS NFA		$8,400.00	Hazardous Fuels Treatment
Idaho	BPC VRFD	IDL/FS SFA		$17,800.00	Hazardous Fuels Treatment
Idaho	Carrot Ridge VFD	IDL/FS VFA		$320.00	Personal Protective Equipment
Idaho	Clearwater RC&D	BLM CAR	$35,000.00		Wildfire Mitigation Plan
Idaho	Cottonwood RFD	BLM/NPS RFA	$5,850.00		Equipment
Idaho	Cottonwood RFD	BLM/NPS RFA	$4,275.00		PPE/Comm./Tools/Supplies
Idaho	Cottonwood RFD	FEMA	$94,500.00		Firefighting Vehicles
Idaho	Cottonwood RFD	FEMA	$33,615.00		Fire Operations & Firefighter Safety
Idaho	Cottonwood RFD	FEMA		$81,000.00	Firefighting Vehicles
Idaho	Cottonwood RFD	IDL/FS VFA	$1,600.00		Personal Protective Equipment
Idaho	Dixie	IDL/FS SFA	$36,236.06		HFTWUI
Idaho	Dixie VFD	BLM RFA		$1,600.00	Training
Idaho	Dixie VFD	BLM/NPS RFA	$1,327.50		Equipment
Idaho	Dixie VFD	BLM/NPS RFA	$1,100.00		Equipment
Idaho	Elk City	IDOCL/FS EA	$175,000.00		Small Wood Incubator
Idaho	Elk City Alliance	IDL/FS NFA	$30,000.00		HFTWUI ($7,776.75 Expended as of 12/04 - Balance to be Reallocated)
Idaho	Elk City FD	IDL/FS VFA		$2,400.00	Personal Protective Equipment
Idaho	Framing Our Community Inc.	IDL/FS NFA		$30,500.00	Hazardous Fuels Treatment
Idaho	Harpster FD	BLM/NPS RFA	$6,897.60		PPE/Comm./Tools/Supplies
Idaho	Idaho County	IDL/FS NFA		$60,000.00	Hazardous Fuels Treatment
Idaho	Keuterville Cowboy Wildland FD	BLM/NPS RFA	$7,200.00		Equipment

Figure 4.8. State of Idaho Assistance Summary for 2001 – 2004 continued.

County	Grant Recipient	Granting Agency	2001-2003	2004	Project Description
Idaho	Keuterville FD	BLM/NPS RFA	$1,080.00		Tools/Supplies
Idaho	Kooskia	FS EA		$20,000.00	Small-Diameter Wood Utilization
Idaho	Kooskia FD	BLM/NPS RFA	$1,350.00		Equipment
Idaho	Kooskia FD	BLM/NPS RFA	$3,060.00		Equipment
Idaho	Kooskia FD	FEMA	$15,509.00		Fire Operations & Firefighter Safety
Idaho	Kooskia FD	FEMA		$16,967.00	Equipment
Idaho	Kooskia FD	IDL/FS VFA		$2,400.00	Personal Protective Equipment
Idaho	Kooskia NFH	F&WS	$70,000.00		HFT WUI F&WS Lands
Idaho	Nez Perce Tribe	BIA HFR/WUI		$100,000.00	Grazing Fence Install
Idaho	Nez Perce Tribe	BIA HFR/WUI	$20,000.00		Fuels Planning
Idaho	Nez Perce Tribe	BIA HFR/WUI	$3,000.00		Thin, Prune, Chip
Idaho	Riggins	IDL/FS VFA		$4,100.00	Personal Protective Equipment
Idaho	Salmon River RFD	BLM RFA		$9,408.66	Training/Equipment
Idaho	Salmon River RFD	BLM/NPS RFA	$5,146.20		Training/Equipment
Idaho	Salmon River RFD	BLM/NPS RFA	$12,731.70		Training/Prevention/Equipment
Idaho	Salmon River RFD	FEMA		$45,675.00	Personal Protective Equipment
Idaho	Secesh Meadows FD	FEMA	$14,043.00		Fire Operations & Firefighter Safety
Idaho Total			$581,218.36	$401,920.66	

Figure 4.9. NFA Community Fire Protection Grant Awards for 2004.

County	Grant Recipient	Granting Agency	2004	Project Description
Adams	Adams County	IDL/FS NFA	$84,000.00	Hazardous Fuels Treatment
Boise	Star Ranch/Placerville	IDL/FS NFA	$85,000.00	Hazardous Fuels Treatment
Bonner	Bonner County	IDL/FS NFA	$264,850.00	Hazardous Fuels Treatment
Idaho	BPC VRFD	IDL/FS NFA	$8,400.00	Hazardous Fuels Treatment
Idaho	Framing Our Community Inc.	IDL/FS NFA	$30,500.00	Hazardous Fuels Treatment
Idaho	Idaho County	IDL/FS NFA	$60,000.00	Hazardous Fuels Treatment
Lemhi	Lemhi County	IDL/FS NFA	$7,000.00	Hazardous Fuels Treatment
Lewis	IDL Maggie Creek/FS Lochsa RD	IDL/FS NFA	$2,000.00	Hazardous Fuels Treatment
Multi-County	GIFF/Three Rivers RC&D	IDL/FS NFA	$17,000.00	Hazardous Fuels Treatment
Shoshone	Shoshone County	IDL/FS NFA	$230,250.00	Hazardous Fuels Treatment
			$789,000.00	

4.12 Proposed Projects

During the 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.

4.12.1 Home Defensible Space Projects

The following are areas specifically identified by the committee as needing fuels treatments around homes. These projects would 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 do to improve the safety of their homes and families. If the homeowner agrees to these recommendations, the defensible space project would then be completed by a professional contractor. Individual home projects vary, but usually consist of brush clearing, very selective tree removal, pruning, weed eradication, and slash removal. These projects along with estimated costs are included in Table 5.2.

Powell/Lolo Pass Area – proposed defensible space/ fuels mitigation treatment

- Many structures in this area need defensible space/ fuel mitigation treatments. Areas include State fish hatchery, State highway department facility, and FS Ranger Station.

Kooskia/Stites Area – proposed defensible space/ fuels mitigation treatment

- Timbered areas next to town
- Clear Creek Breaks North face
- Upper Clear Creek area
- Button Bench east face 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

Grangeville Area – proposed defensible space/fuels mitigation treatment

- Old Fish Hatchery area
- Harpster Grade/Mount Idaho Grade Loop
- Old White Bird Grade Subdivisions
- Happy Hollow/Grangeville-Salmon Road
- Cove Road area

White Bird Area – proposed homeowner education and weeds eradication project

- Twin Rivers Subdivision

Burgdorf/Warren Area – proposed defensible space/fuels mitigation treatment

- Burgdorf townsite
- Warren townsite
- Secesh and other homes along Warren Wagon Road

Harpster Area – proposed defensible space/fuels mitigation treatment

- Urban interface areas west of Harpster to USFS boundary south.
- Wall Creek area
- Sally Ann Ck/Silt Creek Estates
- Sears Creek Area

Syringa – proposed defensible space/ fuels mitigation treatment

- High value homes along Hwy 12 in the Wild and Scenic River Corridor.
- Sutter Creek (mile post 79 to Syringa).

Ridge Runners Fire District – proposed defensible space/ fuels mitigation treatment

- Leitch Creek Subdivision
- Big Cedar/Crane Hill Area
- Big Horse Canyon/The Horn

4.12.2 Road Improvement and Fuels Treatment Projects

The following are specific roadways identified by the committee as needing construction improvements and/or hazardous fuels treatments in the timbered areas adjacent to the road corridor. These projects create a more fire resistant buffer, which not only helps slow a wildfire, but it 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, bridge and cattle guard upgrades, and surface enhancement. These projects along with cost estimates are included in Table 5.2.

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 Route 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 BLM 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 Route 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

Chapter 5: Treatment Recommendations

5 Administration & 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 achieving an elimination of the lives lost, and reduction in structures destroyed, infrastructure compromised, and unique ecosystems damaged that serve to sustain the way-of-life and economy of Idaho County and the region. 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 instilling disaster resistance 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 BLM, are participants 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 2004-05, 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 **Wildfire Mitigation Plan** should be reviewed annually at a special meeting of the Idaho County Commissioners, open to the public and involving all municipalities/jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. 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 5th anniversary of its acceptance, and every 5-year period following.

5.1 Prioritization of Mitigation 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 that 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. Projects will be administered by county and local jurisdictions 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, department 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 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 (USFS, State Lands, etc.). The prioritization of projects will be based on the selection of projects which create a balanced approach to pre-disaster mitigation which recognizes the hierarchy of treating in order (highest first):

- People and Structures
- Infrastructure
- Local and Regional Economy
- Traditional Way of Life
- Ecosystems

5.1.1 Prioritization Scheme

A numerical scoring system is used 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, a more detailed process for evaluating and prioritizing projects has been developed. 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 are somewhat different than non-planning projects 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 some factors are considered more critical than others, two ranking scales have been developed. A scale of 1-10, 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 1-5 scale, with 5 being the best. The highest possible score for a non-planning project is 65 and for a planning project is 30.

The guidelines for each category are as follows:

5.1.1.1 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 0. 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 BC ratio of 50:1 would receive 5 points, a project with a BC ratio of 100:1 (or higher) would receive the maximum points of 10.

5.1.1.2 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 5 has the potential to impact 100 people, and a ranking of 1 will not impact the population. In some 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.

5.1.1.3 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 5 has the potential to save roughly $100,000 in losses, and a ranking of 1 only has the potential to save less than $100 in losses. In some 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.

5.1.1.4 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 5 could prevent losses to about half the economy, and a ranking of 1 would not prevent any economic losses. In some 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.

5.1.1.5 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.

5.1.1.6 Project Feasibility (Environmentally, Politically & Socially)

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 5 and those with very low would receive a ranking of 1.

5.1.1.7 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 5, the project mitigates a high frequency, high magnitude event. A 1 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.

5.1.1.8 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 5. Those that do not address repetitive losses receive a rating of 1. Potential to mitigate hazards to future development 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 5. Those that do not affect development should receive a rating of 1.

5.1.1.9 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 5. A project with effectiveness that is highly questionable and not easily sustained should receive a ranking of 1.

5.1.1.10 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 ranking high, medium, or low based on the non-planning project thresholds of:

Project Ranking Priority Score

- High 40-65
- Medium 25-39
- Low 9-25

5.2 Possible Wildfire Mitigation Activities

As part of the implementation of wildfire mitigation activities in Idaho County, a variety of management tools may be used. Management tools include but are not limited to the following:

- Homeowner and landowner education
- Policy changes for structures and infrastructure in the WUI
- Homesite defensible zone through fuels modification
- Community defensible zone fuels alteration
- Access improvements
- Access creation
- Emergency response enhancements (training, equipment, locating new fire stations, new fire districts)
- Regional land management recommendations for private, state, and federal landowners

Maintaining private property rights will continue to be one of the guiding principles of this plan's implementation. 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.

5.3 WUI Safety & Policy

Wildfire mitigation efforts must be supported by a set of policies and regulations at the county level that maintain a solid foundation for safety and consistency. The recommendations enumerated here serve that purpose. Because these items are regulatory in nature, they will not necessarily be accompanied by cost estimates. These recommendations are policy related in nature and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

Table 5.1. WUI Action Items in Safety and Policy.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.1.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).	**Protection of people and structures** by reducing the risk of loss of life or property by preemptive actions.	County Commissioners Office and Rural Fire Departments	**Year 1 (2005) activity:** 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.
5.1.b: Explore ways for the County to help not-for-profit fire department organizations gain insurance coverage.	**Protection of people and structures** 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) activity**: Research different methods for the County to support and/or help departments in gaining coverage. **Year 2 (2006) activity:** Implement chosen alternative sensitive to each department.
5.1.c: Provide funding for a full-time Geographic Information System position at the Idaho County Courthouse.	**Protection of people and structures** 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) activity:** Seek funding for full-time GIS staff position. Post job listing for potential candidates.
5.1.d: Adoption of International Fire Code.	**Protection of people and structures** by reducing the risk of loss of life or property by preemptive actions.	County Commissioners Office and Rural Fire Departments.	**Year 1 (2005) activity:** Consider and develop policy to adopt the International Fire Code regulations adopted by the State of Idaho.

5.4 People and Structures

The protection of people and structures will be tied together 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 incident is a firefighter who suffers the loss of life during the combating of a fire. Many of the recommendations in this section will define a set of criteria for implementation while others will be rather specific in extent and application.

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. Over and over, the common theme was present that pointed to a situation of landowners not recognizing risk factors:

- Fire District personnel pointed to numerous examples of inadequate access to homes of people who believe they have adequate ingress.
- Discussions with the general public indicated an awareness of wildland fire risk, but they could not generally identify risk factors.
- A large number of the respondents to the public mail survey (49%) indicated that they want to participate in educational opportunities focused on the WUI and what they can do to increase their home's chances of surviving a wildfire.

Residents and policy makers of Idaho County should recognize certain factors that exist today, that in their absence would lead to an increase in the risk factors associated with wildland fires in the WUI of Idaho County. These items listed below should be encouraged, acknowledged, and recognized for their contributions to the reduction of wildland fire risks:

- **Livestock Grazing** in and around the communities of Idaho County has led to a reduction of many of the fine fuels that would have been found in and around the communities and in the 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. Livestock ranchers tend their stock, placing additional sets of eyes into the forests and rangelands of the county where they may observe ignitions, or potentially risky activities. Livestock grazing in this region should be encouraged in the future as a low cost, positive tool of wildfire mitigation in the Wildland-Urban Interface and in the wildlands.
- **Forest Management** in Idaho County has been affected greatly by the reduction of operating sawmills in the region. However, the active forest management program of the U.S. 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 where they are closest to homes and infrastructure. In addition, forest resource professionals managing these lands and the lands of the state and federal agencies, are generally trained in wildfire protection and recognize risk factors when they occur. One of the reasons that Idaho County forestlands have not been impacted by wildland fires to a greater degree historically, is the presence and activities related to active forest management.
- **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 agriculture 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 some of 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 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 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.a: Youth and Adult Wildfire Educational Programs.	**Protect 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 including: • University of Idaho Cooperative Extension • Idaho Department of Lands • State and Private Forestry Offices • Bureau of Land Management • USDA Forest Service • Local School Districts • Cities of Idaho County	To start immediately using existing educational program materials and staffing. Formal needs assessment should be 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.
5.2.b: Wildfire risk assessments of homes in identified communities.	**Protect people and structures** by increasing awareness of specific risk factors of individual homesites in the at-risk landscapes. Only after these are completed can homesite 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**. Actual work may be completed by Wildfire Mitigation Consultants.	• **Cost:** Approximately $100 per homesite for inspection, written report, and discussions with the homeowners, for total of $1,270,300 (see summary below). • **Action Item:** Secure funding and contract to complete the inspections during years 1 & 2 (2005-06) • Homesite inspection reports and estimated budget for each homesite's treatments will be a requirement to receive funding for treatments through grants.
Home Site Inspections:	• Ridge Runners Volunteer Fire Department: *507 structures; estimate 100% receive Assessments- $50,700*		
	• Kooskia Volunteer Fire Department: *693 structures; estimate 100% receive Assessments- $69,300*		
	• Elk City Volunteer Fire Department: *601 structures; estimate 100% receive Assessments- $60,100*		
	• Riggins City Fire Department: *158 structures; estimate 100% receive Assessments- $15,800*		
	• BPC Volunteer Rural Fire Department: *527 structures; estimate 100% receive Assessments- $52,700*		
	• Carrot Ridge Volunteer Fire Department: *308 structures; estimate 100% receive Assessments- $30,800*		
	• Cottonwood Volunteer Fire Department: *1,404 structures; estimate 100% receive Assessments- $140,400*		
	• Dixie Volunteer Fire Department: *84 structures; estimate 100% receive Assessments- $8,400*		
	• Grangeville Rural Fire District : *1,237 structures; estimate 100% receive Assessments- $123,700*		
	• Harpster Volunteer Fire Association: *283 structures; estimate 100% receive Assessments- $28,300*		
	• Salmon River Volunteer Fire Department: *1,283 structures; estimate 100% receive Assessments- $128,300*		
	• White Bird Volunteer Fire Department: *60 structures; estimate 100% receive Assessments- $6,000*		
	• Kamiah Fire Department: *1,083 structures; estimate 100% receive Assessments- $108,300*		
	• Other rural structures: *4,475 structures; estimate 100% receive Assessments- $447,500*		

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.c: Homesite WUI Treatments.	**Protect people, 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 with 5.4.b*	• Actual funding level will be based on the outcomes of the homesite assessments and cost estimates • **Estimate** that treatments in rangelands will cost approximately $850 per homesite for a defensible space of roughly 150'. • **Estimate** that treatments in forestland will cost roughly $1,000 per homesite for a defensible space of about 200'. • **Estimate** total cost (summarized below) of **$9,198,042** • Homesite 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).
Home Site Treatments:	• Ridge Runners Volunteer Fire Department: *507 structures; estimate 90% receive Treatment- $456,300*		
	• Kooskia Volunteer Fire Department: *693 structures; estimate 90% receive Treatment - $623,700*		
	• Elk City Volunteer Fire Department: *601 structures; estimate 70% receive Treatment - $420,700*		
	• Riggins City Fire Department: *158 structures; estimate 60% receive Treatment - $ 80,580*		
	• BPC Volunteer Rural Fire Department: *527 structures; estimate 90% receive Treatment - $ 474,300*		
	• Carrot Ridge Volunteer Fire Department: *308 structures; estimate 80% receive Treatment - $ 246,400*		
	• Cottonwood Volunteer Fire Department: *1,404 structures; estimate 80% receive Treatment - $ 1,123,200*		
	• Dixie Volunteer Fire Department: *84 structures; estimate 30% receive Treatment - $* 25,200		
	• Grangeville Rural Fire District : *1,237 structures; estimate 75% receive Treatment - $ 927,750*		
	• Harpster Volunteer Fire Association: *283 structures; estimate 60% receive Treatment - $ 169,800*		
	• Salmon River Volunteer Fire Department: *1,283 structures; estimate 75% receive Treatment - $ 817,912*		
	• White Bird Volunteer Fire Department: *60 structures; estimate 75% receive Treatment - $ 38,250*		
	• Kamiah Fire Department: *1,083 structures; estimate 90% receive Treatment - $ 974,700*		
	• Other rural structures: *4,475 structures; estimate 70% receive Treatment - $ 2,819,250*		

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.d: Community Defensible Zone WUI Treatments	**Protect people, 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 **BLM** to identify funding availability and project implementation opportunities.	• Actual funding level will be based on the outcomes of the homesite assessments and cost estimates. • **Years 2-5 (2006-09):** Treat high risk wildland fuels from homesite 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. • **Communities and areas to target:** Others based on additional assessments.
5.2.e: Maintenance of Homesite WUI Treatments	**Protect people, 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	• Homesite defensibility treatments must be maintained periodically to sustain benefits of the initial treatments. • 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.
5.2.f: Re-entry of Homesite WUI Treatments	**Protect people, 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 5-10 years. • Retreatment 5 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%

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.g: Development of a community evacuation plan and alternate safety zones for the community of Elk City and other remote communities in Idaho County.	**Protect people, 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, BLM, and USFS.**	• Develop a safe evacuation plan for the community including alternate routes and safety zones (2005). • Send information to residents and hold a public meeting to inform communities.
5.2.h: Implement proposed home defensible space projects.	**Protect people, structures, and 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 homesite 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.

Defensible Space Project Areas	Acres	Project Cost
American River Community Protection Area	4,577.5	$ 4,577,462
Burgdorf Defensible Space Treatment	4984.79	$4,984,787.89
Cedar Creek Defensible Space Treatment	3,124.7	$ 3,124,670
Clear Creek Road Defensible Space Treatment	1,275.8	$ 1,275,761
Clearwater Community Defensible Space Treatment	1,044.9	$ 1,044,890
Clearwater Community Defensible Space Treatment	854.1	$ 854,067
Cove Road Defensible Space Treatment Area	360.0	$ 360,027
Dixie Community Defensible Space Treatment	2,078.6	$ 2,078,595
Dutch Oven Community Protection Area	10,360.6	$10,360,637
Elk Creek Watershed Management Plan Area	14,149.9	$ 35,000
Fish Hatchery Defensible Space Treatment	378.8	$ 378,808
Grangeville-Salmon Road Community Defensible Space	1,836.6	$ 1,836,557
Harpster Community Defensible Space Treatment	2,086.6	$ 2,086,613
Harpster Community Defensible Space Treatment	308.4	$ 308,377
Harpster Community Defensible Space Treatment	254.9	$ 254,912
Hwy12 Kooskia-Kamiah Defensible Space Treatment	366.3	$ 366,263
Kidder Ridge E. Defensible Space Treatment	133.4	$ 133,415
Kidder Ridge W. Defensible Space Treatment	122.4	$ 122,371
Kooskia SE Defensible Space Fuels Treatment	67.9	$ 67,928

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs	
	Kooskia SW Defensible Space Fuels Treatment		67.9	$ 67,895
	Leitch Creek Defensible Space Treatment		363.8	$ 363,792
	Lowell Community Defensible Space Treatment		41.0	$ 40,978
	Lowell Community Defensible Space Treatment		23.9	$ 23,902
	Lowell Community Defensible Space Treatment		22.2	$ 22,225
	Old Whitebird Grade Community Protection Area		1,193.1	$ 1,193,105
	Red Pine Creek Defensible Space Treatment		2,178.6	$ 2,178,650
	Ridge Runner Defensible Space Treatment Area		912.33	$ 912,326.92
	Ridge Runner Defensible Space Treatment Area		199.77	$ 199,768.90
	Ridge Runner Defensible Space Treatment Area		4,236.93	$ 4,236,933.80
	Ridge Runner Defensible Space Treatment Area		3,174.02	$ 3,174,021.64
	Smith Creek Defensible Space Treatment		247.5	$ 247,525
	Stites Defensible Space Fuels Treatment		112.1	$ 112,087
	Tram Road Defensible Space Treatment		124.6	$ 124,610
	Wilson Creek Defensible Space Treatment		318.9	$ 318,857
5.2.i: 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 Route 1858 to Newsome, Crooked River Road, Jack Mountain Road, Cove Road, Warren Wagon Road, and Forest Route 246).	**Protection of people, structures, infrastructure, and economy** by improving access for residents and fire fighting personnel in the event of a wildfire. Reduces the risk of a road failure that leads to the isolation of people or the limitation of emergency vehicle and personnel access during an emergency.	**Highway Districts** in cooperation with the BLM, State of Idaho (Lands and Transportation), USFS, 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, BLM, USFS, State, and private based on landownership associated with road locations. • **Year 2 (2006):** 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 fire fighting 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.	

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.j: Access improvements through road-side fuels management (e.g. State Highway 14, Forest Route 1858 to Newsome, Crooked River Road, Red River Road, Jack Mountain Road, Cove Road, Butcher Creek Road, Warren Wagon Road, Wilson Road, Red Fir Road, Crane Hill Road, Big Cedar Road, Long Bluff Road, Big Horse Canyon Road, Mulledy Road, Trenary Road, Harpster Grade/Mount Idaho Grade Loop, Grangeville/Salmon Road, Woodland Grade, Sally Ann Creek Road, Adams Grade, Forest Route 246, Tom Taha Grade, Beaver Slide, Kidder Ridge Road, Harris Ridge Road, Sutter Creek Road, Clear Creek Road, Leitch Creek Road, Pardee Corner Roads, Carrot Ridge Road, and Happy Hollow Road)	**Protection of people, structures, infrastructure, and economy** by improving access for residents and fire fighting 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 BLM, State of Idaho (Lands and Transportation), USFS, 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 (est.) **B/C 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 road-side fuels.

Roadside Fuels Project	Miles	Acres	Project Cost
Mallard Creek Roadside Fuels Treatment Area	17.9	1,580.3	$1,185,258
Dixie Roadside Fuels Treatment Area	31.4	3,026.5	$2,269,840
RR Hot Springs Roadside Fuels Treatment Area	10.0	979.2	$734,372
Newsome Roadside Fuels Treatment Area	6.8	656.3	$492,197

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs		
		Elk City to Grangeville Roadside Treatment Area	34.4	3,338.5	$2,503,894
		Harpster Area Roadside Fuels Treatment Area	8.5	830.8	$623,127
		Mt. Idaho-Harpster Grade Roadside Treatment Area	19.1	1,855.9	$1,391,922
		French Creek-Warren Roadside Treatment Area	40.2	3,667.5	$2,750,590
		Adams Grade Roadside Treatment Area	3.8	368.8	$276,629
		Beaverslide Roadside Treatment Area	7.3	682.3	$511,712
		Clear Creek Roadside Treatment Area	10.8	1,057.5	$793,092
		Harris Ridge Roadside Treatment Area	12.8	1,207.4	$905,547
		Doughty Roadside Treatment Area	1.17	125.12	$93,841
		Kidder Ridge Roadside Treatment Area	11.0	1,036.5	$777,372
		Leitch Creek Roadside Treatment Area	4.7	464.0	$348,009
		Pardee Roadside Treatment Area	7.1	586.4	$439,805
		Sally Ann Creek Roadside Treatment Area	3.7	369.0	$276,738
		Sutter Creek Roadside Treatment Area	6.2	599.5	$449,589
		Wilson Roadside Treatment Area	2.38	245.45	$184,090
		Red Fir Roadside Treatment Area	5.38	535.95	$401,988
		Trenary Roadside Treatment Area	.96	107.69	$80764
		Crane Hill Roadside Treatment Area	2.72	278.02	$208,512
		Big Cedar Roadside Treatment Area	7.59	759.36	$569,521
		Big Horse Canyon Roadside Treatment Area	3.4	333.62	$250,214
		Long Bluff Roadside Treatment Area	1.15	125.9	$94,423
		Mulledy Roadside Treatment Area	1.91	198.7	$149,019
		Tom Taha Roadside Treatment Area	6.0	590.7	$443,007
		Wall Creek Roadside Treatment Area	4.7	445.4	$334,026
		Woodland Roadside Treatment Area	12.4	1,139.0	$854,259
		Woodland Grade Roadside Treatment Area	10.0	913.6	$ 685,205

Table 5.2. WUI Action Items for People and Structures.

Action Item	Goals and Objectives	Responsible Organization	Action Items, Planning Horizon and Estimated Costs
5.2.k: Development of "Community Emergency Response Team" program in communities.	**Protection of people, structures, infrastructure, and economy** 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.	• **2005** develop team and objectives, implement program including emergency services personnel

5.5 Infrastructure

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supply 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. As such, a variety of components will be considered here in terms of management philosophy, potential policy recommendations, and recommendations.

Communication Infrastructure: This component of the WUI seems to be diversified across the county with multiple source and destination points, and a spread-out support network. Currently; however, there is a nine mile gap in the phone system supplying the Riggins area. This results in failures to a large service areas due to a problem anywhere along this grid (i.e. transformer goes down in New Meadows causing Riggins to lose telephone service).

Transportation Infrastructure (road and rail networks): This component of the WUI has some 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 travels 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 some areas may become limited to seasonally maintained secondary roads or forest routes.

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 some roads. Some 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. Roads that have these inferior characteristics and access homes and businesses are 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 Wildfire Mitigation Plan 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, especially in light of the treatments enumerated in this plan (eg., intensive livestock grazing, mechanical treatments, and herbicide treatments).

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 to plan for and implement a management program that specifically mitigates wildfire potential while managing the watersheds for sustained water flow that is clean and timed according to the needs of the community.

5.5.1 Proposed Activities

Table 5.3. Infrastructure Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.3.a: Post FEMA "Emergency Evacuation Route" signs along the identified primary and secondary access routes in the county.	**Protection of people and structures 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.	• Purchase of signs (2005). • Posting roads and make information available to residents of the importance of Emergency Routes.
5.3.b: Update and replace road signs throughout the county and establish standards for establishment and visibility of house numbers.	**Protection of people and structures** 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.**	• 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).
5.3.c: Improve phone communications to the Mount Idaho area.	**Protection of people and structures 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.
5.3.d: Watershed Management Plan for the Wall Creek Watershed in Clearwater.	**Sustainability of Communities by** increasing the probability that communities will have safe drinking water following a wildfire that burns in the community watershed.	**Clearwater Community Council and USFS**	Identify landowners and seek funding to implement the planning process (2005). Implementation of projects based on results of watershed management plans.
5.3.e: Watershed Management Plan for the Elk Creek Watershed in Elk City.	**Sustainability of Communities 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, USFS, BLM**	Identify landowners and seek funding to implement the planning process (2005). Implementation of projects based on results of watershed management plans.

Table 5.3. Infrastructure Enhancements.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.3.f: South Fork Clearwater River Power Supply System upgrade	**Sustainability of Communities 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 Fuels treatment under the powerlines
5.3.g: Establish Selway Falls Road as an alternate FEMA "Emergency Evacuation Route" for Elk City residents and visitors.	**Protection of people and structures** by providing an alternative, safe evacuation route from Elk City.	**County Commissioners in** cooperation with County Highway Districts, Rural Fire Districts, BLM, and USFS.	• Identify funding for road project (2005). • Create a fire safe roadway through surface maintenance and fuels mitigation (2006). • Post FEMA "Emergency Evacuation Route" signs and inform residents. • Set up program for regular maintenance.
5.3.h: Fuels reduction project for power line corridor between Grangeville and Elk City.	**Protection of people and structures by** reducing the potential risk of ignition associated with the power lines and creating a fuel break.	**Avista Utilities and the USFS.**	• Identify specific areas that are in need of fuels reduction and create a project plan (2005). • Obtain permission from the Forest Service and any other affected landowners to implement project plan on their lands (2005). • Begin implementation of fuels reduction project (2006).
5.3.i: Fuels mitigation of the FEMA "Emergency Evacuation Routes" in the county to insure these routes can be maintained in the case of an emergency.	**Protection of people and structures 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.	• Full assessment of road defensibility and ownership participation (2005). • Implementation of projects (linked to item 5.2.g, 5.2.h, and 5.2.i.
5.3.j. Watershed Management Plan for the Three Mile Creek Watershed.	**Sustainability of Communities 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.**	• Identify landowners and seek funding to implement the planning process (2005). • Implementation of projects based on results of watershed management plans.

5.6 Resource and Capability Enhancements

There are a number of resource and capability enhancements identified by the rural and wildland fire fighting districts in Idaho County. All of the needs identified by the districts are in line with increasing the ability to respond to emergencies in the WUI and are fully supported by the planning committee.

Specific repeated themes of needed resources and capabilities include:

- Improved radio capabilities within each district and for mutual aid operations
- Retention and recruitment of volunteers
- Update firefighting equipment countywide
- Improved road and house number signage
- Training and development of rural firefighters in structure and wildland fire

Although additional, and specific, 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., may be an organization uniquely suited 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 is in a position to assist these districts with identifying, competing for, and obtaining grants and equipment to meet these needs.

Currently, only the Grangeville Rural Fire District, the Cottonwood Volunteer Fire Department, and the Kooskia Volunteer Fire Department are taxing districts under the subjugation of the Idaho County Commissioners. All other departments within Idaho County are 501c3 not-for-profit organizations that offer protection on a subscription basis. At this time, it is not the desire of the not-for-profit departments to become taxing districts; however, they would like to continue working cooperatively with the County fire departments and each other to provide the best possible service to their subscribers.

Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.4.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	**Protection of people and structures** by direct fire fighting capability enhancements.	**Clearwater RC&D** in cooperation with rural and wildland fire districts, and Idaho County Commissioners.	• **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.
5.4.b: Facility, land, and basic equipment for a substation of the Grangeville Rural Fire	Protection of people and structures by direct firefighting capability enhancements.	Grangeville Rural Fire District.	Year 1 (2005): Verify stated need still exists, develop budget, and locate funding and equipment

Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
District in Mount Idaho.			(surplus) sources. Year 1 or 2 (2005-06): Acquire and deliver needed materials and equipment.
5.4.c: Tanker and 2-ton quick response structural engine for Grangeville Rural Fire District.	Protection of people and structures 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards.
5.4.d: Structural engine, 4-wheel drive utility vehicles, portable pumps, handheld radios, personal protective equipment, and chainsaws for Ridge Runner Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.e: Expand Salmon River Rural Volunteer Fire Department to cover homes on the north side of the Salmon River Road.	Protection of people and structures by direct fire fighting capability enhancements.	Salmon River Rural Volunteer Fire Department.	Year 1 (2005): Identify area to be annexed into the department and inform landowners. Year 2 (2006): Formally annex the identified lands.
5.4.f: Annex lands between the Grangeville Rural Fire District and the Harpster Volunteer Fire Department to close the gap in the service area.	Protection of people and structures by direct fire fighting capability enhancements.	Grangeville Rural Fire Department and Harpster Volunteer Fire Department.	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.
5.4.g: Portable pump, hand tools, chainsaws, flares, and handheld radios for the Kooskia Volunteer Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards

Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.4.h: Structural engine for Riggins City Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.i: Structural engine, wildland engine, water tender, hand tools, flares, portable pump, and foam unit for Harpster Volunteer Fire Department.	Protection of people and structures by direct fire fighting capability enhancements.	Harpster Volunteer Fire Department.	Year 1 (2005): Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. Year 1 or 2 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.j: Construction materials for Elk City Volunteer Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.k: 6-wheel drive structural engine, drop tank, hoses, and a 500 gpm pump for Elk City Volunteer Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.l: Retention and recruitment of volunteer firefighters.	**Protection of people and structures** by direct fire fighting capability enhancements.	**Rural and Wildland Fire Districts** working with broad base of county citizenry to identify options, determine plan of action, and implement it.	• 5 Year Planning Horizon, extended planning time frame. • Target an increased recruitment (+10%) and retention (+20% longevity) of volunteers. • **Year 1 (2005):** Develop incentives program and implement it.

Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.4.m: Increased training and capabilities of firefighters.	**Protection of people and structures** by direct fire fighting capability enhancements.	**Rural and Wildland Fire Districts** working with the **BLM and USFS** for wildland training opportunities and with the **State Fire Marshall's Office** for structural fire fighting training.	• **Year 1 (2005):** Develop a multi-county training schedule that extends 2 or 3 years in advance (continuously). • Identify funding and resources needed to carry out training opportunities and sources of each to acquire. • Year 1 (2005): Begin implementing training opportunities for volunteers.
5.4.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.	**Protection of people and structures** by direct fire fighting capability enhancements.	Rural and Wildland Fire Districts, BLM, USFS, BIA, IDL, State Fire Marshall's Office.	• 2005: Identify current mutual aid agreements and needed agreements. • Draft and implement agreements across the county.
5.4.o: Install a repeater on Sheriff's Point for better coverage.	**Protection of people and structures** by direct fire fighting 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.
5.4.p: Wildland engine,, hand tools, handheld radios, portable tank, portable pumps, blower fan, and flares for BPC Volunteer Rural Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.q: Hand tools, portable pump, and ATV for White Bird Volunteer Fire Department.	Protection of people and structures by direct fire fighting capability enhancements.	White Bird Volunteer Fire Department	Year 1 (2005): Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. Year 1 or 2 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards

Table 5.4. WUI Action Items in Fire Fighting Resources and Capabilities.

Action Item	Goals and Objectives	Responsible Organization	Action Items & Planning Horizon
5.4.r: Mobile radios, portable radios, base station, and dispatch for Dixie Volunteer Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.s: Chainsaw for Cottonwood Volunteer Fire Department.	Protection of people and structures by direct fire fighting 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 (2005-06): Acquire and deliver needed equipment to stations based on prioritization by need and funding awards
5.4.t: Establish and map onsite water sources such as dry hydrants or underground storage tanks for rural housing developments.	**Protection of people and structures** by direct fire fighting capability enhancements.	County Commissioners and Rural Fire Departments	• Identify populated areas lacking sufficient water supplies and develop project plans to develop fill or helicopter dipping sites. • Implement project plans.
5.4.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.	Protection of people and structures by direct fire fighting capability enhancements.	County Commissioners, Clearwater RC&D, IDL, USDA Forest Service, BLM, 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
5.4.v. Acquire and locate three 300 gallon slip tanks for the South Fork Clearwater River Volunteer Fire Department and provide training on its use	Protection of people and structures by direct fire fighting capability enhancements.	County Commissioners, Clearwater RC&D, IDL, USDA Forest Service, BLM, SFCR VFD, and local citizens.	Year 2 locate the equipment in suitable locations in Mallard Creek, Red River Hot Springs, and Orogrande
5.4.w. Acquire new heated building, pumper truck, and 3000 gallon water tender for Elk City Volunteer Fire Department.	Protection of people and structures by direct fire fighting capability enhancements.	County Commissioners, Elk City Council, Elk City Fire Department	Year 1-5 acquire needed building site, building, and equipment.

5.4.x: Purchase small boat for IDL.	Protection of people and structures by providing improved access to land along Clearwater River for fire fighting.	Maggie Creek FPD	• **Year 1 (2005):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources. • **Year 1 or 2 (2005-06):** Acquire and deliver needed equipment to districts based on prioritization by need and funding awards.
5.4.y: Improve safety equipment for all RFDs in Idaho County.	**Protection of people and structures** by direct fire fighting capability enhancements.	**Clearwater Resource Conservation and Development Council** in cooperation with County Commissioners and Rural Fire Districts.	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.
5.4.z: Obtain mobile repeater stations with back up power source.	**Protection of people and structures** by direct fire fighting 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 (2005-06):** Acquire and deliver needed equipment to districts based on prioritization by need and funding awards.

5.7 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. It is 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 insure that these lands have value to society and the local region. We encourage the US Forest Service, the 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.

5.7.1 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 Bureau of Land Management now cares for the public lands within the township, managing approximately 12,500 acres. Another is that 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 forest lands 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, more and more 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 in some areas.

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. Basically, control strategies boil down to logging lodgepole stands and disposing of the slash. Fortunately, the forests 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 often be selectively logged, with the resulting stand having a much greater component of beetle and fire resistant species and with enough trees in it to maintain aesthetic values.

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 some cases, western larch, occupy the land. Where the fires burned with lower severity, larger trees and those that are less fire resistant, for whatever reason, were spared the impact of the flames.

The nearly pure stands of lodgepole pine and its strong 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; 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 when conditions allow, there will be high intensity fires that will defy control efforts. This should not be viewed as an aberration. This area has both lethal, mixed and even low frequency HFRs. Nevertheless, the norm may no longer be acceptable, given the level of human development within the landscape.

There is a dire need to find acceptable ways to mitigate unnaturally high fire hazards, particularly around populated areas and to productively 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 ot this Plan and the NFP.

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 acceptably mitigate the unacceptably high fire risk. History acts as a credible predictor of fire occurrence, but the size and intensity, plus the risk that the inevitable fires pose to human values can be manageable.

5.7.2 USDA Forest Service Projects

5.7.2.1 Clearwater Ranger District

5.7.2.1.1 Blue Ridge

Use prescribed fire to reduce natural fuel accumulations in the Johns Creek and Otter Creek drainages. Gilmore Ranch and Sourdough LO are within or adjacent to the project area. Utilizing prescribed fire will reduce the severity of wildfire events when they occur.

Total area: 7500 acres. Project started in 2002 and will continue through 2008.

5.7.2.1.2 Hungry Mill

Use prescribed fire to reduce natural fuel accumulations on Hungry Ridge and the Mill Creek drainage. Utilizing prescribed fire will reduce the severity of wildfire events when they occur. Total area: 10,500 acres. Project started in 1994. Maintenance burns will occur over the next 5 years.

5.7.2.1.3 South Fork

Use 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/private land within the corridor. Prescribed burning has been on-going and will continue over the next 10 years.

5.7.2.1.4 Lucky Marble

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. Project was designed to restore historic forest structure and reduce the severity of future fire events.

5.7.2.1.5 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 3-5 years.

5.7.2.1.6 Pine Plantation Underburning

Treat by prescribed fire existing Ponderosa pine plantations District-wide that are at risk to crown fire due to buildup of ladder fuels. Primary purpose is to reduce natural fuel accumulations that consist of brush, grand fir and needle litter. Treatment will provide protection from wildfires by lessening the severity of those fires when they occur.

5.7.2.1.7 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.

5.7.2.1.8 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 3-5 years.

5.7.2.1.9 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 and private land. The project is currently in the planning phase. Expected implementation is late 2006.

5.7.2.1.10 Cove Fuel Break

The primary purpose of the project is to reduce fuel accumulations along the FS/Private boundary in the Cove area. Crews thinned/slashed approximately 2-3 miles along the FS/Private boundary in 2004. This project will continue through 2006.

5.7.2.1.11 Cove/Fish Interface

This project is in the conceptual phase at this time. The planning phase is expected to start in 2006 or 2007. This project will be designed to reduce the risk of catastrophic fire to the Cove, Fish Creek and rural Grangeville areas.

5.7.2.2 Moose Creek Ranger District

5.7.2.2.1 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 natural 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 fuel break where, if needed, a stand against an approaching wildland fire could be made.

5.7.2.2.2 Selway Community Protection Project

The Selway Community Protection Project is a joint effort by the Nez Perce National Forest (NPNF) and Idaho Department of Lands (IDL) to reduce the risk from fire to the homes along the lower Selway River. There are two parts to this project. The first part of this project focuses

on the wildland/urban interface (WUI) along the lower Selway River. This involves home hazard assessments with the homeowners, IDL and NPNF personnel to identify mitigation measures that homeowners can implement to lower their risk to loss from fire.

The second part of the project is an effort to reduce hazardous fuels in those areas identified in the Selway and Middle Fork Clearwater Rivers Subbasin Assessment, completed in 2001, as being outside their natural disturbance interval. The current vegetative condition within the analysis area, especially on south and west aspects, is an over story of ponderosa pine and douglas fir with an under story of 5-20 foot tall Douglas-fir. This project will be planned collaboratively with private citizens and federal, state and county agencies. The actual acres to be treated will be identified through this collaborative process.

5.7.2.2.3 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. The total project is scheduled to burn 2000 acres per year for 4 years. The project is divided into 20 some burn blocks ranging in size from 50 acres to 500 acres, 4 or 5 of these blocks are planned for this season. Approximately 6200 acres remain to be burned.

5.7.2.2.4 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 approximately 7800 acres of prescribed burning in this project. Fire suppression policies have resulted in greater accumulation of fuels, unnatural vegetative responses, more insect and disease concerns and reduction of habitat for some species. Restoring and maintaining natural processes and thus more natural ecological function is the primary objective for this area.

5.7.2.3 Red River Ranger District

5.7.2.3.1 Complete Projects

5.7.2.3.1.1 Dixie Fuelbreak

Mechanical reduction of natural fuels on 90 acres of National Forest 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 handpiled and burned to remove the fire risk. Project completed in 2003.

5.7.2.3.1.2 Mallard/Rhett Defensible Space

Mechanical reduction of natural fuels on 15 acres of National Forest land surrounding private in-holdings in the Mallard and Rhett Cr. drainages. The Mallard/Rhett 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 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,

handpiling, burning, chipping, or scattering materials <3 inches in diameter. 2) Pruning limbs to approximately 18 feet above ground. 3) Felling pole to sawlog sized trees to separate tree crowns to a spacing of about 10 feet. Project completed in 2003.

5.7.2.3.1.3 Red River Defensible Space

Mechanical reduction of natural fuels on 37 acres of National Forest land surrounding private in-holdings and Forest Service facilities in the Red River Drainage. Project completed in 2003.

5.7.2.3.1.4 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 lands 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, handpiling, burning, chipping, or scattering materials <3 inches in diameter. 2) Pruning limbs to approximately 18 feet above ground. 3) Felling pole to sawlog sized trees to separate tree crowns to a spacing of about 10 feet.Project completed in 2005.

5.7.2.3.1.5 Crooked River Defensible Space

Mechanical reduction of natural fuels on 13 acres of National Forest land surrounding private in-holdings 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 will consist of; 1) cutting, handpiling, burning, chipping, or scattering materials <3 inches in diameter. 2) Pruning limbs to approximately 18 feet above ground. 3) Felling pole to sawlog sized trees to separate tree crowns to a spacing of about 10 feet. Project completed in 2005.

5.7.2.3.2 On-Going Projects

5.7.2.3.2.1 Red Pines

Mechanical reduction of natural fuels followed by prescribed burning of activity fuels on 3,500 acres of National Forest land in the Red River drainage. The Red Pines 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 which contribute to existing and future fuel loads, reduce stand densities, reduce ladder fuels that would produce crown fires, reduce the risk of high severity fires, and creating vegetative patterns to alter fire spread and increase effectiveness of suppression activities. NEPA completed, implementation has not started.

5.7.2.3.2.2 American and Crooked River Project

Mechanical reduction of natural fuels followed by prescribed burning of activity fuels on 1,800 acres of National Forest 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 which contribute to existing and future fuel loads, reduce stand densities, reduce ladder fuels that would produce crown fires, reduce the risk of high severity fires, and creating vegetative patterns to alter fire spread and increase effectiveness of suppression activities. NEPA completed, currently implementing.

5.7.2.3.2.3 Elkhorn/Jersey

Reduction of natural fuels by prescribed burning in a project area of 21,000 acres in and adjacent to the Frank Church-River of No Return Wilderness in the Salmon River corridor. Implementation began in 2000 with the Rabbit Pt., Blowout Cr., Tepee Cr., and Jersey Cr. blocks burned for a total of 10,600 acres. The last block, Elkhorn Cr., is planned to be burned in 2006 for an additional 1,500 acres.

5.7.2.3.2.4 Blanco

Reduction of natural fuels by prescribed burning on 900 acres of National Forest 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. Implementation is planned for late summer of 2005.

5.7.2.3.2.5 806

Reduction of natural fuels by prescribed burning on 160 acres of National Forest land in the 806 Timber sale Area. The 806 project will use prescribed fire in combination with timber harvest and watershed improvements to move the area toward the desired condition of a healthy ecosystem which supports a mosaic of different forest structures that would not only provide for the present and future needs of the different species in the ecosystem, but also reduce the risk of any single fire eliminating any one of the needed forest structures. Underburning would occur in 2 30+ year old ponderosa pine plantations to reduce fuel loadings, thin the canopy closure, and remove understory grand fir from the stands. Implementation planned for 2007.

5.7.2.3.2.6 Starbucky

Reduction of natural fuels by prescribed burning on 300 acres of National Forest 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 planned for 2008.

5.7.2.3.2.7 Chocolate Moose

Reduction of natural fuels by prescribed burning on 600 acres of National Forest land in the Chocolate Moose Timber Sale Area. The Chocolate Moose 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 planned for 2008.

5.7.2.3.2.8 Motherlode

Reduction of natural fuels by prescribed burning on 20 acres of National Forest land adjacent to the Elk City township. The Motherlode project will return vegetation to a more historic condition in ponderosa pine and western larch through the use of precommercial thinning and underburning. Species in the undergrowth such as grand fir will be removed by thinning, and the fuel concentrations will be burned to reduce fuel loading and to stimulate woody shrubs for elk winter range. Implementation planned for 2008.

5.7.2.3.2.9 Red River Underburn

The Red River Underburn project will allow for 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 kill the grand fir encroachment in the understory in areas that were not treated by thinning.

5.7.2.3.2.10 Red River PCT

The Red River PCT will utilize precommercial thinning to reduce fire risk by reducing crown density and ladder fuels, favor species that are more fire-, insect-, and disease-resistant, improve tree growth, and rejuvenate the understory shrubs that provide forage for big game.

5.7.2.3.3 Proposed Projects

5.7.2.3.3.1 Whitewater

Reduction of natural fuels by prescribed burning on 1,000 acres of National Forest land surrounding private in-holdings in the Salmon River corridor. The Salmon River Canyon project would reintroduce fire into areas where fire exclusion has altered vegetation densities and fuel accumulations beyond historic levels. This would reduce the potential for large-scale stand replacing fires in historically non-lethal fire regimes through the use of low intensity prescribed underburning in ponderosa pine and Douglas fir forest types. Ignition would be accomplished using hand-held and aerial ignition devices. NEPA started but not complete. Implementation is planned for 2006.

5.7.2.3.3.2 Crooked Cove

Reduction of natural fuels by prescribed burning of National Forest land surrounding private in-holdings. Project area is approximately 16,000 acres with actual burned acres to be 8,000-12,000 acres. NEPA not started, implementation planned for 2008.

5.7.2.3.4 Conceptual Projects

5.7.2.3.4.1 South Township

Mechanical reduction of natural fuels followed by prescribed burning on 200-300 acres of National Forest and Bureau of Land Management lands located along the southern boundary of the Elk City township.

5.7.2.4 Salmon River Ranger District

5.7.2.4.1 Current and On-Going Projects

5.7.2.4.1.1 Blue Mountain Fuels Reduction

8,000 acre project area. Non-lethal, mixed severity spring, summer and fall prescribed burns. Implementation will occur over an approximate 6 yr. period, starting in the fall of 2005, treating approximately 1,000 to 3,000 acres annually.

5.7.2.4.1.2 Hartman Creek Fuels Reduction

4,800 acre project area. Non-lethal, mixed severity spring prescribed burn. Implementation has occurred on this project in 2004 and an additional 2000 acres is scheduled for implementation in the spring of 2006.

5.7.2.4.1.3 Robbins Creek Fuels Reduction

3,020 acre project area. Non-lethal, mixed severity spring prescribed burn. Implementation has occurred on this project in 2003 and an additional 2000 acres is scheduled for implementation in the spring of 2006.

5.7.2.4.1.4 Van Ridge Fuels Reduction

1,070 acre project area. Non-lethal, mixed severity spring and fall prescribed burn. Implementation planned for spring 2007.

5.7.2.4.1.5 Allison Creek Fuels Reduction

9,820 acre project area. Non-lethal, mixed severity spring and fall prescribed burn. Implementation will occur over an approximate 6 yr. period, starting in the spring/fall of 2007, treating approximately 1,000 to 3,000 acres annually.

5.7.2.4.1.6 Fiddle Creek Fuels Reduction

1,950 acre project area. Non-lethal, mixed severity spring and fall prescribed burn. Implementation planned for spring/fall 2008.

5.7.2.4.1.7 Clean Slate

Landscape ecosystem management project. This project includes large amounts of restoration projects, approximately 18 mbf of timber, and 5,200 acres of fuels treatment (2700 acres natural fuels and 2500 acres activity fuels).

5.7.2.4.1.8 Adams Camp Defensible Space

600 acre project area. Defensible space project adjacent to private land located in the wildland urban interface near Adams Camp work center. Project consists of precommercial thinning, handpiling, burning handpiles, and prescribed burning. Project initiation began summer 2004.

5.7.2.4.1.9 Boufford Ridge Defensible Space

80 acre project area. Defensible space project adjacent to private land located in the wildland urban interface located in the Skookumchuck drainage near Boufford Ridge. Project consists of precommercial thinning, handpiling, burning handpiles, and prescribed burning. Project will begin fall 2005.

5.7.2.4.1.10 Mud Springs

129 acre project area. Non-lethal, mixed severity fall prescribed burn. This area consists of ponderosa pine plantations. Implementation planned for fall 2005.

5.7.2.4.2 Planned Projects

5.7.2.4.2.1 Kessler Fuels Reduction

8,000 acre project area. Non-lethal, mixed severity spring, summer and fall prescribed burns. Implementation will occur over a 3-5 year period, starting in the spring of 2006, treating approximately 1,000 to 3,000 acres annually.

5.7.2.4.3 Limited Timber Harvest Categorical Exclusions

5.7.2.4.3.1 John Boy Timber Sale

.7 mbf timber sale with 250 acres of activity fuels treatment.

5.7.2.4.3.2 Floor Bugs Timber Sale

.96 mbf timber sale with 70 acres of activity fuels treatment.

5.7.2.4.3.3 Morrison Mistletoe Timber Sale

1.2 mbf timber sale with 250 acres of activity fuels treatment.

5.7.2.5 Lochsa Ranger District

5.7.2.5.1 Current and On-Going Projects

5.7.2.5.1.1 Weitas Fuels

Mixed severity type, late summer burns. Contact: Chris Gauthier

2005 - Sand Creek unit: 2,000 of the 5,036 acres.

2006 - Guard Station unit: 4,537 ac. Weitas Creek unit: 2,956 ac.

2007 - Bugle Point unit: 3,381 ac. Johnagan Mtn. unit: 1,594 ac.

2008 - Flame Creek unit: 2,755 ac. (and of course any of the project acres that will get bumped back due to weather, smoke, etc.)

5.7.2.5.1.2 Lochsa Historical Station

Fuels Reduction project at FS facility. 50 acres of handpiling and underburning. (NFPORS) Contact: Chris Gauthier

(I've just become involved with this project and have discovered that reality is a 7 acre administrative area. We plan on proposing 150 - 200 acres of underburning adjacent to the facility. If we could get a small amount of funding we may be able to get a CE out by spring 2006.)

5.7.2.5.1.3 North Lochsa Face

Fuels reduction: 5,485 ac. Mixed Severity; 7,045 ac. Underburn. Contact: Rick Parker, Chris Gauthier. This project consists of 120 units located in the Clearwater NF Lochsa FMU and to the southwest along the breaks of the river to the Forest boundary. (Project is on hold due to litigation)

If the district is allowed to proceed with the prescribed burning we would look to accomplish about 1,000 - 2,000 acres per year. (This was an EIS.)

5.7.2.5.1.4 Syringa/Lowell

Interface Fuels - Wildland Urban Interface Project/Fuels Reduction. Contact: Rick Parker, Dave Johnson (AFMO detail.)

This project is in the initial NEPA phase and no specific treatments have been developed. This project will be an EA. Project is in collaboration with the State and local communities. Estimate signed decision by Winter/Spring 2007.

5.7.2.5.1.5 American/Crooked River

The Forest Supervisor's decision to implement the American and Crooked River Project was approved, with instruction, by the Appeal Deciding Officer on July 8, 2005. Implementation of this project is anticipated to begin in the Fall of 2005.

5.7.2.5.1.6 Red Pines Environmental Impact Statement

The Red Pines FEIS is completed and available for public review July 2005.

5.7.2.5.1.7 Newsome and Crooked River

Defensible Space: The two Framing Our Community defensible space projects will be completed in early summer 2005.

5.7.2.5.1.8 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. Scoping was complete on Sept. 16, 2005 and the analysis is anticipated to be complete in the Spring 2006.

5.7.2.5.2 Conceptual Projects

5.7.2.5.2.1 Lochsa Corridor

Fuels Reduction. Mixed Severity and Underburning. Project area would consist of lands on both sides of the Lochsa River from Kooskia to Powell. Project will be designed in collaboration with the Powell district. No specific details have been developed at this time. I would consider the project on hold until Powell has a Fuels person.

5.7.2.5.2.2 Fire Creek

Fuels Reduction. Project area consists of lands adjacent to the Lochsa portion of the SBW. Mixed Severity and Underburning. No details have been developed at this time but a project proposal is underway. This project could be done with a CE and signed in 06 or 07.

5.7.2.6 Powell Ranger District

5.7.2.6.1 Current and On-Going Projects

5.7.2.6.1.1 Toboggan Ridge Fuels

Mixed severity type, late summer burns; approximatly 11,590 acres on both the Powell and North Fork Ranger Districts. To be implemented 2-4,000 acres/season over a 3-5 year timeframe. Change in condition class fuels project. Contact: Bob Lippincott

5.7.2.6.1.2 Jerry Johnson Fuels

Fuels reduction. Mixed severity type with underburning. Late summer/early fall burns. Approximately 700 acres. Contact: Bob Lippincott

5.7.2.6.1.3 Moose Whitebark Pine Restoration Project

Moose Lake area. Approximately 109 acre prescribed burn project to restore whitebark pine. Implement in 2005 and 2006.

5.7.2.6.1.4 Weir Fuels Project

Mixed severity type; late summer/early fall burns. Approximately 4200 acres. NEPA to be initiated Fall 2005. Change in condition class fuels project. Contact: Bob Lippincott or Rick Kusicko.

5.7.2.6.1.5 Beaver Triangle Vegetation Restoration Project

Timber harvest project that also includes one unit (21 acres) that will be prescribed burn only for whitebark pine restoration. Implementation either 2006 or 2007, after harvest activities are completed. Contact: Rick Kusicko.

5.7.2.6.2 Conceptual Projects

5.7.2.6.2.1 Winchester Fuels

Fuels reduction project that includes both a prescribed burn as well as a harvest component. Located in the Granite Creek area near Lolo Pass. Contact: Rick Kusicko.

5.7.2.6.2.2 Russian Pines

Old growth ponderosa pine restoration/perpetuation project using both prescribed burning and timber harvest. South side of Crooked Fork Creek, approximately 5 miles NE of Powell. Contact: Bob Lippincott or Rick Kusicko.

5.7.2.6.2.3 Lochsa Corridor

Fuels reduction. Mixed severity and underburning. Project area would consist of lands on both sides of the Lochsa River, from Kooskia to Powell. Project will be designed in collaboration with the Lochsa Ranger District. No specific details at this time. Contact: Bob Lippincott.

5.7.3 Bureau of Land Management Projects

5.7.3.1 East Township

On July 14, 2005, the BLM published a Notice of Intent to prepare an Environmental Impact Statement for the Eastside Township Fuels and Vegetation project near Elk City, Idaho. A public scoping meeting and field trip were held on August 4 and an additional informational tour was held on August 30, 2005. The public comments have been synthesized and the IDT is working to complete the Draft EIS in the fall of 2005

5.7.3.2 Transportation Corridors

The 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 BLM (and Forest Service) take actions which would reduce potential risks.

The roads involved in this project are the BLM 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 insure 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.

5.7.3.3 Eastside Township Fuels and Vegetation

The project would entail changing the forest density and species composition to maintain and increase forest stand resistance to high intensity fire, insects, and disease. This would be achieved by applying various silvicultural prescriptions that include, 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* would create an area of reduced crown fire hazard and lower potential fire severity and intensity on approximately 1,289 acres of BLM lands around Elk City and the American River subdivisions, and additional private property within and adjacent to the project area. This would be accomplished using commercial timber harvest, understory thinning, prescribed burning, and hand or machine piling and burning, and biomass utilization. The proposed action would also include:

- *Vegetation and Fuels:* 459 acres of regeneration treatments that would reserve groups and single trees, 449 acres of seedtree/shelterwood treatments, 130 acres of commercial thin/salvage treatment, 110 acres of salvage/pre-commercial thin, 140 acres of slash and burn fuels treatments, requiring 13.2 miles of temporary roads. The Proposed Action would move the distribution of fuel conditions away from fuel model 10 that has the potential for very intense burning conditions. The Proposed Action would move the distribution of condition classes towards a 1 instead of the current 2 to 3 thereby decreasing high-intensity fire conditions. This action would entail changing forest conditions to maintain and increase forest stand resilience to high intensity fire, and insects and disease outbreaks by applying a prescription comprising regeneration harvests, salvage harvests, pre-commercial, and commercial thinning and prescribed burns. Slash would be treated with prescribed fire and grapple piling. The proposed action would increase the amount of forested area dominated by more fire-tolerant species, move forested vegetation closer towards desired future conditions, and would decrease the number of acres with potential for high-severity stand replacement fire. New and temporary road construction would be kept to a minimum, thus reducing the potential for harmful resource effects.
- *Riparian and Aquatic Restoration:* 4.8 miles of riparian tree and shrub planting, 1.2 miles of streambank re-contour and sediment mitigation, reconnect Queen Creek (a tributary stream) with main American River, replacing two river fords with ATV bridges, re-location of .6 miles of roads, 1.6 miles of roads to be converted from roads to ATV trails, and 1.9 miles of road decommissioning. The Proposed Action along with existing restoration efforts will support upward trends for riparian/aquatic habitats within the American River drainage. Existing riparian and aquatic habitats along some stream segments are currently in poor to fair condition. This Restoration action will support trends toward fair to good condition in the long term.

5.7.3.4 Whiskey South II

The Whiskey South II project would use timber harvest and precommercial thinning followed with machine piling or jackpot burning on approximately 270 acres to create a shaded fuel break; salvage, release, and commercial thinning followed with machine piling or jackpot burning would be implemented on approximately 475 acres to improve forest health and reduce fuel loading; and shelterwood harvest and underburning would be used to reduce fuels and improve elk winter forage on approximately 150 acres. Prescribed fire would be used to dispose of slash, alter the arrangement and continuity of fuels to create a fuel break mosaic and, in some cases, to improve production of wildlife forage. Road surfacing, decommissioning and

replacement of culverts which are barriers to fish passage would be implemented to continue an upward trend in degraded fish habitat.

5.7.3.5 Miscellaneous Small Fuels Projects

On the scattered parcels of BLM which adjoin private land, use timber harvest, thinning, and machine piling and burning or biomass utilization to reduce fuels and improve forest health. Examples currently being implemented are Tailings 40, Sultan 60, Borowicz 40, Mill Yard 20, Misc. Commercial Firewood (throughout township) and Swale Creek Salvage.

5.7.3.6 Whitebird, Copperville, Main Salmon River, Riggins, Blackhawk Bar and Billy Creek

The focus of these rojects 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.

5.7.3.7 Wet Gulch Timber Sale

This project is using 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 have been established on the primary ridges in the area. The fuel breaks were designed to enhance wildland fire control by separating BLM 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 wild land fire. The fuel breaks would have hazard trees and shrubs removed to meet optimum fire control effect. Trees targeted for removal would be ponderosa pine <12" diameter breast height (DBH) and all other species <14" DBH. Development of the fuel break would require removal of larger trees to break the continuity of the tree crowns in timbered stands that are contiguous to the fuel breaks. Proposed fuel breaks are designed to meander down ridges taking advantage of natural openings (e.g. rock outcrops), and to accommodate wildlife and visual concerns. The resulting fuel breaks will have the canopy reduced by 60 - 70%. The objective is to reduce fuel loading, compactness, horizontal continuity, vertical arrangement, and availability sufficient on an area up to 300 feet in width to moderate fire behavior as it moves through the fuel break.

5.7.3.8 Bally Mountain Fuels and Forest Health

The project would entail changing the forest density and species composition to maintain and increase forest stand resistance to high intensity fire, insects, and disease. This would be achieved by applying various silvicultural prescriptions that include timber harvests, biomass utilization, slash piling, and prescribed burns, Road closures, road relocation, road decommissioning, as well as riparian treatments (plantings and stabilization) may also be included.

5.7.4 Other Treatment Projects

5.7.4.1 Elk City Region

The committee participants felt strongly that the proposed BLM and Forest Service projects were critical to their ability to sustain wildfire defense activities in the Elk City region. They expressed their overwhelming support for these projects to be implemented. The following summarizes their support for a variety of projects.

- High priority support for the 3 listed BLM projects
- High priority support for the Corridors Project by the BLM
- High priority support for the American / Crooked River Project by the USFS
- High priority support for the Red Pines project by the USFS
- High priority support for the Dixie Summit project by the USFS

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 in order to provide protection in the case of a wildfire.

Chapter 6: Supporting Information

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6.3 List of Preparers

The following personnel participated in the formulation, compilation, editing, and analysis of alternatives for this assessment.

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Jerry Zumalt	Idaho County Disaster Management	Coordinator, Project Leadership

6.4 Signature Pages

6.4.1 Representatives of Idaho County Government

6.4 Signature Pages

This **Idaho County Wildfire Mitigation Plan** has been developed in cooperation and collaboration with the representatives of the following organizations, agencies, and individuals.

6.4.1 Representatives of Idaho County Government

This Wildfire Mitigation Plan and all of its components identified herein were adopted formally through a resolution of the Board of County Commissioners as of 11 October 2005, resolution number _____, recorded in the official record of the Idaho County Commissioners.

By: Randy Doman, Chairperson — Date
Idaho Board of County Commissioners

By: Alice Mattson — Date
Idaho Board of County Commissioners

By: Jim Rehder — Date
Idaho Board of County Commissioners

By: Jerry Zumalt — Date
Idaho County Disaster Management

By: Jim Davis — Date
Idaho County Wildfire Mitigation Coordinator

By: Jim Beckman — Date
Idaho County Assessor

By: Larry Dasenbrock — Date
Idaho County Sheriff

By: Jon Stroop — Date
Idaho County Road and Bridge

6.4.2 Representatives of City Government in Idaho County

6.4.2 Representatives of City Government in Idaho County

This Wildland-Urban Interface Wildfire Mitigation Plan and all of its components identified herein were done in conjuction and coooperation with the cities listed.

By: Terry Vanderwall Mayor, City of Grangeville	Date 12/1/05
By: Robert Olive Mayor, City of Kamiah	Date 11-30-05
By: John Schurbon Mayor, City of Kooskia	Date 11-1-05
By: Debra Vopat Mayor, City of Stites	Date 11-1-05
By: Paul Schmidt Mayor, City of Ferdinand	Date 11-28-05
By: Bob Zimmerman Mayor, City of Riggins	Date 12/6/05
By: Denis Duman Mayor, City of Cottonwood	Date 11-28-05
By: Keith Ray Mayor, City of White Bird	Date 12-6-05

6.4.3 Representatives of City and Rural Fire Districts in Idaho County

6.4.3 Representatives of City and Rural Fire Districts in Idaho County

This Wildfire Mitigation Plan and all of its components identified herein were developed in close cooperation with the participating fire districts listed herein. Those fire districts which are a Idaho County Entity or a City entity have shown their organization's adoption through the formal adoption of the County or the City. Fire protection districts which are independent of a city or the county have indicated their formal cooperation and participation in the development of the Wildland-Urban Interface Wildfire Mitigation Plan below:

Ben Anderburg by Leigh Lewis — 10/14/05

By: Ben Anderburg, Chief — Date
Ridge Runner Rural Fire Department

Mark Anderson — 11/1/05

By: Mark Anderson, Chief — Date
Kooskia Volunteer Fire Department

Loren W Anderson — 12-8-05

By: Loren Anderson, Chief — Date
Elk City Volunteer Fire Department

Ann Wilson — 12/06/05

By: Ann Wilson, Chief — Date
Riggins City Fire Department

Keith S. Jepson — 10-11-05

By: Keith Jepson, Chief — Date
BPC Volunteer Rural Fire Department

By: Phil Puckett, Chief — Date
Carrot Ridge Volunteer Fire Department

Rod Behler — 11-28-05

By: Rod Behler, Chief — Date
Cottonwood Volunteer Fire Department

By: Andy Hairston, Chief — Date
Dixie Volunteer Fire Department

By:, Chief
Ferdinand Rural Fire Department

Date

By: Bill Spencer, Chief
Grangeville Rural Fire District

10/20/05
Date

Monty C. Spears - Director

By: Danyel Morrow, Chief
Harpster Volunteer Fire Department

10/20/05
Date

By: Dennis McCollum, Chief
Salmon River Volunteer Fire Department

10-11-05
Date

By: Bill Wisenor, Chief
White Bird Volunteer Fire Department

Date

By: Chuck Doty, Chief
Kamiah Rural Fire Department

11/30/05
Date

By: John W. Brandt, Chief
Stites Volunteer Fire Department

Date

By: Chris Bent, Chief
Secesh Volunteer Fire Department

12/11/05
Date

6.4.4 Representatives of Federal and State Agencies, and Companies

6.4.4 Representatives of Federal and State Agencies, and Companies

This Wildfire Mitigation Plan was developed in cooperation and collaboration with the additionally listed agencies and organizations. The entities listed below are not eligible to "formally adopt" this plan, but will strive to implement its recommendations.

Dave Summers — 10-20-05

By: Dave Summers — Date
Idaho Department of Lands

Jane A Cottrell — 11-14-05

By: Jane Cottrell, Forest Supervisor — Date
Nez Perce National Forest

Tom Reilly — 12/13/05

By: Tom Reilly, Forest Supervisor — Date
Clearwater National Forest

Greg M Yuncevich — 11/29/05

By: Greg Yuncevich — Date
Bureau of Land Management

11/30/05

By: Charles E. Doty, President — Date
Clearwater Resource Conservation and Development Council, Inc.

11 Oct 05

By: William E. Schlosser, Ph.D. — Date
Project Manager–Idaho County Wildfire Mitigation Plan, Lead Author, Northwest Management, Inc.

6.5 Resolutions of Adoption

The following resolutions have been adopted by the listed municipalities in Idaho County.

6.5.1 Resolution of the Commissioners of Idaho County, Idaho

#36

A resolution of the Commissioners of Idaho County declaring County support and adoption of the Idaho County Wildland-Urban Interface Wildfire Mitigation Plan, which includes the Wildland-Urban Interface Wildfire Mitigation Plan.

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

Whereas, The Idaho County Wildland-Urban Interface Wildfire Mitigation Plan and the Wildland-Urban Interface Wildfire Mitigation Plan will be utilized as a guide for planning as related to FEMA Pre-Disaster Mitigation, The National Fire Plan, The Healthy Forest Restoration Act, and other purposes as deemed appropriate by the Idaho County Commissioners,

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

Passed and approved this 11th Day of October, 2005.

Board of County Commissioners

Idaho County, Idaho

Randy K. Doman

By: Randy Doman, Chairperson
Idaho Board of County Commissioners

By: Alice Mattson
Idaho Board of County Commissioners

Jim Rehder

By: Jim Rehder
Idaho Board of County Commissioners

Ross E. Gehring

Attested by:
Clerk / Auditor / Recorder

6.6 Glossary of Terms

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 fireline 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 almost always 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 which affects the successional development of a plant community (examples: fire, insects, windthrow, 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 Clearcut 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 of time. (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 flareability 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 which are burned in a fire: duff, litter, grass, dead branchwood, snags, logs, etc.

Fuel Break - A natural or manmade change in fuel characteristics which 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 limbwood, 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 some 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 which 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 precommercial 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 wildlands.

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 flareable light 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 which 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 fireline has been established by wetting down the vegetation.

Wildland Fire - Any nonstructure 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-three stages of the WFIP completed while some 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 prestated 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.

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