Latah County, Idaho

Community Wildfire Protection Plan

Brady Gulch Fire near Kendrick – July 2007

2011 Revision

Adopted by the Latah County Board of Commissioners May 2011

This plan was developed by Latah County Community Wildfire Protection Plan committee in cooperation with the Latah County Fire Defense Board and Northwest Management, Inc. (Tel: 208-883-4488).

Acknowledgments

This Community Wildfire Protection Plan represents the efforts and cooperation of a number of organizations and agencies working together to improve preparedness for wildfire events while reducing factors of risk.

Moscow Rural Fire District
Troy Rural Fire Protection District
Genesee City & Rural Fire Department
Latah County Highway Districts
Kendrick Fire Department
Deary Rural Fire District

Bovill Rural Fire District
Potlatch Rural Fire District
Juliaetta Fire Department
Clearwater-Potlatch Timber Protective Association
Latah County Disaster Services
&
Local Businesses and Citizens of Latah County

To obtain copies of this plan contact:

Latah County Commissioners Office
Latah County Courthouse
522 South Adams
Moscow, Idaho 83843

Phone: 208-883-7208
Fax: 208-883-2280
Email: bocc@latah.id.us

Table of Contents

FORWARD **1**

CHAPTER 1 ..... **3**

OVERVIEW OF THIS PLAN AND ITS DEVELOPMENT **3**

GOALS AND GUIDING PRINCIPLES 3
- Planning Philosophy and Goals 3
- United States Government Accountability Office (GAO) 4
- State and Federal CWPP Guidelines 5

INTEGRATION WITH OTHER LOCAL PLANNING DOCUMENTS 5
- Latah County Multi-Hazard Mitigation Plan (2011) 6
- Latah County Comprehensive Plan 6
- Latah County Emergency Operations Plan 6
- Latah County Addressing Ordinance 6
- Latah County Land Use Ordinance 6
- Latah County Building Code Ordinance 7

CHAPTER 2 ..... **9**

DOCUMENTING THE PLANNING PROCESS **9**

DESCRIPTION OF THE PLANNING PROCESS 9

THE PLANNING TEAM 9
- Multi-Jurisdictional Participation 10

PLANNING COMMITTEE MEETINGS 11
- Committee Meeting Minutes 11

PUBLIC INVOLVEMENT 12
- News Releases 12
- Public Meetings 13
- Documented Review Process 15
- Continued Public Involvement 15

CHAPTER 3 ..... **17**

LATAH COUNTY CHARACTERISTICS **17**

GEOGRAPHY AND CLIMATE 17

POPULATION AND DEMOGRAPHICS 18
- Land Ownership 18

NATURAL RESOURCES 18
- Biota 19
- Hydrology 20
- Air Quality 20

CHAPTER 4 ..... **23**

RISK AND PREPAREDNESS ASSESSMENTS **23**

WILDLAND FIRE CHARACTERISTICS 23
- Weather 23
- Topography 23
- Fuels 24

WILDFIRE HAZARDS 24
- Fire History 24
- Wildfire Ignition Profile 26
- Wildfire Extent Profile 28

WILDFIRE HAZARD ASSESSMENT 29
- Historic Fire Regime 30
- Fire Regime Condition Class 31

LATAH COUNTY'S WILDLAND-URBAN INTERFACE 32
- Potential WUI Treatments 35

LATAH COUNTY CONDITIONS 36
- Overall Mitigation Activities 38
- Overview of Fire Protection System 40

FIRE PROTECTION ISSUES 53

Urban and Suburban Growth 53
Rural Fire Protection 53
Debris Burning 53
Pre-planning in High Risk Areas 54
Fire Service "No Man's Land" 54
Road and Bridge Standards 54
Wildland Fire Specific Building Regulations 55
Volunteer Firefighter Recruitment 55
Public Wildfire Awareness 55
Adoption of International Fire Code 55
Troy Watershed 56
CURRENT WILDFIRE MITIGATION ACTIVITIES 56
Community Emergency Response Team 56
North Central Idaho Fire Prevention Cooperative 56
Public Education Programs 56

CHAPTER 5 59

COMMUNITY FIRE RISK ASSESSMENTS 59

RANGELAND COMMUNITIES 59
Genesee 60
Kendrick and Juliaetta 61
Moscow 63
Potlatch, Onaway, and Princeton 64
FORESTLAND COMMUNITIES 66
Bovill 69
Deary and Helmer 70
Harvard 72
Moscow Mountain 73
Troy 76
Viola 77

CHAPTER 6 79

MITIGATION RECOMMENDATIONS 79

MAINTENANCE AND MONITORING 79
PRIORITIZATION OF MITIGATION ACTIVITIES 79
Policy and Planning Efforts 80
Fire Prevention and Education Projects 81
Infrastructure Enhancements 82
Resource and Capability Enhancements 83
Proposed Project Areas 86
Regional Land Management Recommendations 88

CHAPTER 7 89

SUPPORTING INFORMATION 89

LIST OF TABLES 89
LIST OF FIGURES 90
SIGNATURE PAGES 91
Latah County Board of Commissioners 91
Signatures of Participation by Latah County Fire Districts and Departments 92
Signatures of Participation by other Latah County Entities 93

Forward

The process of developing a Community Wildfire Protection Plan (CWPP) can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the wildland–urban interface on both public and private land. It also can lead community members through valuable discussions regarding management options and implications for the surrounding land base. Local fire service organizations help define issues that may place the county, communities, and/or individual homes at risk. Through the collaboration process, the CWPP planning committee discusses potential solutions, funding opportunities, and regulatory concerns and documents their resulting recommendations in the CWPP. The CWPP planning process also incorporates an element for public outreach. Public involvement in the development of the document not only facilitates public input and recommendations, but also provides an educational opportunity through interaction of local wildfire specialists and an interested public.

The idea for community-based forest planning and prioritization is neither novel nor new. However, the incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003. This landmark legislation includes the first meaningful statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. In order for a community to take full advantage of this new opportunity, it must first prepare a Community Wildfire Protection Plan (CWPP).

A countywide CWPP planning committee generally makes project recommendations based on the issue causing the wildfire risk, rather than focusing on individual landowners or organizations. Thus, projects are mapped and evaluated without regard for property boundaries, ownership, or current management. Once the CWPP is approved by the county board of commissioners, the planning committee will begin further refining proposed project boundaries, feasibility, and public outreach as well as seeking funding opportunities.

*The **Latah County Community Wildfire Protection Plan** was originally drafted in 2005 through a partnership with the Clearwater RC&D and the Bureau of Land Management with project facilitation and support provided by Northwest Management, Inc. In 2007, Latah County's CWPP planning committee and its partners completed an interim addendum to update proposed project information. The 2011 update of the Community Wildfire Protection Plan is a full review of the document with funding provided through a grant from the Federal Emergency Management Agency.*

The 2011 Community Wildfire Protection Plan expands on the wildfire chapter of the Latah County Multi-Hazard Mitigation Plan, which was also updated in 2011.

[This page intentionally left blank.]

Chapter 1

Overview of this Plan and its Development

This Community Wildfire Protection Plan (CWPP) for Latah County, Idaho, is the result of analyses, professional collaboration, and assessments of wildfire risks and other factors focused on reducing wildfire threats to people, structures, infrastructure, and unique ecosystems in Latah County. Agencies and organizations that participated in the planning process included:

- Bovill Rural Fire District
- City of Bovill
- City of Deary
- City of Genesee
- City of Juliaetta
- City of Kendrick
- City of Moscow
- City of Onaway
- City of Potlatch
- City of Troy
- Clearwater Resource Conservation and Development Council, Inc.
- Deary Rural Fire District
- Genesee City & Rural Fire Department
- Idaho Bureau of Homeland Security
- Idaho Department of Lands
- Juliaetta Volunteer Fire Department
- Kendrick Volunteer Fire Department
- Latah County Commissioners and County Departments
- Latah County Highway Districts
- Moscow Volunteer Fire Department and Rural Fire District
- Northwest Management, Inc.
- Potlatch Rural Fire District
- Troy Rural Fire District
- USDA Forest Service
- USDI Bureau of Land Management

Northwest Management, Inc. of Moscow, Idaho was selected to assist the planning committee by facilitating meetings, leading the assessments, and authoring the document. Sandy Rollins, Latah County Disaster Services, served as the lead for Latah County. The project co-managers from Northwest Management, Inc. were Mr. Vaiden Bloch and Mrs. Tera R. King.

Goals and Guiding Principles

Planning Philosophy and Goals

The goals of the planning process include integration with the National Fire Plan, the Healthy Forests Restoration Act, and the Disaster Mitigation Act. The plan utilizes the best and most appropriate science from all partners as well as local and regional knowledge about wildfire risks

and fire behavior, while meeting the needs of local citizens and recognizing the significance wildfire can have to the regional economy.

Mission Statement

To make Latah 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.

Vision Statement

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

Goals

1. To reduce the area of WUI land burned and losses experienced because of wildfires where these fires threaten communities in the wildland-urban interface
2. 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
3. Educate communities about the unique challenges of wildfire in the wildland-urban interface (WUI)
4. Establish mitigation priorities and develop mitigation strategies in Latah County
5. Strategically locate and plan fuel reduction projects
6. Provide recommendations for alternative treatment methods, such as brush density, herbicide treatments, fuel reduction techniques, and disposal or removal of treated fuels
7. Meet or exceed the requirements of the National Fire Plan and FEMA for a County level Fire Mitigation Plan

United States Government Accountability Office (GAO)

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. Although losses from fires made up only 2 percent of all insured catastrophic losses from 1983 to 2002, fires can result in billions of dollars in damages.

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.

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 (GAO 2005).

State and Federal CWPP Guidelines

This Community Wildfire Protection Plan will include compatibility with FEMA requirements for a Hazard Mitigation Plan, while also adhering to the guidelines proposed in the National Fire Plan, and the Healthy Forests Restoration Act (2004). This Community Wildfire Protection 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 (December 2006).
- Healthy Forests Restoration Act (2003).
- The Federal Emergency Management Agency's Region 10 guidelines for a Local Hazard Mitigation Plan as defined in 44 CFR parts 201 and 206, and as related to a fire mitigation plan chapter of a Multi-Hazard Mitigation Plan.
- National Association of State Foresters – guidance on identification and prioritizing of treatments between communities (2003).

The objective of combining these complementary 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 Latah County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

Additional information detailing the state and federal guidelines used in the development of the Latah County Community Wildfire Protection Plan is included in Appendix 6.

Integration with Other Local Planning Documents

During development of this Community Wildfire Protection Plan, several planning and management documents were reviewed in order to avoid conflicting goals and objectives. Existing programs and policies were reviewed in order to identify those that may weaken or enhance the mitigation objectives outlined in this document. The following sections identify and briefly describe some of the existing Latah County planning documents and ordinances considered during development of this plan.

Latah County Multi-Hazard Mitigation Plan (2011)

The Latah County Multi-Hazard Mitigation Plan (MHMP) covers each of the major natural and human-caused hazards that pose risks to the County. The primary objectives of the MHMP are to reduce the negative impacts of future disasters on the community, to enhance life safety, increase public awareness, protect natural systems, and build partnerships. The Plan is a planning document, not a regulatory document.

The MHMP meets FEMA's planning requirements by addressing hazards, vulnerability and risk. Hazard means the frequency and severity of disaster events. Vulnerability means the value, importance, and fragility of buildings and infrastructure. Risk means the threat to people, buildings and infrastructure, taking into account the probabilities of disaster events. Adoption of a mitigation plan is required for communities to remain eligible for future FEMA mitigation grant funds.

Latah County Comprehensive Plan

The Latah County Comprehensive Plan[1] is currently being revised. The existing Plan was adopted as last amended in 2004. The document outlines a pattern of growth for the County that is compatible with community traditions, values, and vision for the future. The Comprehensive Plan serves as a basis for ordinances and regulations that will achieve the overall goals identified through the active participation of county residents.

Latah County Emergency Operations Plan

The Latah County Emergency Operations Plan[2] – Basic Plan contains the procedures and guidelines for how the Emergency Operations Center and Incident Command System will interface during a disaster. The Basic Plan applies to all emergency response elements, government agencies, and disaster relief organizations and agencies supporting Latah County emergency operations.

Latah County Addressing Ordinance

In September of 2009, the Latah County Board of Commissioners adopted Ordinance #292 Uniform Rural Addressing[3] to set a uniform addressing system for all unincorporated portions of Latah County to assist with emergency response and various other services.

Latah County Land Use Ordinance

The Latah County Land Use Ordinance #269[4] sets out land use codes for Latah County in accordance with the Latah County Comprehensive Plan and Idaho Code including land use zones, regulations, and development standards.

---

[1] Latah County, Idaho. 2004. Latah County Comprehensive Plan. Latah County Board of Commissioners. Moscow, Idaho. Available online at www.latah.id.us.

[2] Latah County, Idaho. 2008. Latah County Emergency Operations Plan. Latah County Board of Commissioners. Moscow, Idaho. Available online at www.latah.id.us.

[3] Latah County, Idaho. 2009. Ordinance #292 Uniform Rural Addressing System. Latah County Board of Commissioners. Moscow, Idaho. Available online at www.latah.id.us.

Latah County Building Code Ordinance

The Latah County Building Code Ordinance #280[5] adopted the International Building Code, 2006 edition; the International Residential Code, 2006 edition, Parts I through VI and IX; the American National Standard Accessible and Usable Buildings and Facilities, ICC/ANSI A117.1, 2003 Edition; the International Mechanical Code, 2006 edition; the International Fuel Gas Code, 2006 Edition; the International Energy Conservation Code, 2006 edition; the International Existing Building Code, 2006 edition; the International Property Maintenance Code, 2006 edition; excluding all appendices thereto except as herein enumerated, are hereby adopted by Latah County for the regulation of the erection, construction, enlargement, alteration, repair, moving, conversion, occupancy, use, height, area and maintenance of all buildings and structures in Latah County, including installation of manufactured homes in accordance with the provisions of the Title 44, Chapter 22 Idaho Code. These Codes and regulations are hereby adopted by reference and shall be the Latah County Building Code.

---

[4] Latah County, Idaho. 2006. Latah County Land Use Ordinance #269. Latah County Board of Commissioners. Moscow, Idaho. Available online at www.latah.id.us.

[5] Latah County, Idaho. 2007. Latah County Building Code Ordinance #280. Latah County Board of Commissioners. Moscow, Idaho. Available online at www.latah.id.us.

[This page intentionally left blank.]

Chapter 2

Documenting the Planning Process

Documentation of the planning process, including public involvement, is necessary to meet FEMA's DMA 2000 requirements (44CFR§201.4(c)(1) and §201.6(c)(1)). This section includes a description of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how all of the involved agencies participated.

Description of the Planning Process

The Latah County Community Wildfire Protection Plan was developed through a collaborative process involving all of the organizations and agencies detailed in Chapter 1 of this document. The planning process included five 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 the wildfire hazard in and around Latah County.
2. **Field Observations and Estimations** about risks, location of structures and infrastructure relative to risk areas, access, and potential treatments.
3. **Mapping** of data relevant to pre-wildfire mitigation and treatments, structures, resource values, infrastructure, risk assessments, and related data.
4. **Facilitation of Public Involvement** from the formation of the planning committee to news releases, public meetings, public mail surveys, 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, provide ample review and integration of committee and public input, and signing of the final document.

The Planning Team

Leading the planning effort from Latah County was Sandy Rollins representing the Latah County Disaster Services. Additional partners included local communities, fire departments, law enforcement, federal and state agencies, and others.

Northwest Management Project Co-Managers were Vaiden Bloch, M.S., B.S. and Tera R. King, B.S. Mrs. King received a Bachelor of Science degree in natural resource management from the University of Idaho and Mr. Bloch has earned a Master of Science degree in forest products and a Bachelor of Science degree in forest management from the University of Idaho.

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal, state, and local 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 participants. When the public meetings were held, many of the committee members were in attendance and shared their support and experiences and their interpretations of the results.

Multi-Jurisdictional Participation

44 CFR §201.6(a)(3) calls for multi-jurisdictional planning in the development of Hazard Mitigation Plans which impact multiple jurisdictions. This Community Wildfire Protection Plan impacts the following jurisdictions:

- Latah County
- City of Bovill
- City of Deary
- City of Genesee
- City of Juliaetta
- City of Kendrick
- City of Moscow
- City of Onaway
- City of Potlatch
- City of Troy
- Unincorporated communities of Latah County
- Moscow Fire Department
- Troy Rural Fire Department
- Genesee City and Rural Fire Department
- Kendrick Fire Department
- Deary Rural Fire Department
- Bovill Rural Fire District
- Potlatch Rural Fire District
- Juliaetta Rural Fire District
- Idaho Department of Lands
- USDI Bureau of Land Management
- Clearwater RC&D
- USDA Forest Service
- Clearwater-Potlatch Timber Protective Association

These jurisdictions were represented on the planning committee and in public meetings either directly or through their servicing fire department or district. They 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 the following ways:

- Planning committee leadership visits to local group meetings (e.g. county departmental meetings, city council meetings, local emergency planning commission, planning commission meetings) where planning updates were provided and information was exchanged.
- One-on-one visits between the planning committee leadership and representatives of the participating jurisdictions (e.g. meetings with county commissioners, city councilors and/or mayors, fire district commissioners, or community leaders).
- Written correspondence between the planning committee leadership and each jurisdiction updating the participating representatives on the planning process, making requests for information, and facilitating feedback.

Like other areas of Idaho and the United States, Latah County's human resources have many demands placed on them in terms of time and availability. A few of the elected officials (county commissioners and city mayors) do not serve in a full-time capacity; some of them have other employment and serve the community through a convention of community service. Recognizing this and other time constraints, many of the jurisdictions decided to identify a representative 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.

Planning Committee Meetings

The following people participated in planning committee meetings, volunteered time, or responded to elements of the Latah County Community Wildfire Protection Plan's preparation.

NAME	ORGANIZATION
Alan Martinson	Latah County Disaster Services
Casey Strong	Idaho Department of Lands
Cliff Heimgartner	Juliaetta/Kendrick Fire Department
Dan Carscallen	City of Moscow and North Latah County Highway District
Dave McGraw	City of Troy
Dave Summers	Idaho Department of Lands
David Brown	City of Potlatch
David Duke	Moscow Police Department
Debi Ruppe	Idaho Bureau of Homeland Security
Diane Nagle	City of Onaway
Dick Hodge	Clearwater RC&D
Ed Button	Moscow Fire Department and Rural Fire District
Gary Nagle	Potlatch Rural Fire District
James Agidius	Latah County GIS Department
Janiece Atkins	City of Bovill
Jason Boal	Latah County Planning Department
Jason Svancara	Idaho Department of Lands
Kristen Sanders	Bureau of Land Management
Lisa Spinelli	US Forest Service, Palouse Ranger District
Michelle Fuson	Latah County Planning and Building
Mike McGee	Juliaetta/Kendrick Fire Department
Rhonda Bunney	Latah County Sheriff's Office
Sandy Rollins	Latah County Disaster Services
Steve Odenburg	City of Genesee
Tera King	Northwest Management, Inc.
Vaiden Bloch	Northwest Management, Inc.
Val Norris	Juliaetta/Kendrick Fire Department

Committee Meeting Minutes

Committee meetings were scheduled and held from January 2010 through June 2010. These meetings served to facilitate the sharing of information and to lay the groundwork for the Latah County CWPP. Northwest Management, Inc. as well as other planning committee leadership attended the meetings to provide the group with regular updates on the progress of the document and gather any additional information needed to complete the Plan.

Planning committee meeting minutes are included in Appendix 2.

Public Involvement

Public involvement 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.

News Releases

Under the auspices of the Latah County planning committee, periodic press releases were submitted to the *Moscow-Pullman Daily News*, the Latah Eagle, and the *Lewiston Morning Tribune*. Informative flyers were also distributed around town and to local offices within the communities by the committee members.

Figure 2.1. Sample Press Release.

Latah County Disaster Services
Latah County Courthouse
522 South Adams - - PO Box 8068
Moscow, Idaho 83843
Telephone (208) 883-2265 - FAX (208) 883-2288
e-mail address: srollins@latah.id.us

Media Release

From: Sandy Rollins, Latah County Disaster Services
Date: February 3, 2010
RE: Latah County Multi-Hazard Mitigation Plan Update

Latah County Set to Update Hazard Risk Plans

Latah County has launched a project to update the Latah County Multi-Hazard Mitigation Plan and the Community Wildfire Protection Plan. Local agencies and organizations in Latah County have created a committee to complete the required 5-year updates of these documents as part of the FEMA Pre-Disaster Mitigation program and National Fire Plan and Healthy Forests Restoration Act. The project is being funded through a FEMA grant.

The planning updates will include risk analyses, vulnerability assessments, and mitigation recommendations for the hazards of flood, landslide, severe weather, wildland fire, terrorism/civil unrest, and extended power outage.

Northwest Management, Inc. has been retained by Latah County to provide risk assessments, hazard mapping, field inspections, interviews, and to collaborate with the planning committee to update the Plans. The committee includes representatives from local communities, rural and wildland fire districts, Idaho Department of Lands, U.S Forest Service, Bureau of Land Management, highway districts, private landowners, area businesses, various Latah County departments, and others.

One of the goals of the planning process will be to increase the participating jurisdictions' eligibility for additional grants that will help minimize the risk and potential impact of disaster events. The planning team will be conducting public meetings to discuss preliminary findings and to seek public input on the Plans' recommendations. A notice of the dates and locations of these meetings will be posted in local newspapers. Once completed, the updated draft Plans will also be available for public review and comment. For more information on the Latah County Multi - Hazard Mitigation Plan and Community Wildfire Protection Plan updates, contact Sandy Rollins, Latah County Disaster Services, at 208-883-2265.

A record of articles published in local news media is included in Appendix 2.

Public Meetings

Public meetings were scheduled in several communities during the hazard assessment phase of the planning process to share information on the Plan, obtain input on the 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 schedule of public meetings in Latah County included three locations. They were attended by a number of individuals on the committee and from the general public. The public meeting announcement sent to the local newspapers, local citizen participation organizations, county departments, fire district representatives, and distributed by committee members is included below in Figure 2.2.

Figure 2.2. Public Meeting Flyer.

Latah County

Multi - Hazard Mitigation and Wildfire Protection Plan

Public Meetings!

March 16th: Deary - Community Center at 6:30

March 17th: Kendrick - Fire Station at 6:30 pm

March 18th: Moscow - Courthouse Basement at 6:30 pm

These public meetings will address the **Multi - Hazard Mitigation Plan** and **Community Wildfire Protection Plan** being updated for Latah County. The Plans' revision is required every 5 years and is being funded through a grant from FEMA. These meetings are open to the public and will include a slideshow presentation from Northwest Management, Inc and the planning team on the identified hazards and potential improvement and risk reduction projects in Latah County. Public input is being sought in order to better frame the region's efforts for hazard reduction projects, wildland fire protection, resource enhancements, and emergency preparedness.

Each meeting will last approximately 1 hour.

Cow Creek Flooding in Genesee - January 2010

Learn about the assessments for flood, landslides, severe weather, wildland fire, terrorism or civil unrest, and extended power outage in Latah County. Discuss ***YOUR*** priorities for how local communities can best reduce the impacts of these events.

Kendrick Fire 2007

For more information on the Latah County Multi-Hazard Mitigation Plan or Wildfire Protection Plan, please contact Latah County Disaster Services Coordinator, Sandy Rollins, at 208-883-2265.

Documented Review Process

Review and comment on this plan 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 the winter and spring of 2010, 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 and photographic collections, discussed general findings from the community assessments, and made recommendations on potential project areas.

The first draft of the document was prepared after the public meetings and presented to the committee on April 23rd, 2010 for a full committee review. The committee was given 1 month to provide comments to the plan.

Continued Public Involvement

Latah County is dedicated to involving the public directly in review and updates of this Community Wildfire Protection Plan. The Latah County Commissioners, working through the CWPP planning committee, are responsible for review and update of the plan as recommended in chapter 6 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 will be made available on the County's website. The Plan also includes the address and phone number of the Board of Commissioners, 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 planning committee. The meetings will provide the public a forum for which they can express its 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.

[This page intentionally left blank.]

Chapter 3

Latah County Characteristics

Information summarized from the Latah County Area, Idaho soil survey manuscript.[6]

Latah County, Idaho is in the southwestern part of the Idaho Panhandle and home of the University of Idaho. Major population centers in the area are Moscow, Bovill, Onaway, Deary, Genesee, Juliaetta, Kendrick, Potlatch, and Troy. A large part of this area is cultivated with the main crops being wheat, barley, and peas. Woodland areas are mostly in the higher rainfall zones in the northern and eastern regions. The western part of Latah County includes the dune-like topography of the Palouse hills. Dissecting the loess-covered plains are deep canyons along the Potlatch River and its tributaries on the southern end of the county. Most of these canyons are forested. Rangeland predominates on south-facing slopes near Juliaetta and Kendrick. Elevation ranges from about 1,000 feet above sea level along the Potlatch River to about 5,000 feet. Wooded ridges and low mountains occur above the loess-covered plain along Paradise Ridge, Tomer Butte, and the Palouse Range and in the northern part of the soil survey area. The highest elevation in Latah County is Moscow Mountain, which is 4,983 feet above sea level.

Geography and Climate

Adapted from the 2005 Latah County Multi-Hazard Mitigation Plan.[7]

Latah County is located in northern Idaho and covers about 1,077 square miles. The geography, topography, climate, and other natural attributes such as vegetation vary significantly across Latah County. The geographic diversity of Latah County is an important factor to consider in wildfire mitigation planning.

The climate in Latah County is moderate. The highest average daily temperature occurs in July and is approximately 84 degrees Fahrenheit (F). The lowest average daily temperature occurs in January and is approximately 24 degrees (F). The average annual rainfall is about 24 inches. Average monthly precipitation varies from about 1 inch in July and August to approximately 2.8 inches in November and December. Average annual snowfall is about 48 inches.

---

[6] Barker, Raymond J. 1981. United States Department of Agriculture Soil Conservation Service. University of Idaho, College of Agriculture. Idaho Soil Conservation Commission.

[7] Schlosser, W.E. and V.P. Corrao. 2005. Latah County, Idaho, All Hazards Mitigation Plan; Volume I. Northwest Management, Inc., Moscow, Idaho. June 20, 2005. Pp. 174.

Population and Demographics

Latah County reported a total population of 34,935 in 2000 with approximately 13,838 housing units. The 2009 Census Bureau population estimate for Latah County is 38,046.[8] Latah County has nine incorporated communities; Moscow (pop. 21,291), Potlatch (pop. 791), Deary (pop. 552), Troy (pop. 798), Juliaetta (pop. 609), Kendrick (pop. 369), Bovill (pop. 305), Onaway (pop. 230), and Genesee (pop. 965). The total land area of the county is roughly 1,076.89 square miles (689,209.6 acres).

The City of Moscow contains more than 60% of Latah County's total population. Other incorporated cities in Latah County contain approximately 13% of the County's population. The remaining population (approximately 27%) is scattered in small communities and in rural areas throughout the area.

Land Ownership

A relatively large percentage of the county is privately owned. Private parcels are becoming more and more expensive as the population grows and more property is developed. This factor combined with the highly variable topography throughout the county is expected to produce significantly higher demands on privately held land in the future.

Table 3.1. Ownership Categories in Latah County

Landowner	Acres	Percent
Private	404,682	58.7%
Forest Industry	126,701	18.4%
US Government	108,285	15.7%
State	35,577	5.2%
University	9,856	1.4%
Highway	2,100	0.3%
City	1,990	0.3%
Railroad	665	0.1%
Latah County	493	0.1%
School District	296	0.0%

Natural Resources

Latah 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. Nearly a century of wildland fire suppression coupled with past land-use practices (primarily timber harvesting and agriculture) has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. As a result, some forests in Latah County have become more susceptible to large-scale, high-intensity fires posing a threat to life, property, and natural resources including wildlife and plant populations. High-intensity, stand-replacing fires have the potential to seriously damage soils, native vegetation, and fish and wildlife populations. In addition, an increase in the number of large, high-intensity fires throughout the nation's forest

[8] U.S. Census Bureau. 2010. Annual Estimates of the Resident Population of Idaho. CO-EST2009-01-16 Population Division, U.S. Census Bureau.

and rangelands has resulted in significant safety risks to firefighters and higher costs for fire suppression.

Biota

Fish and Wildlife – Latah County is home to a diverse array of fish and wildlife species. Latah County streams provide habitat for salmon and steelhead, including populations that are listed as threatened under the federal Endangered Species Act. Forestlands and interface areas are important habitat for many species of birds and mammals.

Vegetation - In the early 1800s (pre-European settlement), the landscape in Latah County was strikingly different than that which is seen today. Conditions mirrored those found throughout the Palouse region and northern Idaho. At that time the major vegetation types which occurred in the area were prairie grasslands, meadows, riparian forest and wetlands, open woodland and upland forest. Open grasslands dominated the vegetation throughout the western portion of Latah County. Isolated groves of trees within this area were primarily ponderosa pine and Douglas-fir. Throughout the central portion of the County forested lands intermingled with meadows and prairies ultimately giving way to a forest dominated landscape throughout the eastern portion of the County. The forested areas contained a wide diversity of tree species the most predominant of which were ponderosa pine, Douglas-fir, lodgepole pine, western larch, western white pine, grand fir, and western red cedar.

Vegetation in Latah County is a mix of forestland, riparian, and agricultural ecosystems. An evaluation of satellite imagery of the region provides some insight to the composition of the vegetation of the area. The most represented vegetated cover type is agricultural land at approximately 28% of the total area. The next most common vegetation cover type represented is foothills grassland at 12%. Mixed mesic forests represent approximately 12% of the total area as well (Table 3.8).

Table 3.2. Vegetative Cover Types in Latah County

Land Cover	Acres	Percent of Total Area
Agricultural Land	190,819	28%
Foothills Grassland	81,752	12%
Mixed Mesic Forest	80,584	12%
Western Red Cedar/Grand Fir Forest	54,989	8%
Warm Mesic Shrubs	42,176	6%
Douglas-fir	37,596	5%
Mixed Xeric Forest	33,271	5%
Grand Fir	31,320	5%
Ponderosa Pine	30,815	4%
Western Hemlock	18,853	3%
Douglas-fir/Grand Fir	16,934	2%
Cloud	10,910	2%
Lodgepole Pine	9,511	1%
Shrub Dominated Riparian	6,940	1%
Mixed Needleleaf/Broadleaf Forest	4,385	1%
Douglas-fir/Lodgepole Pine	4,340	1%
Western Red Cedar/Western Hemlock	3,829	1%
Needleleaf/Broadleaf Dominated Riparia	3,593	1%

Table 3.2. Vegetative Cover Types in Latah County		
Land Cover	**Acres**	**Percent of Total Area**
Mixed Riparian (Forest and Non-Forest)	3,378	<1%
Western Larch	3,147	<1%
Needleleaf Dominated Riparian	2,792	<1%
Urban	2,584	<1%
Mixed Barren Land	2,574	<1%
Western Larch/Douglas-fir	2,393	<1%
Other cover types	8,385	~1%
Total	**687,874**	**100%**

Hydrology

Latah County is one of Idaho's fastest growing regions and depends heavily on groundwater for private wells, public drinking water, irrigation, industrial operations, and other beneficial uses.

The Idaho Water Resource Board (IWRB) 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.[9] The Idaho Department of Water Resources has prepared General Lithologies of the Major Ground Water Flow Systems in Idaho. The majority of Latah County has not been designated by the IWRB as a ground water system. 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.

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.[10]

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, the Organization for Air Quality Protection Standards (OAQPS) is responsible for setting the NAAQS standards 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.[11]

---

[9] IDEQ (Idaho Department of Environmental Quality). 2003. Rules of the Department of Environmental Quality, IDAPA 58.01.02, "Water Quality Standards and Wastewater Treatment Requirements". Idaho Administrative Code (3-20-97), IDAPA 58.01.02, Boise, Idaho.

[10] USDA-Forest Service (United States Department of Agriculture, Forest Service). 2000. Incorporating Air Quality Effects of Wildland Fire Management into Forest Plan Revisions – A Desk Guide. April 2000. – Draft.

[11] Louks, B. 2001. Air Quality PM 10 Air Quality Monitoring Point Source Emissions; Point site locations of DEQ/EPA Air monitoring locations with Monitoring type and Pollutant. Idaho Department of Environmental Quality. Feb. 2001. As GIS Data set. Boise, Idaho.

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in 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. 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.

Due principally to local wind patterns, air quality in Latah County is generally good, rarely falling below IDEQ pollution standards. Emissions from motor vehicles are the primary and most persistent cause of the degradation of local air and noise quality. Occasional intrusions of smoke from field and slash burning and the use of wood stoves also occur.

[This page intentionally left blank.]

Chapter 4

Risk and Preparedness Assessments

Wildland Fire Characteristics

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, the topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we 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 control or affect how fires burn.

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

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.

Topography

Fires burning in similar fuel types, will burn differently under varying topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influences 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. 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. The combination of light fuels and dry sites leads to fires that typically display the highest rates of spread. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant role in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

Fuels

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

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

Wildfire Hazards

In the 1930s, wildfires consumed an average of 40 to 50 million acres per year in the contiguous United States, according to US Forest Service estimates. By the 1970s, the average acreage burned had been reduced to about 5 million acres per year. Over this time period, fire suppression efforts were dramatically increased and firefighting tactics and equipment became more sophisticated and effective. For the 11 western states, the average acreage burned per year since 1970 has remained relatively constant at about 3.5 million acres per year.

The severity of a fire season can usually be determined in the spring by how much precipitation is received, which in turn determines how much fine fuel growth there is and how long it takes this growth to dry. These factors, combined with the annual wind events drastically increase the chance a fire start will grow and resist suppression activities. Furthermore, harvest operations are typically also occurring throughout the months of August and September. Occasionally, harvesting equipment causes an ignition that can spread into populated areas and timberlands.

Fire History

Fire was once an integral function within 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.[12] The fires burned from 1 to 47 years apart, with most at 5- to 20-year intervals.[13] With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age.[14] 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 throughout Latah County.

Flannigan Creek Fire

High temperatures and low fuel moisture levels were the prelude to a fire that began outside a building on Flannigan Creek Road east of Viola on the north side of Moscow Mountain. The fire that began on July 30th, 2003 destroyed five homes.

The fire started outside a shop building and quickly spread to the structure and to nearby dry grass and trees (actual cause and origin is being litigated). The fire also ignited a nearby residential structure and continued spreading to the nearby ridge eventually burning nearly 200 acres of timber and grassland. As the fire moved into the forestland, it spread through an urban-interface environment that contained a variety of homesites with differing levels of defensible space.

The Idaho Department of Land as well as several Latah County rural fire districts struggled to contain the rapidly spreading fire. Local law enforcement officials assisted the effort by evacuating 30 homes in the vicinity of the blaze.

As the fire continued to spread, the incident was eventually classified as a high priority fire for Pacific Northwest aircraft fire suppression resources. This priority classification allowed the assignment of five fixed-wing aircraft (large aerial tankers to single engine air tankers) and three helicopters. It has been generally recognized that the use of these aerial fire suppression resources were instrumental in the control of the Flannigan Creek Fire.

Brady Gulch Fire

The Brady Gulch Fire, also name the Kendrick Fire in the State fire reporting system, was human caused. The fire started along Highway 3 around midday July 31st, 2007 and burned 120 acres directly adjacent to the town of Kendrick. The Kendrick Fire Department responded along the Highway and requested assistance from the Idaho Department of Lands, Deary Rural Fire District, and Troy Rural Fire District. The fuels type consisted of dry grasses and brush on a steep slope, which caused the fire to spread rapidly uphill from Kendrick towards Brady Gulch. The rural fire districts successfully suppressed the fire along the highway and kept it from spreading into town. Due to the poor access in the area and a high rate of spread, the IDL

---

[12] Johnson, C.G. 1998. Vegetation Response after Wildfires in National Forests of Northeastern Oregon. 128 pp.

[13] Barrett, J.W. 1979. Silviculture of ponderosa pine in the Pacific Northwest: the state of our knowledge. USDA Forest Service, General Technical Report PNW-97. Pacific Northwest Forest and Range Experiment Station, Portland, OR. 106 p.

[14] Johnson, C.G.; Clausnitzer, R.R.; Mehringer, P.J.; Oliver, C.D. 1994. Biotic and Abiotic Processes of Eastside Ecosytems: the Effects of Management on Plant and Community Ecology, and on Stand and Landscape Vegetation Dynamics. Gen. Tech. Report PNW-GTR-322. USDA-Forest Service. PNW Research Station. Portland, Oregon. 722pp.

ordered multiple aircraft and additional hand crews. As the fire advanced upslope, command used aerial resources to direct the fire away from homes as much as possible. Hand crews were used to construct fireline from the Highway along the flanks of the fire. As the sun set, the rate of spread slowed and the fire was contained by midnight. During the first operational period, 6 air tankers, 5 helicopters, and one air attack platform were assigned to the fire. There were also engines from 5 area fire districts, the IDL, and the Nez Perce Tribe. Crews were ordered from IDL offices in Deary and Orofino, the Bureau of Land Management, and the Forest Service.

Wildfire Ignition Profile

In interpreting these data, it is important to keep in mind that this information is for Idaho Department of Lands (IDL) protected lands only and does not include all fires in areas covered only by local fire departments.

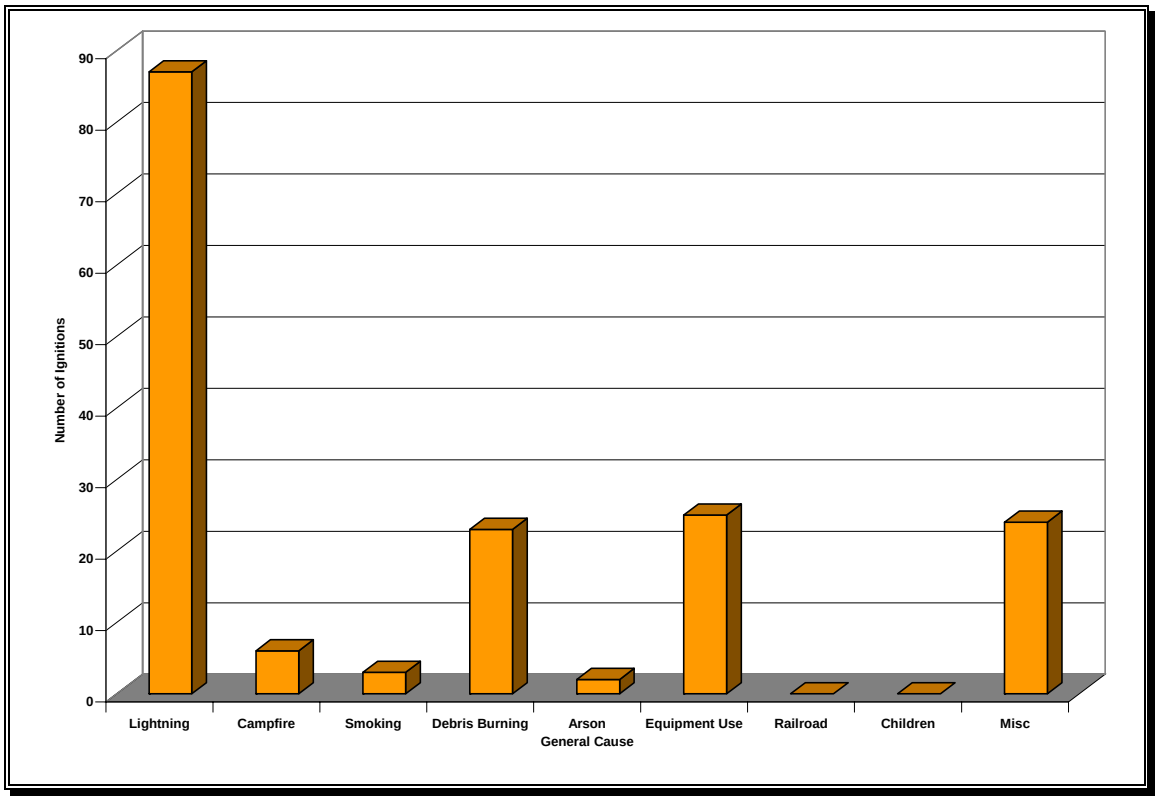
Using data on past fire extents and fire ignition compiled by the IDL, the occurrence of wildland fires in the region of Latah County has been evaluated. The IDL database of wildfire ignitions used in this analysis includes ignition and extent data from 1999 through 2009 within their jurisdiction. An analysis of the IDL reported wildfire ignitions in Latah County reveals that during this period approximately 2,179 acres burned as a result of 170 ignitions, which results in an average of 16.1 acres burned per fire.

Table 4.1. Summary of IDL database 1999-2009.

General Cause	Number of Ignitions	Percent of Total Ignitions	Acres Burned	Percent of Total Acres
Lightning	87	51%	101	4%
Campfire	6	4%	9	0%
Smoking	3	2%	0	0%
Debris Burning	23	14%	786	29%
Arson	2	1%	903	33%
Equipment Use	25	15%	412	15%
Railroad	0	0%	-	0%
Children	0	0%	-	0%
Miscellaneous	24	14%	518	19%
Total	**170**	**100%**	**2,729**	**100%**

Within the IDL protection area 49% of the fires during this period were human-caused with the majority of the ignitions resulting from equipment use and debris burning. Although only a small percentage of fires are started by arson, during this period, arson resulted in the most acres burned (33%). Debris burning resulted in the second most acres burned at 29%. Most of the fires caused by debris burning are suppressed quickly. It is also noteworthy that lightning accounts for 51% of the total ignitions in Latah County, but only contributes about 4% of the total acres burned. This statistic is testament to success of the initial attack capabilities of the IDL and its mutual aid partners.

Figure 4.1. Wildfire Ignitions within IDL Protection Area 1999-2009.



Ideally, historical fire data would be used to estimate the annual probability for fires in the wildland-urban interface areas of Latah County. However, current data does not appear adequate to make credible calculations because the data for local, state, and federal responsibility areas are not reported by the same criteria. Nevertheless, the data reviewed above provides a general picture regarding the level of wildland-urban interface fire risk within Latah County.

There are several reasons why the fire risk may be higher than suggested above, especially in developing wildland-urban interface areas.

1) Large fires may occur infrequently, but statistically they will occur. One large fire could significantly change the statistics. In other words, 10 years of historical data may be too short to capture large, infrequent wildland fire events. On average, Latah County experiences a 50 plus acre wildfire every other year.

2) The level of fire hazard depends profoundly on weather patterns. A several year drought period would substantially increase the probability of large wildland fires in Latah County. For smaller vegetation areas, with grass, brush and small trees, a much shorter drought period of a few months or less would substantially increase the fire hazard.

3) The level of fire hazard in wildland-urban interface areas is likely significantly higher than for wildland areas as a whole due to the greater risk to life and property. The probability of fires starting in interface areas is much higher than in wildland areas because of the much higher population density. Most wildland or interface fires have human sources of ignition. Thus, the probability of a given acre burning is probably higher in interface areas than for the wildland areas of Latah County as a whole.

Wildfire Extent Profile

Across the west, wildfires have been increasing in extent and cost of control. Data summaries for 2000 through 2006 are provided and demonstrate the variability of the frequency and extent of wildfires nationally.

Table 4.2. National Fire Season Summaries.

Statistical Highlights	2000	2001	2002	2003	2004	2005	2006
Number of Fires	122,827	84,079	88,458	85,943	77,534	66,753	96,385
10-year Average ending with indicated year	106,393	106,400	103,112	101,575	100,466	89,859	87,788
Acres Burned	8,422,237	3,555,138	6,937,584	4,918,088	6,790,692	8,689,389	9,873,745
10-year Average ending with indicated year	3,786,411	4,083,347	4,215,089	4,663,081	4,923,848	6,158,985	6,511,469
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	$876 million	--

The National Interagency Fire Center maintains records of fire costs, extent, and related data for the entire nation. Tables 4.2 and 4.3 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. According to these data, the total number of fires is trending downward while the total number of acres burned is trending upward. Since 2000 there has been a significant increase in the number of acres burned.[15]

Table 4.3. Total Fires and Acres 1980 - 2008 Nationally.

Year	Fires	Acres	Year	Fires	Acres
2008	68,594	4,723,810	**1994**	114,049	4,724,014
2007	85,822	9,321,326	**1993**	97,031	2,310,420
2006	96,385	9,873,745	**1992**	103,830	2,457,665
2005	66,753	8,689,389	**1991**	116,953	2,237,714
2004	77,534	6,790,692	**1990**	122,763	5,452,874
2003	85,943	4,918,088	**1989**	121,714	3,261,732
2002	88,458	6,937,584	**1988**	154,573	7,398,889
2001	84,079	3,555,138	**1987**	143,877	4,152,575
2000	122,827	8,422,237	**1986**	139,980	3,308,133
1999	93,702	5,661,976	**1985**	133,840	4,434,748
1998	81,043	2,329,709	**1984**	118,636	2,266,134
1997	89,517	3,672,616	**1983**	161,649	5,080,553
1996	115,025	6,701,390	**1982**	174,755	2,382,036
1995	130,019	2,315,730	**1981**	249,370	4,814,206
			1980	234,892	5,260,825

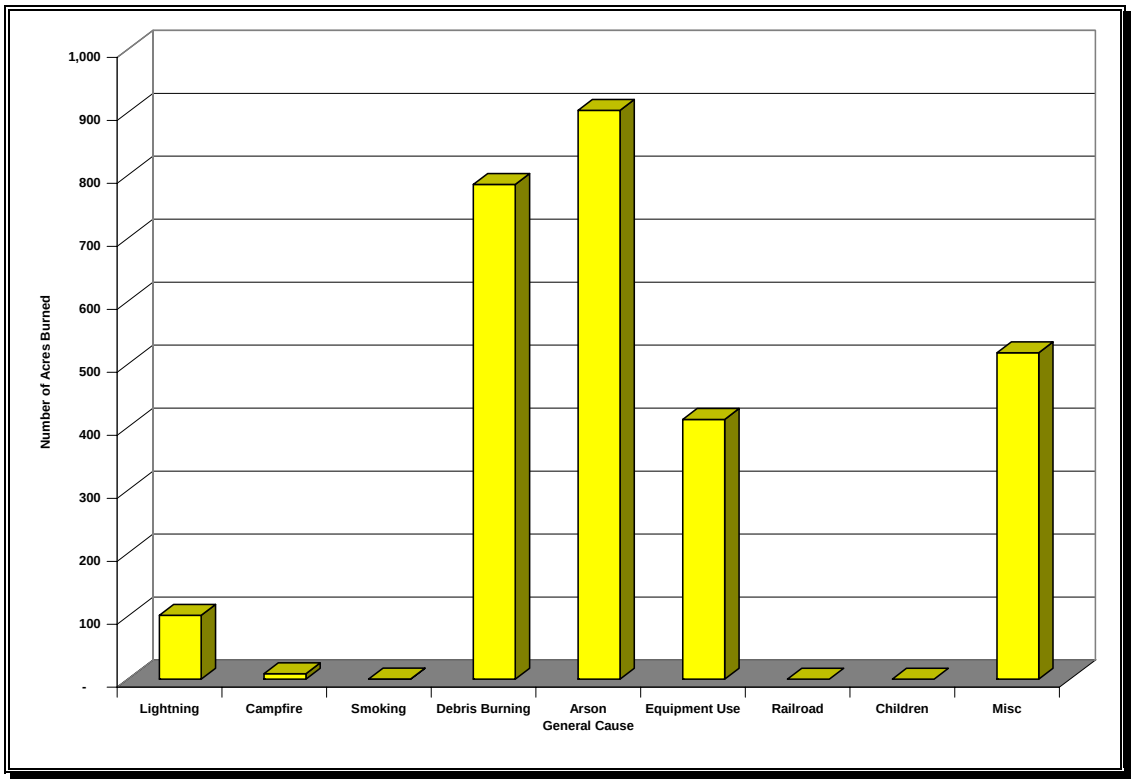
These statistics are based on end-of-year reports compiled by all wildland fire agencies after each fire season. The agencies include: Bureau of Land Management, Bureau of Indian Affairs, National Park Service, US Fish and Wildlife Service, Forest Service, and all state agencies.

[15] National Interagency Fire Center. 2008. Available online at http://www.nifc.gov/.

The fire suppression agencies in Latah County respond to numerous wildland fires each year, but few of those fires grow to a significant size. According to national statistics, only 2% of all wildland fires escape initial attack. However, that 2% accounts for the majority of fire suppression expenditures and threatens lives, properties, and natural resources. These large fires are characterized by a size and complexity that require special management organizations drawing suppression resources from across the nation. These fires create unique challenges to local communities by their quick development and the scale of their footprint.

Latah County has experienced high impact wildland fires that have threatened structures and infrastructure within their wildland urban interface; however, there has not been a large wildfire event in the last 50 years. This does not mean that the county is at low risk. In fact, many of the fire professionals in Latah County believe the question is not "if" there will be a large fire in this area; it is "when." If Latah County experienced a wildfire similar in scale to the recent Cascade Complex in Valley County, Idaho (2007) or the Castle Rock Fire in Blaine County, Idaho (2007), it would have a severe impact on the region and local communities. It is important that regional planners as well as local residents understand what has happened in the past in order to be more effective in the future when preparing for the inevitable.

Figure 4.2. Acres burned within IDL Protection Area 1999-2009.



Wildfire Hazard Assessment

Latah County was analyzed using a variety of models, managed on a Geographic Information System (GIS) system. Physical features of the region including roads, streams, soils, elevation, and remotely sensed images were represented by data layers. Field visits were conducted by specialists from Northwest Management, Inc. and others. Discussions with area residents and local fire suppression professionals augmented field visits and provided insights into forest

health issues and treatment options. This information was analyzed and combined to develop an objective assessment of wildland fire risk in the region.

Historic Fire Regime

Historical variability in fire regime is a conservative indicator of ecosystem sustainability, and thus, understanding the natural role of fire in ecosystems is necessary for proper fire management. Fire is one of the dominant processes in terrestrial systems that constrain vegetation patterns, habitats, and ultimately, species composition. Land managers need to understand historical fire regimes, the fire return interval (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. Historical fire regimes are a critical component for characterizing the historical range of variability in fire-adapted ecosystems. 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.

Table 4.4. Historic Fire Regimes in Latah County.

Historic Fire Regime	Description	Acres	Percent of Area
Fire Regime Group I	<= 35 Year Fire Return Interval, Low and Mixed Severity	75,712	11%
Fire Regime Group II	<= 35 Year Fire Return Interval, Replacement Severity	95,517	14%
Fire Regime Group III	35 - 200 Year Fire Return Interval, Low and Mixed Severity	439,674	64%
Fire Regime Group IV	35 - 200 Year Fire Return Interval, Replacement Severity	66,554	10%
Fire Regime Group V	> 200 Year Fire Return Interval, Any Severity	3,162	0%
Water	Water	126	0%
Barren	Barren	836	0%
Sparsely Vegetated	Sparsely Vegetated	0	0%
Indeterminate Fire Regime Characteristics	Indeterminate Fire Regime Characteristics	7,065	1%

The table above shows the amount of acreage in each defined fire regime in Latah County. The historic fire regime model in Latah County shows that much of the forested areas in the central and eastern regions of the County historically had an approximate 35-200 year fire return interval and typically experienced low and mixed severity fires. In contrast, much of western Latah County, which is primarily agricultural fields or rangeland, historically experienced much more frequent fires (less than 35 year intervals) and were stand replacing fires. Much of the canyonlands north of Juliaetta and Kendrick as well as areas near Potlatch also experienced mostly stand replacing fires; however, the return interval was slightly longer at 35 to 200 years.

A map of Historic Fire Regimes in Latah County as well as an explanation of how the data were derived is included in Appendices 1 and 3, respectively.

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.[16, 17] Coarse scale definitions for historic fire regimes have been developed by Hardy et al[18] and Schmidt et al[19] and interpreted for fire and fuels management by Hann and Bunnell.

A fire regime condition class (FRCC) is a classification of the amount of departure from the historic regime. [20] 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.[21,22] 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.

An analysis of Fire Regime Condition Classes in Latah County shows that a significant portion of the county that is not in agriculture is moderately departed (47%) from its historic fire regime and associated vegetation and fuel characteristics. In most scenarios, the more departed an area is from its natural fire regime, the higher the wildfire potential; however, this is not true 100% of the time.

Table 4.5. Fire Regime Condition Classes in Latah County.

Condition Class	Acres	Percent of Area
Fire Regime Condition Class I	67,396	10%
Fire Regime Condition Class II	322,560	47%
Fire Regime Condition Class III	40,664	6%
Water	126	0%
Urban	16,366	2%
Barren	836	0%
Sparsely Vegetated	0	0%
Agriculture	240,699	35%

[16] Agee, J. K. Fire Ecology of the Pacific Northwest forests. Oregon: Island Press. 1993.

[17] Brown. J. K. "Fire regimes and their relevance to ecosystem management." *Proceedings of Society of American Foresters National Convention*. Society of American Foresters. Washington, D.C. 1995. Pp 171-178.

[18] Hardy, C. C., et al. *"Spatial data for national fire planning and fuel management."* International Journal of Wildland Fire. 2001. Pp 353-372.

[19] Schmidt, K. M., et al. *"Development of coarse scale spatial data for wildland fire and fuel management."* General Technical Report, RMRS-GTR-87. U.S. Department of Agriculture, Forest Service. Rocky Mountain Research Station. Fort Collins, Colorado. 2002.

[20] Hann, W. J. and D. L. Bunnell. "Fire and land management planning and implementation across multiple scales." International Journal of Wildland Fire. 2001. Pp 389-403.

[21] Hardy, C. C., et al. *"Spatial data for national fire planning and fuel management."* International Journal of Wildland Fire. 2001. Pp 353-372.

[22] Schmidt, K. M., et al. *"Development of coarse scale spatial data for wildland fire and fuel management."* General Technical Report, RMRS-GTR-87. U.S. Department of Agriculture, Forest Service. Rocky Mountain Research Station. Fort Collins, Colorado. 2002.

Most of the forestlands in Latah County are in Condition Class II likely due to aggressive fire suppression activities since the early 1900s. Much of the Moscow Mountain area, particularly on the northern side, is considered a Condition Class I. This area is primarily owned by industrial forestland owners or the University of Idaho. Active forest management by these owners has effectively mimicked historic wildfire cycles and kept these forests in a more natural condition.

A map depicting Fire Regime Condition Class as well as a more in-depth explanation of FRCC is presented in Appendices 1 and 3, respectively.

Latah County's Wildland-Urban Interface

The wildland-urban interface (WUI) 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.

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 such as houses. The WUI encompasses not only the interface (areas immediately adjacent to urban development), but also the surrounding vegetation and topography. Reducing the hazard in the wildland-urban interface requires the efforts of federal, state, and local agencies and private individuals.[23] "The role of [most] federal agencies in the wildland-urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical experience. Structural fire protection [during a wildfire] in the wildland-urban interface is [largely] the responsibility of Tribal, state, and local governments".[24] The role of the federal agencies in Latah County is and will be much more limited. 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.[25] 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 treated will be less likely to sustain a crown fire that enters or originates within it.[26]

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing existing defensible space, landowners can 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;

---

[23] Norton, P. Bear Valley National Wildlife Refuge Fire Hazard Reduction Project: Final Environmental Assessment. Fish and Wildlife Services, Bear Valley Wildlife Refuge. June 20, 2002.

[24] USFS. 2001. United States Department of Agriculture, Forest Service. Wildland Urban Interface. Web page. Date accessed: 25 September 2001. Accessed at: http://www.fs.fed.us/r3/sfe/fire/urbanint.html

[25] USFS. 2001. United States Department of Agriculture, Forest Service. Wildland Urban Interface. Web page. Date accessed: 25 September 2001. Accessed at: http://www.fs.fed.us/r3/sfe/fire/urbanint.html

[26] Norton, P. Bear Valley National Wildlife Refuge Fire Hazard Reduction Project: Final Environmental Assessment. Fish and Wildlife Services, Bear Valley Wildlife Refuge. June 20, 2002.

- 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;[27]
- improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

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

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

In addition to these classifications detailed in the Federal Register, Latah County has included four additional classifications to augment these categories:

- **Rural Condition** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.
- **High Density Urban Areas** – those areas generally identified by the population density consistent with the location of incorporated cities, however, the boundary is not necessarily set by the location of city boundaries or urban growth boundaries; it is set by very high population densities (more than 7-10 structures per acre).
- **Infrastructure Area WUI** – those locations where critical and identified infrastructure is located outside of populated regions and may include high tension power line corridors, critical escape or primary access corridors, municipal watersheds, and areas immediately adjacent to facilities in the wildland such as radio repeater towers.
- **Non-WUI Condition** – a situation where the above definitions do not apply because of a lack of structures in an area or the absence of critical infrastructure. This classification is not considered part of the wildland-urban interface.

In summary, the designation of areas by the Latah County planning committee includes:

[27] McCoy, L. K., et all. Cerro Grand Fire Behavior Narrative. 2001.

- Interface Condition: WUI
- Intermix Condition: WUI
- Occluded Condition: WUI
- Rural Condition: WUI
- Infrastructure Areas: WUI
- High Density Urban Areas: WUI
- Non-WUI Condition: Not WUI, but present in Latah County

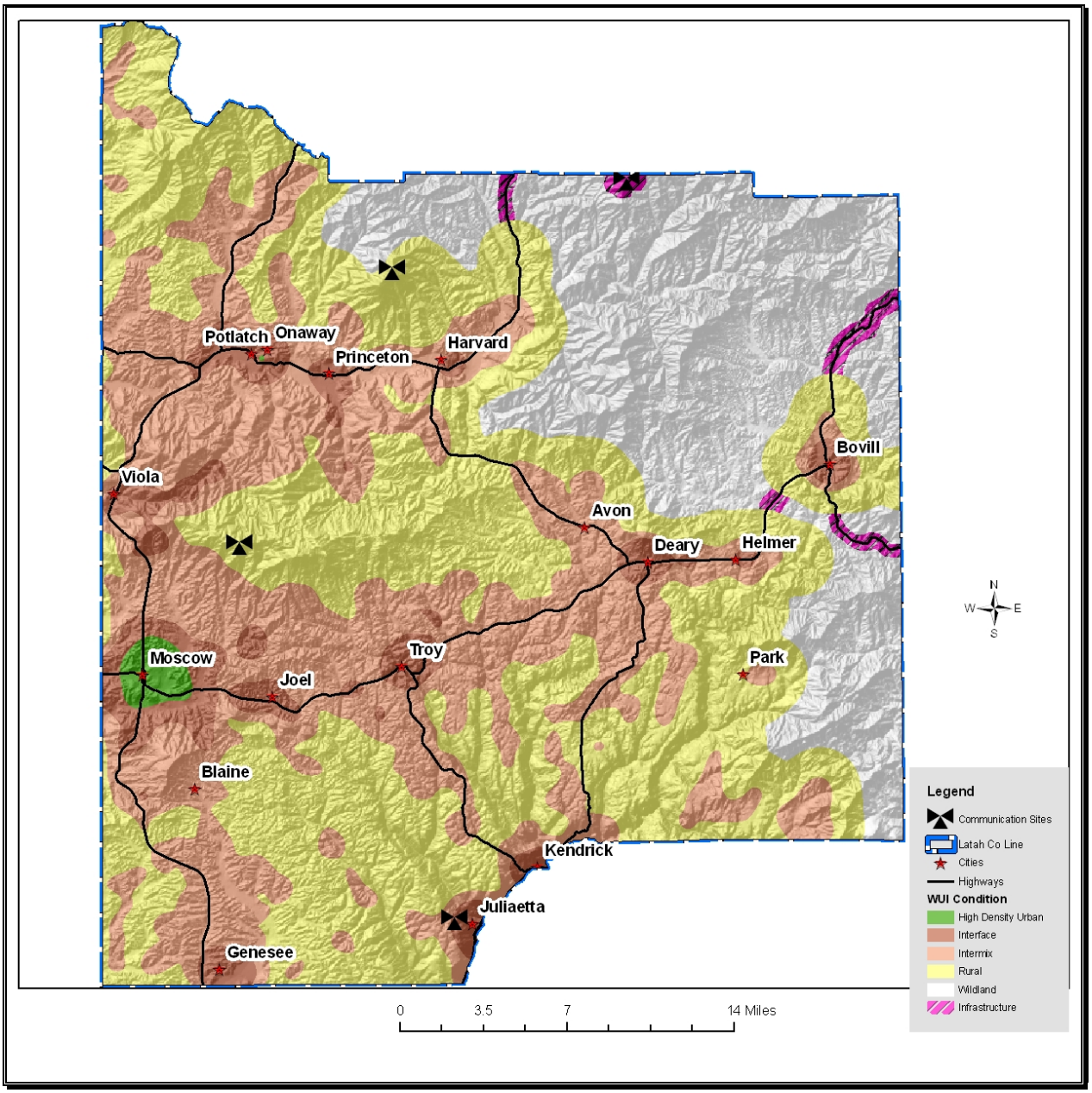
Latah County's wildland-urban interface (WUI) is based on population density. Relative population density across the county was estimated using a GIS based kernel density population model that uses object locations to produce, through statistical analysis, concentric rings or areas of consistent density. To graphically identify relative population density across the county, structure locations are used as an estimate of population density. Aerial photography was used to identify structure locations in 2005. This existing structure layer was updated in 2010 using 2009 NAIP imagery for Latah County. The resulting output identified the extent and level of population density throughout the county. Based on committee review and discussion, the output was adjusted to include areas of significant infrastructure and to incorporate gaps along important transportation routes. The updated and revised population density model output was adopted as the WUI for Latah County, Idaho.

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

The WUI, as defined here, is unbiased and consistent, allows for edge matching with other counties, and most importantly – it addresses all of the county, not just federally identified communities at risk. It is a planning tool showing where homes and businesses are located and the density of those structures leading to identified WUI categories. It can be determined again in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities. It uses a repeatable and reliable analysis process that is unbiased.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the county or reservation when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. The Latah County Community Wildfire Protection Plan planning committee evaluated a variety of different approaches to determining the WUI for the county and selected this approach and has adopted it for these purposes. In addition to a formal WUI map for use with the federal agencies, it is hoped that it will serve as a planning tool for the county, the Oregon Department of Forestry, and local fire districts.

Figure 4.3. Wildland Urban Interface in Latah County, Idaho.



Potential WUI Treatments

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

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

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

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

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

Latah County Conditions

Vegetative structure and composition within the central and eastern portion of Latah 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 communities of the west to the forested ecosystems of the east. Highly variable topography coupled with dry, windy weather conditions typical of the region contribute to the potential for large fire development.

The transition between developed agricultural land and timberlands occurs abruptly, usually along distinct land use and property boundaries. In the higher, mountainous areas, moisture becomes more abundant due to a combination of higher precipitation and reduced solar radiation. Vegetative patterns shift from forested communities dominated by ponderosa pine, western larch, and Douglas-fir at the lower elevations to grand fir, western white pine and lodgepole pine at the higher elevations. Engelmann spruce and western red cedar are commonly found in moist draws and frost pockets.

Forested areas dominated by ponderosa pine or Douglas-fir tend to be quite dry, as they typically inhabit south and west aspects where the drying effect of the sun and the wind create conditions favorable for shade-intolerant species. Light grass fuels and the abundance of pine needles cast from overstory trees contribute to the fine fuel loads along the forest floor. Fires in the dry ponderosa pine and mixed species forests tend to burn at reduced rates of spread relative to open

range and agricultural areas due to the shielding of the wind by overstory trees. However, in areas of low stocking, there may not be a significant wind reduction factor, allowing fire to be pushed more rapidly through the surface fuels. If regular forest tending has kept surface fuel loading and ladder fuels to a minimum, fires in these dry forest types will generally remain on the surface. However, if heavy surface fuel loads and abundant understory regeneration is present, fires in these dry forest types can burn at high intensities, leading to torching of large mature trees. These conditions present significant control problems for suppression resources and can pose a significant threat to homes in the fire path

Fire suppression often depends on two important factors: availability of fire suppression resources and access. Fire suppression resources include firefighting personnel, equipment and apparatus as well as water and chemical fire suppressants. The greater the availability of fire suppression resources, the more likely it is that a given fire will be contained quickly. Fire suppression also depends on access. Fires in remote areas without ground access are more difficult to fight and thus harder to contain than are fires in roaded areas. Access and effective response is partially a function of land management objectives. Lands managed for natural conditions where roads have not been built or the existing roads have been obliterated tend to have a much poorer fire suppression response than commercial forestlands where road systems are maintained.

Because wildland fires are being effectively suppressed, the patterns and characteristics of fires are changing. Vegetation that historically would have been minimized by frequent fires has become more dominant. Over time, some species have also become more susceptible to disease and insect damage, which leads to an increase in mortality. The resulting accumulation of dead wood and debris creates the types of fuels that promote intense, rapidly spreading fires.

Decades of logging and fire suppression have also changed the characteristics of forests, trending towards younger forest stands. Mature forests are typically less dense, and contain larger more fire-resistant trees. Young forests are denser with larger numbers of small, less fire-resistant trees. Younger trees have thinner bark and may sustain more economic damage than an older stand.

Areas subject to wildland-urban interface fires have very different fire hazard characteristics. The defining characteristic of the wildland-urban interface area is that structures are built in areas with essentially continuous (and often high) vegetative fuel loads. When wildland fires occur in such areas, they tend to spread quickly and structures in these areas may, unfortunately, become little more than additional fuel sources for wildland fires. The placement of homes in wildland urban interface settings has also changed over time. Historically pioneering families built their homes in low lands, close to water and the fields they intended to work. Within the last 50 years, rural homes have increasingly been built in locations chosen because of the view or other amenities. Thus, many newer homes are in locations more difficult to defend against wildland fires.

Fire risk to structures and occupants in wildland-urban interface areas is high due to high vegetative fuel loads and limited fire suppression resources compared to urban or suburban areas. Homes in wildland-urban interface areas are most commonly on wells rather than on municipal water supplies, which limits the availability of water for fire suppression. Less availability of water resources makes it more likely that a small wildland fire or a single structure fire will spread before it can be extinguished.

In many areas of Latah County, narrow winding roads, dead end driveways, and inadequate bridges impede access by firefighting apparatus. As with water supplies, the lower availability of firefighting personnel and apparatus and longer response times increase the probability that a small wildland fire or a single structure fire will spread.

Developments in wildland-urban interface areas often face high fire risk because of the combination of high fire hazard (high vegetative fuel loads) and limited fire suppression capabilities. Unfortunately, occupants in many wildland-urban interface areas also face high safety risks, especially from large fires that may spread quickly. The safety risks in interface areas are often exacerbated by limited numbers of roads (in the worst case only one access road) that are often narrow and winding and subject to blockage by a wildland fire.

Potential safety issues within interface areas are often increased by homeowners' reluctance to evacuate homes quickly. Instead, homeowners often try to protect their homes with whatever fire suppression resources are available. Such efforts generally have very little effectiveness. Unfortunately, homeowners who delay evacuation often place themselves in jeopardy.

Developments in rural wildland-urban interface areas face a range of risk factors. Developments that have all or most of the following attributes are at the highest level of risk:

1) Location in or surrounded by heavy fuel loads with a high degree of continuity (i.e. few significant firebreaks). Risk may be particularly high if the fuel load is grass, brush, and smaller trees subject to low moisture levels in short duration drought periods.
2) Steep slopes, which cause fires to spread more rapidly.
3) Limited fire suppression capacity including limited water supply capacity for fire suppression purposes, limited firefighting personnel and apparatus, and typically long response times for fire alarms.
4) Limited access for firefighting apparatus and limited evacuation routes for residents at risk.
5) Construction of structures to less than fully fire-safe practices,
6) Lack of maintenance of firebreaks and defensible zones around structures.

Overall, the threat of wildland fire appears moderate for Latah County. This is in large part because of the levels of rain and snowfall which helps to minimize the period of time the County is most susceptible to severe wildfires. However, for portions of Latah County, depending on conditions in specific developments in wildland-urban interface areas, the threat may be moderate to high, especially during periods of drought.

Overall Mitigation Activities

There are many actions that will help improve safety in a particular area; there are also many mitigation activities that can apply to all residents and all fuel types. General mitigation activities that apply to all of Latah County are discussed below while area-specific mitigation activities are discussed within the strategic planning area assessments.

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 and can take many forms. Traditional "Smokey Bear" type campaigns that spread the message passively

through signage can be effective. Interpretive signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can also be effective.

Active prevention techniques can involve mass media, radio, and the local newspapers. Fire districts in other Counties have contributed to the reduction in human-caused ignitions by printing a weekly "run blotter," similar to a police blotter, in the paper. The blotter briefly describes the fire response calls for the week and is followed by a "tip of the week" to reduce the threat from wildland and structure fires. The federal government and the Idaho Department of Lands have been champions of prevention, and could provide ideas for such tips. When fire conditions are high, brief public service messages could warn of the hazards of misuse of fire or any other ignition sources.

Limiting Use. Areas within the IDL protection district boundary are also subject to public use restrictions, referred to as "Regulated Use", during fire season in an attempt to limit, or manage use of activities known to cause fires. Fire departments typically observe the State of Idaho's closed fire season between May 10 and October 20. During this time, an individual seeking to conduct any type of burning shall obtain a permit to prescribe 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.

Defensible Space. Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Latah County must be made aware that home defensibility starts with the homeowner. Once a fire has started and is moving toward a structure, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the building. *"Living with Fire, A Guide for the Homeowner"* is an excellent tool for educating homeowners on the steps to take in order to create an effective defensible space. Residents of Latah 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, forest management efforts must be considered to slow the approach of a fire that threatens a community.

Evacuation. Development of community evacuation plans is necessary and critical 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. Community safety zones should also be established in the event safe evacuation is impossible and 'sheltering in place' becomes the better option. Efforts should be made to educate homeowners through existing homeowners associations or citizen participation organizations.

Access. Also of vital importance is the accessibility of homes to emergency apparatus. The fate of a home will often be determined by homeowner actions prior to the event. A few simple guidelines such as widening or pruning along driveways and creating a turnaround area for large vehicles, can greatly enhance home survivability.

Facility Maintenance. Recreational facilities near communities or in the surrounding forests such as parks or natural areas should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape-resistant fire rings and barbeque pits should be installed and maintained. In some cases, restricting campfires during dry periods may be necessary. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting pre-commercial thinning, pruning and limbing, and possibly controlled burns.

Fire District Response. 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.

Development Standards. Furthermore, county policies can be revised to provide for more fire conscious techniques such as using fire resistant construction materials; improved road, driveway, and bridge standard, establishment of permanent water resources, and adoption of a WUI building code.

Other Mitigation. Other actions to reduce fire hazards are thinning and pruning timbered areas, creating a fire resistant buffer along roads and power line corridors, and strictly enforcing fire-use regulations. Ensuring that areas beneath power lines have been cleared of potential high risk fuels and making sure that the buffer between the surrounding forest lands is wide enough to adequately protect the poles as well as the lines is imperative.

Overview of Fire Protection System

Mutual aid agreements have been made between each of the local fire districts and the Idaho Department of Lands to supplement resources of a fire agency or district during a time of critical need. Mutual aid is given only when equipment and resources are available. On wildland fires, fire districts typically provide initial attack resources until the Idaho Department of Lands assumes command of the incident.

The city of Moscow and all its emergency response organizations is dispatched by Whitcom. The remainder of Latah County is dispatched by the Latah County Sheriff's Office.

Local Fire Department and District Summaries

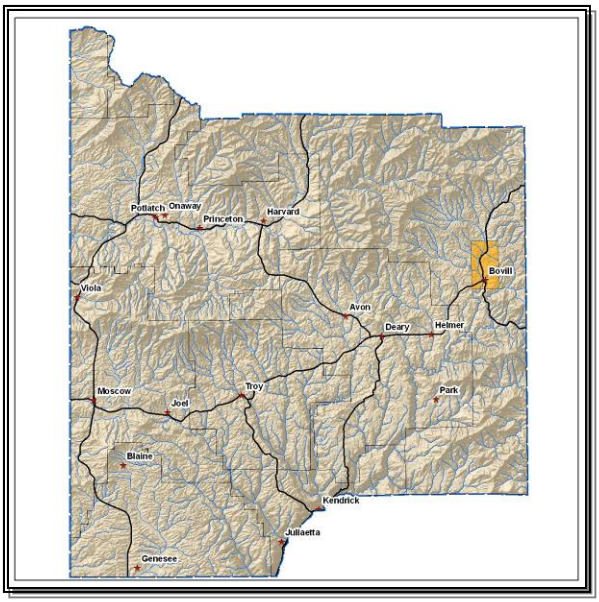
The firefighting resources and capabilities information provided in this section is a summary of information provided by the fire chiefs or representatives of the wildland firefighting agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. These synopses indicate their perceptions and information summaries.

Appendix 5 contains contact information and a complete equipment list for each of the following fire service organizations.

Bovill Rural Fire District

District Summary: Bovill Fire Protection District is a town-based volunteer organization housed in station built in 2003. The District is managed by the Chief who reports to three fire district commissioners. The Bovill Fire Protection District responds to structural and wildland fires in a 9 square mile service area. Currently, the incident capacity is one structural fire as large as approximately 20,000 square feet. The recovery requirements are refilling water tanks, refueling, refilling SCBA tanks (Deary), rolling up water hoses, drying out equipment, and going over procedures and status of members involved.

The District responds to fire and rescue emergency and is staffed by 18-24 volunteer firefighters. The Deary Ambulance Service provides full medical response to the area. All firefighters are required to be trained to NFPA Firefighter 1 and EMS First Responder levels. The rescue squad vehicle serves as an emergency medical quick response unit.



The District has a mutual aid agreement with Deary Rural Fire District and the Clearwater-Potlatch Timber Protective Association.

Issues of Concern: Inadequate access into new and existing structures in the rural area continues to be problematic for the District, particularly the lack of standards and a maintenance program for private bridges.

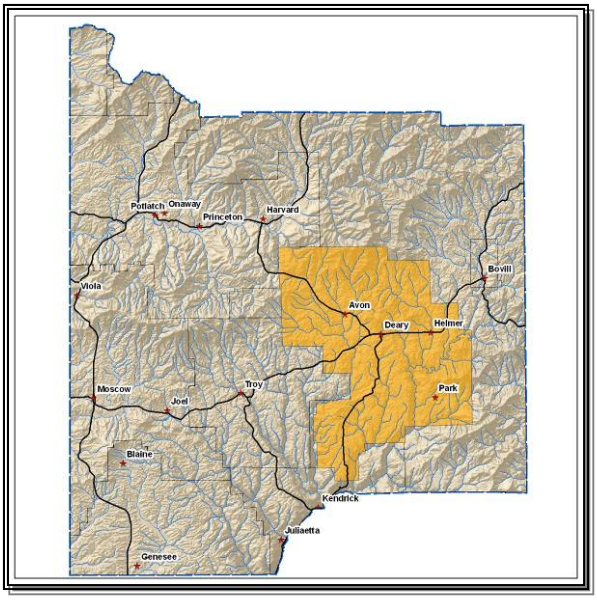
Due to the District's reliance on volunteer help, maintaining a viable work force is always difficult. New recruits are rare and the availability of day time responders is limited.

Deary Rural Fire District

District Summary: Deary Fire District is a volunteer organization housed in a 2 bay 50' x 100' station with attached meeting hall and kitchen and a second facility being constructed that is a 3-bay 52’ x 50’ station with an office to follow in the near future. The Department is managed by three elected fire district commissioners and a fire chief. Deary responds to structural and wildland fires. Currently the incident capacity is one single family incident or a small grass fire and the recovery takes one to two hours.

The District responds to all types of emergencies including fire, medical, and rescue and is staffed by 20-25 volunteer firefighters. All firefighters are required to be trained to NFPA Firefighter 1 and about half are trained to at least the EMS First Responder levels. The rescue squad vehicle serves as an emergency medical quick response unit and the Deary ambulance provides full emergency ambulance service.

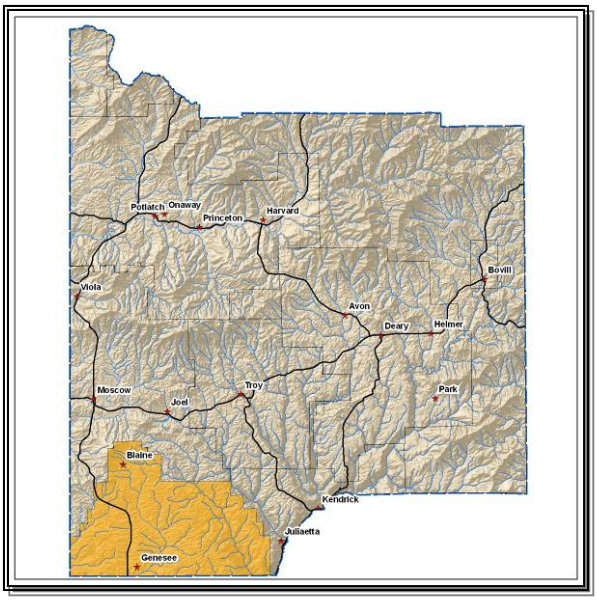
Issues of Concern: Risk in the Deary area is isolated to the north end of Deary, where wildland fuels mix with residential development on the flanks of Potato Hill. Some of these homes have been built with materials that are unfavorable for survival of a wildland fire event. Use of cedar shake roofing material was noted in the area. The combination of this highly flammable roofing material and the dry forest type increases the probability of structural loss. Furthermore, access to some homes may be difficult due to narrow roads and lack of adequate turn-arounds.



Residential living and the proximity to travel corridors in the area present innumerable ignition sources. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are all potential ignition sources. Equipment use in forest management and agricultural practices also increases the probability of ignitions in the area. Power line fires from tree contact can also spark fires, especially during windy conditions.

Genesee City and Rural Fire Department

District Summary: Genesee Volunteer Fire Department is a volunteer organization housed in a 2 bay building, which stores 3 vehicles per bay, and is managed by board of directors comprised of the volunteers. The City of Genesee and the Genesee Fire District provides annual funding for the organization. Genesee responds to structural, agricultural, and vehicle fires. Currently the incident capacity is two single family incidents or one large incident and recovery takes one half hour to approximately one hour.



The District currently has 25 volunteers. The responders are on an on-call basis with the station unmanned most of the time. Building and equipment maintenance is largely provided by the volunteers.

Issues of Concern: Genesee is surrounded entirely by agricultural fields, with little native vegetation in the vicinity. The few patches of timber in the area are usually associated with home sites and pose very little direct threat to homes and resources within the area.

Juliaetta and Kendrick Volunteer Fire Departments

District Summary: The communities of Kendrick and Juliaetta are located within the steep Potlatch River canyon along the southern boarder of Latah County. The Juliaetta and Kendrick City Fire Departments often operate jointly via an Automatic Mutual Aid agreement and are known as J-K Fire. The Departments also have mutual aid agreements with other fire agencies and organizations in Latah and Nez Perce Counties depending on the availability of manpower and equipment.

The Juliaetta Volunteer Fire Department is an all volunteer department covering the corporate city limits of Juliaetta. The Juliaetta VFD responds to residential, commercial and industrial structural fires, motor vehicle accidents, HAZMAT incidences and assists Juliaetta-Kendrick Ambulance at their request. Current capacity is two small incidents or one major incident with approximately ½ to one hour recovery time. The Juliaetta Department currently has approximately 20 volunteers.

Kendrick Volunteer Fire Department is an all volunteer fire service created in 1949 and housed in a 4 bay hall located within the city of Kendrick. The primary service response area is within the city limits of Kendrick and identified impact zones surrounding the city. The Department responds to wildland and residential fires, commercial and industrial fires, motor vehicle accidents, and HAZMAT incidences. It also assists J-K Ambulance at their request for medical, helicopter, rescue operations, and vehicle extrication.

Several pieces of rolling stock and other equipment are jointly owned and operated by the Juliaetta and Kendrick Fire Departments.

Issues of Concern: Most areas have some southerly aspect, resulting in hot, dry conditions. The thin soils in the area also have very low moisture retention ability, resulting in dry vegetative species composition. The combination of steep slopes, south aspects, and xeric species results in a landscape that is very prone to wildfires.

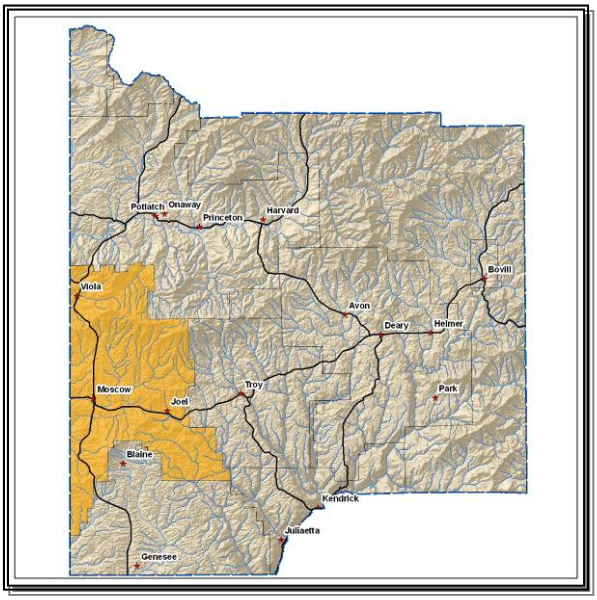
Both departments struggle with changing state and federal communication requirements (interoperability) due to budget constraints for new equipment.

Both fire departments are currently limited to response within their respective city limits; however, they often respond to calls in the surrounding areas. This is not only an extreme liability for the departments, it also detracts from the departments' ability to serve its paying customers. The Juliaetta and Kendrick Fire Departments have repeatedly attempted to organize a rural fire district to cover areas outside the city limits, but have met resistance from residents who are effectively already getting the service for free to the detriment of the cities and the departments.

City of Moscow Volunteer Fire Department & Moscow Rural Fire Department

District Summary: The Moscow Volunteer Fire Department (MVFD) serves residents within the city limits of Moscow and Moscow Rural Fire Department covers the surrounding area. The Moscow Rural Fire District is closely aligned with the Moscow Volunteer Fire Department. A clarification of the relationship is necessary since there is a great deal of overlap in the two organizations in terms of response to fires, equipment, and personnel within and outside the Rural Fire District and Moscow city limits.

Many of the same personnel serve both organizations; all volunteers in the Rural Fire District must first join the Moscow Volunteer Fire Department (city) and complete its recruit firefighter training program before being eligible to join the Rural Fire District Firefighter Company. The close relationship between the two organizations is demonstrated by the fact that the Fire Chief and "on-duty" command staff of the Moscow Volunteer Fire Department also serves as Fire Chief and command staff for the Moscow Rural Fire District.



The MVFD has approximately 90 to 100 firefighters and ambulance company volunteers, who own and operate the Department as unpaid emergency response professionals; while providing the community with a Class 3 fire insurance rating. The MVFD also maintains, at the expense of the Volunteers: a Student-Resident Firefighter program staffed by 22 to 24 full-time University of Idaho students. They live in three fire stations at no-charge in exchange for firefighting and other station duties. The existence of this program allows our Volunteer department to maintain an excellent in-town response time. The MVFD Ambulance Company provides services that are 100% owned and supported by the Volunteers who have purchased four ambulances and all other needed medical equipment and supplies. One item of note, the MVFD's Ambulance Company is the first volunteer group in the State of Idaho to become licensed to provide Paramedic service.

The Moscow Volunteer Fire Department operates with two repeated radio frequencies that are transmitted from Moscow Mountain. Frequency one is used for dispatching and initial fire department and ambulance operations. The second repeated frequency is used for tactical purposes during fire and EMS operations. The MVFD is also equipped with a third unrepeated tactical frequency and radio-to-radio direct communications. These communications channels provide a variety of communications options for use during community emergencies.

All MVFD personnel are equipped with either a hand-held radio or personal pager to alert them to emergency dispatches. The MVFD is equipped for interoperability and narrow-band operations as required by the federal government.

The Moscow Rural Fire District provides fire suppression response for a 128 square mile area surrounding the city of Moscow. The District is comprised of agriculture land, housing sub-

divisions, wildland-urban interface, mountainous forest lands and several legs of Idaho State highway. The Rural Fire District is governed by three elected fire district commissioners and administered by a Fire Chief.

The Rural Fire District shares apparatus space with the Moscow Volunteer Fire Department at the Administrative Headquarters which is located at Fire Station #3: 229 Pintail Lane in Moscow. The District also maintains its own fire station at the 1420 White Avenue in Moscow next to the Moscow Volunteer Fire Department's fire training/Station #2 facilities. The incident capacity is two incidents: one large and one small with a recovery time of one hour.

The Moscow Rural Fire District has cooperative mutual-aid agreements with all other surrounding fire districts/fire departments; and, serves an initial response function within the forest lands of the District in cooperation with the Idaho Department of Lands.

Issues of Concern: Residential growth in Moscow is occurring through a combination of expansion into surrounding agricultural properties and development of previously open spaces within the city limits. Development includes multi-family apartment structures focusing on university students and single-family structures within designated housing developments. It is predicted that future expansion of residential growth or expansion of the city limits will eventually require a fourth fire station. Residential growth has seen the development of homes (many very large) within the wildland-urban interface as well. These structures are usually accompanied by the challenge of poor access, lack of water supply and high wildland fuel loads near residential structures and out-buildings.

The major communications problem occurs with the existence of "dead-zones" where radio communications cannot access radio repeaters. The Rural Fire District is attempting to purchase a portable repeater device as well as additional hand-held radios to improve communications.

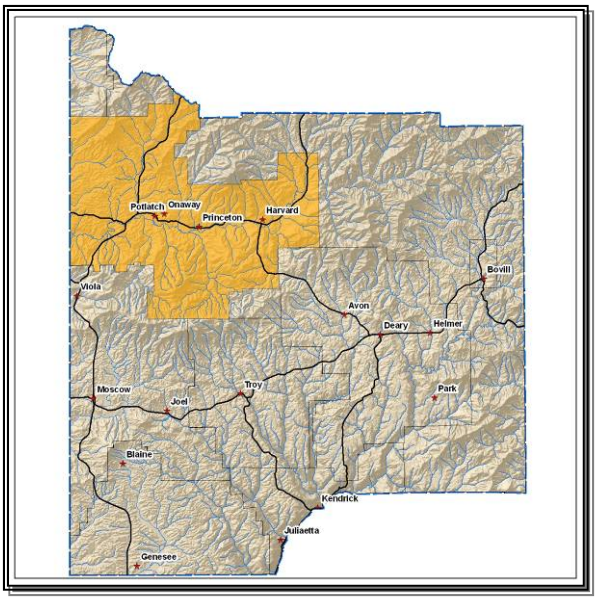
Potlatch (Palouse Valley) Rural Fire District

District Summary: Potlatch Rural Fire District is a volunteer organization housed in a single story building (85'x 50') and managed by three elected fire district commissioners and the fire chief. The station has a meeting room, storage area, four equipment bays. Potlatch responds to structural, agricultural, industrial, and vehicle fires. Currently the incident capacity is one single family incident or two small grass fires and the recovery takes one half hour to approximately one hour.

Potlatch Rural Fire District has mutual aid agreements with Palouse, Moscow, Farmington, Deary, Idaho Department of Lands, and Bennett Lumber Fire Department. There is also a Whitman/Latah Countywide agreement.

The District currently has approximately 36 volunteers that provide a combination of fire suppression and EMS services.

Issues of Concern: There is scattered development outside the community centers of Potlatch, Onaway, and Princeton particularly along Rock Creek Road, East Rock Creek Road, and Dobyn Lane in the Potlatch-Onaway area and along Bear Creek Road outside Princeton. Homes' defensibility in these areas could be further augmented, although there are few highly hazardous areas. Additionally, many of the access roads in the District are too narrow and have inadequate turnarounds for fire apparatus. Address markers in rural areas are often difficult to see or missing.

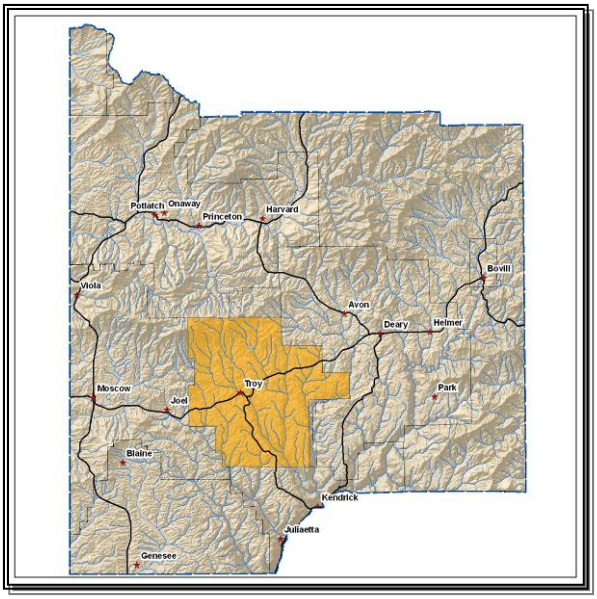


There are individual homes that are at much higher risk to wildland fire loss in the area largely due to use of highly ignitable materials in home construction or because of the lack of defensible space surrounding the home. Home defensibility practices can dramatically increase the probability of home survivability. The amount of fuel modification necessary will depend on the specific attributes of the site. In most cases, maintaining a clean and green lawn or clearing weeds and grasses away from structures is sufficient for protection in lighter fuels.

Troy Rural Fire District

District Summary: Troy Volunteer Fire Department is a volunteer organization housed in a 2 bay 70' x 120' station with attached 30' x 30' meeting hall and kitchenette. The organization is managed by a 3 elected fire district commissioners and a fire chief. The department responds to wildland fires, structure fires, medical and rescue calls.

The City of Troy and the fire district owns the equipment and building. Both the city and district provide annual operating funds for the volunteer department. Currently the incident capacity is one single structure or one medium sized wildland fire and the recovery takes one half hour to approximately one hour.



The District currently has between 35 and 40 volunteer firefighters and 10 volunteer emergency medical technicians. All firefighters are required to be trained to NFPA Firefighter level and all EMTs are trained to EMT basic levels with 3 trained to an EMT advanced level.

Issues of Concern: The overall risk to the community of Troy is quite low, with isolated areas of moderate risk where outside the community center along Randall Flat Road, Dutch Flat Road and toward Tamarack Road. Risk is elevated in these areas by lack of defensible space, poor access and presence of dry pine fuels. However, the risk is throughout the area is scattered and could be easily mitigated by adopting a number of defensible space measures.

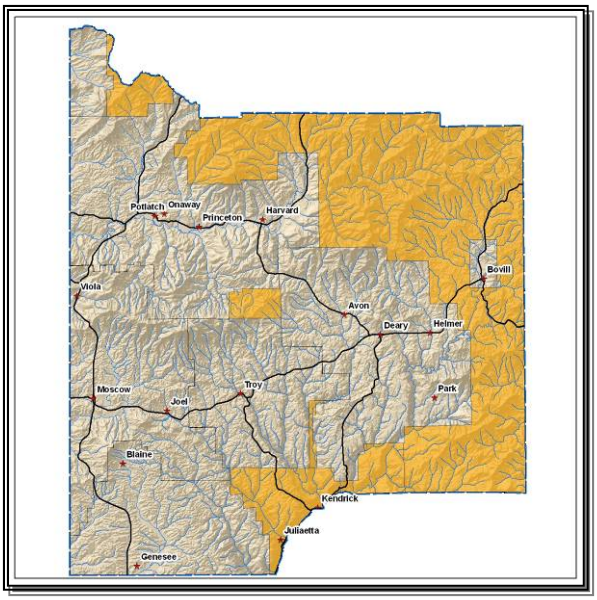
The Troy Fire Department is also in need of new and updated handheld radios to help reduce some of the communication issues.

USDA Forest Service – Clearwater National Forest, Palouse Ranger District

District Summary: The Idaho Department of Lands, based in Deary, and Clearwater-Potlatch Timber Protective Association based in Elk River, provide wildland fire protection services to lands managed by the Palouse Ranger District. The District does maintain a fire cache at its compound in Potlatch.

Idaho Department of Lands

District Summary: The Idaho Department of Lands Ponderosa Fire Protection District has wildland fire protection responsibilities for forested lands throughout most of Latah County and the northernmost part of Nez Perce County. Forestland in the eastern portion of Latah County is protected by the Clearwater-Potlatch Timber Protection Association out of Orofino and Elk River. The fire cache at the Ponderosa office in Deary maintains 23 line-certified firefighters, 3 Type 5 engines, and other miscellaneous equipment. The IDL issues state burn permits for Latah County.



Ponderosa FPD has assisted in establishing a common radio frequencies and a working communications network with other fire agencies and organizations in the area. The IDL also has cooperative agreements with most of the rural fire districts in Latah County and is working on agreements with several of the city departments.

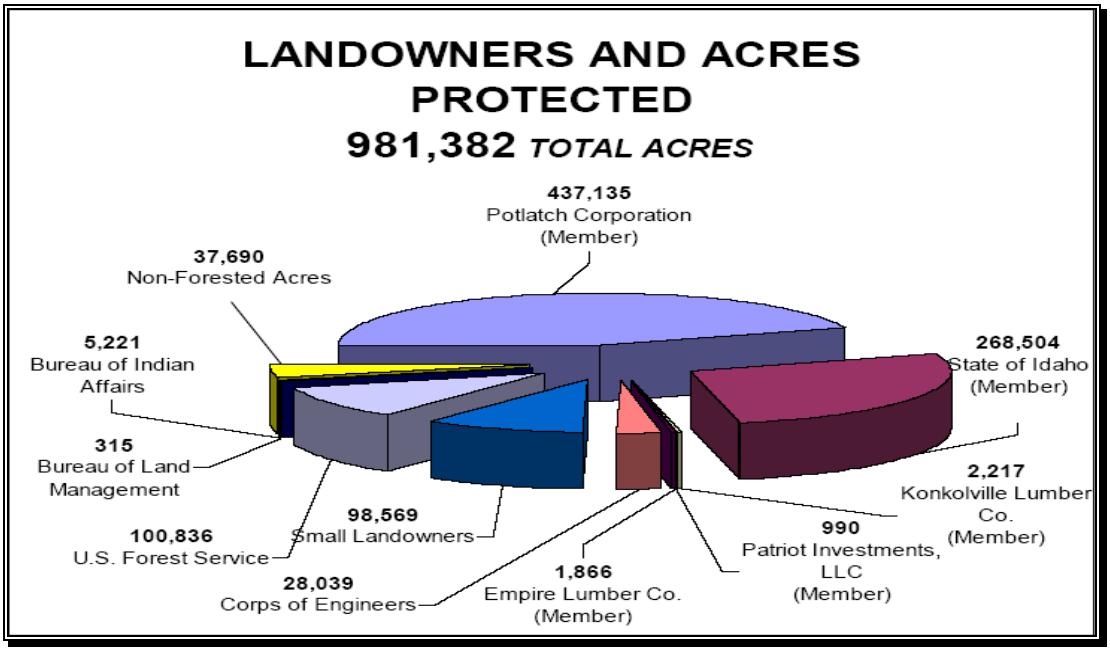
Issues of Concern: Continued growth in Latah County is increasing the cost of fire suppression activities.

Clearwater-Potlatch Timber Protective Association - Elk River Area

The Clearwater Timber Protective Association and the Potlatch Timber Association were separately organized in the early 1900's. In 1966, these two entities merged to form the Clearwater-Potlatch Timber Protective Association, a non-corporate entity. Subsequently, on July 16, 1982, the Association completed filings for incorporation under the Idaho Nonprofit Corporation Act and became the Clearwater-Potlatch Timber Protective Association, Inc.

The Association is controlled by forest landowners belonging to its membership and subject to the provisions of the Idaho Forestry Act. The Association is primarily responsible for the conservation and protection of the forests and forestland within the State of Idaho; specifically, the Palouse, Potlatch, and North Fork of the Clearwater River drainages.

Figure 4.4. C-PTPA Landowners and Acres Protected in 2003.



A cooperative agreement continues to this date between the Association and the State Board of Land Commissioners through the Director of the Idaho Department of Lands. The purpose of this agreement is to clarify the forest protection relationship between the Association and the Idaho Department of Lands. It defines the reimbursable expenditures and emergency fire suppression expenditures that may be incurred by the State and Association. In addition, the agreement addresses the following: (1) fire protection plans, (2) fire management, (3) reports and records, (4) budgets, (5) administrative matters, (6) payments, (7) duration, and (8) limited obligation by the State.

The protection agreement with the Corps of Engineers to provide additional protection services around Dworshak Reservoir was continued during the 2003 fire season. This agreement provides for boat patrols, aerial patrols, fire prevention, prescribed fire, and maintenance efforts in the campsites. An additional contract was negotiated in 1993 with the C-PTPA accepting the responsibility of preparing the fire lines in over 100 campsites along the 53-mile reservoir.

The C-PTPA maintains X stations located at Boehls Cabin, Headquarters, Elk River, Orofino, and Kamiah.

Bennett Lumber Fire Department

Bennett Lumber Fire Department is a company based organization housed on the Bennett Lumber mill site, and is managed by the privately owned company's board of directors. Bennett Lumber Fire Department responds to structural, wildland, and saw mill fires. Currently the incident capacity is two or three small wildland fires, or one large fire.

This organization is staffed with approximately 20 red card certified fire fighters.

Bennett Lumber Fire Department has mutual aide agreements with Potlatch Rural Fire Department and Idaho Department of Lands.

Fire Protection Issues

The following sections provide a brief overview of the many difficult issues currently challenging Latah County in providing wildland fire safety to citizens. These issues were discussed at length both during the committee process and at several of the public meetings. In most cases, the committee has developed action items (Chapter 6) that are intended to begin the process of effectively mitigating these issues.

Urban and Suburban Growth

One challenge Latah County faces is the large number of houses in the urban/rural fringe compared to twenty years ago. Since the 1970s, a segment of Idaho's growing population has expanded further into traditional forest or resource lands. The "interface" between urban and suburban areas and the resource lands created by this expansion has produced a significant increase in threats to life and property from fires, and has pushed existing fire protection systems beyond original or current design or capability. Many property owners in the interface are not aware of the problems and threats they face and owners have done very little to manage or offset fire hazards or risks on their own property. Furthermore, human activities increase the incidence of fire ignition and potential damage.

It is one of the goals of this document to help educate the public on the ramifications of living in the wildland-urban interface, including their responsibilities as landowners to reduce the fire risk on their property and to provide safe access to their property for all emergency personnel and equipment. Homeowners building in a high fire risk area must understand how to make their properties more fire resistant using proven firesafe construction and landscaping techniques, and they must have a realistic understanding of the capability of local fire service organizations to defend their property.

Rural Fire Protection

People moving from urban to more rural areas frequently have high expectations for structural fire protection services. Often, new residents do not realize they are living outside a fire protection district, or that the services provided are not the same as in an urban area. The diversity and amount of equipment and the number of personnel can be substantially limited in rural areas. Fire protection may rely more on the landowner's personal initiative to take measures to protect his or her property. Furthermore, subdivisions on steep slopes and the greater number of homes exceeding 3,000 square feet are also factors challenging fire service organizations. In the future, public education and awareness may play a greater role in rural or interface areas. Great improvements in fire protection techniques are being made to adapt to large, rapidly spreading fires that threaten large numbers of homes in interface areas.

Debris Burning

Local burning of trash and yard debris has been identified as a significant and growing cause of wildfires throughout Latah County. Not only are some people regularly burning outside of the designated time frame, but escaped debris fires impose a very high fire risk to neighboring properties and residents. A growing portion of local fire department calls are in response to debris fires or "backyard burning" that either have escaped the landowner's control or are

causing smoke management problems. It is likely that regulating this type of burning will always be a challenge for local authorities and fire departments; however, improved public education regarding the county's burning regulations and permit system as well as potential risk factors would be beneficial.

Pre-planning in High Risk Areas

Although conducting home, community, and road defensible space projects is a very effective way to reduce the fire risk to communities in Latah County, recommended projects cannot all occur immediately and many will take several years to complete. Thus, developing pre-planning guidelines specifying which and how local fire agencies and departments will respond to specific areas is very beneficial. These response plans should include assessments of the structures, topography, fuels, available evacuation routes, available resources, response times, communications, water resource availability, and any other factors specific to an area. All of these plans should be available to the local fire departments as well as dispatch personnel.

Fire Service "No Man's Land"

A large area surrounding Juliaetta and Kendrick (outside the city limits) is not currently within a structural fire protection district. In many cases, the homeowners are not aware that they do not have structural fire protection. Additionally, some landowners are aware of the inadequacy, but are resistant to formation of a new fire district or annexation into an existing district for various reasons. Latah County and the Juliaetta and Kendrick city fire departments support researching the options available to improve the fire services in this area, which may involve a well-organized public education campaign to ensure homeowners in the area are aware of the situation and understand the ramifications.

Road and Bridge Standards

Fire chiefs throughout Latah County have identified home accessibility issues as a primary concern in many of the rural areas in the county. Some private driveways are too narrow and/or too steep and most do not have adequate turnouts, turnaround areas, or alternative escape routes. In addition, some privately-maintained rural access roads have become overgrown by vegetation, effectively restricting safe access, particularly in a wildfire situation.

Inadequate private bridges lacking weight rating signage are also a common problem. Due to the risk of bridge failure and resulting personnel injury and equipment damage, fire and medical service organizations will not cross bridges that may be incapable of handling the weight of emergency response apparatus.

The planning committee involved in the development of this CWPP found accessibility due to nonexistent or ineffective driveway and private bridge standards to be the number one difficulty for safe emergency ingress and egress. It is a clear goal of this planning process to begin the development, enforcement, and maintenance of accepted road, driveway, and private bridge standards countywide. As part of this process, the committee has recommended an action item for improvement of substandard roads, driveways, and private bridges as well as development of an inventory and certification process for privately owned bridges.

Wildland Fire Specific Building Regulations

As the trend to build in the wildland-urban interface continues, many counties and communities have begun to develop wildland-urban interface codes for new construction that regulate the use of certain building materials (roofing, siding, vents, decking, etc.) in high fire risk areas. In addition, WUI codes regarding road and bridge standards, availability of water resources, proximity of vegetation, and other requirements have been adopted in communities and counties across the United States.

In 2005, the CWPP planning committee recommended the development of countywide policies to regulate the types of building materials used in high fire risk areas. As of 2011, Latah County has regulated the types of roofing materials as well as driveway standards used in high risk areas. They have also amended existing codes to apply equally to new single housing construction as it does to subdivisions. It is the goal of the committee that these types of local code changes help prevent the high fire risk situations that are characteristic in numerous rural subdivisions already existing in Latah County.

Volunteer Firefighter Recruitment

The rural fire departments in Latah County are dependent on volunteer firefighters. Each district spends a considerable amount of time and resources training and equipping each volunteer, with the hope that they will continue to volunteer their services to the department for at least several years. One problem that all volunteer-based departments encounter is the diminishing number of new recruits. As populations continue to rise and more and more people build homes in high fire risk areas, the number of capable volunteers has gone down. In particular, many departments have difficulty maintaining volunteers available during regular work day hours (8am to 5pm).

Public Wildfire Awareness

As the potential fire risk in the wildland-urban interface continues to increase, it is clear that fire service organizations cannot be solely responsible for protection of lives, structures, infrastructure, ecosystems, and all of the intrinsic values that go along with living in rural areas. Public awareness of the wildland fire risks as well as homeowner accountability for the risk on their own property is paramount to protection of all the resources in the wildland-urban interface.

Developing a mechanism to increase public awareness regarding wildfire risks and promoting "do it yourself" mitigation actions is a primary goal of the CWPP planning committee as well as many of the individual organizations participating on the committee.

Adoption of International Fire Code

Currently, fire departments in Latah County are not consistently notified of new construction projects within their jurisdiction; thus, they are not aware of the new addresses or what to expect when they arrive at an incident. The committee working on this plan would like to see the County adopt the International Fire Code, which would place more restrictions on building permittees to provide for safer emergency response to their structures. This would address minimum road widths and grade, adequate turn-around areas, turnouts for driveways over a designated length, and water availability among many other things. The committee would also

like funding for the creation of a County Fire Warden position, whose duties would include inspection of new home sites for compliance to the International Fire Code and enforcement of the code. The Fire Warden would also be responsible for notifying the appropriate fire district of new structures as well as providing some situational awareness, so responders would now what to expect and how to prepare for a potential incident.

Troy Watershed

The community of Troy is primarily dependent on surface runoff from Big Creek Watershed for their water resources. Water is collected along the stream drainage, 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.

The CWPP planning committee has recommended an action item to develop a Forest Management Plan for the Troy Watershed to include a fuels reduction program as well as other techniques.

Current Wildfire Mitigation Activities

Community Emergency Response Team

Latah County Disaster Services has an active CERT (Community Emergency Response Team) program with 15 fully trained volunteers within the county. CERT is a nationwide program that was originally developed by the Los Angeles Fire Department following the Northridge earthquake as a way to train citizen volunteers to help effectively in disasters without hurting themselves. CERT training includes basic first aid, small fire fighting, disaster preparedness, and neighborhood disaster response (search and rescue, traffic control assistance, etc.) CERT teams solicit basic training from local professionals to build skills relevant to likely emergencies and disasters (flood, earthquake, hurricanes, etc.) In Latah County, there are several qualified CERT trainers who provide training for CERT teams in area neighborhoods, workplaces, and schools. The first of these was the CERT team at the Latah County Courthouse. After initial training, CERT teams get together for on-going training and special projects, like volunteering for regional disaster exercises.

North Central Idaho Fire Prevention Cooperative

The North Central Idaho Fire Prevention Cooperative is comprised of volunteer, federal, state, tribal, county, city, and private fire fighting agencies/organizations and emergency and disaster services agencies/organizations as well as regulatory agencies from Latah, Lewis, Clearwater, Idaho, and Nez Perce Counties. The Cooperative works collaboratively to educate the public by providing a unified message with regard to fire prevention, prescribed fire, Firewise landscaping, home fire safety, and the ecological importance of fire in Idaho's forests.

Public Education Programs

Many of the county's fire departments and agencies are actively working on public education and homeowner responsibility by visiting neighborhoods and schools to explain fire hazards to

citizens. Often, they hand deliver informative brochures and encourage homeowners to have their driveways clearly marked with their addresses to ensure more rapid and accurate response to calls and better access. The Firewise Program is also being utilized to help fire response organizations communicate fire hazards to the public. Latah County Disaster Services often distributes information to residents and prospective residents of forested areas, describing best practices for creating a homesite that is defensible in wildland fire events.

[This page intentionally left blank.]

Chapter 5

Community Fire Risk Assessments

In order to facilitate the mutual understanding of wildfire risks specific to areas in Latah County, the planning committee identified Latah County subregions. These subregions are distinguished by similar fuel conditions and would require similar initial attack techniques. Narrative assessments have also been included for each community to augment the risk analysis models.

Rangeland Communities

Includes the communities of Genesee, Kendrick, Juliaetta, Moscow, Potlatch, Onaway, and Princeton

These communities lie in the vegetative ecosystem known as the "Palouse Prairie" community. These areas are typically characterized by rolling hills, deep soils, and a mild climate. The landscape surrounding Genesee, Moscow, Potlatch, Onaway, and Princeton has been almost completely developed for agricultural purposes, primarily the production of winter wheat with various rotation crops. Juliaetta and Kendrick lie in the bottom of the drainage created by the Potlatch River, which also serves as the line between Latah and Nez Perce Counties. The south aspect slope rising from the river bottom is much warmer and drier than the prairie region due to the increased solar exposure. Much of this area is too steep to support extensive agricultural development; however, livestock utilize the available bunchgrasses and other forbs. The principal vegetation in non-agriculturally developed areas is Idaho fescue, bluebunch wheatgrass, prairie junegrass, and various wildflowers. Short shrubs, especially snowberry and wild rose, are also common in more sheltered areas.

Before the development of agriculture and other land uses, the Palouse Prairie Bioregion had a rich fire history, with relatively frequent fires. Agricultural practices surrounding rangeland communities within Latah County have created a patchwork of green, lush vegetation and cured rangeland. This patchwork helps to break the continuity of fuels that are available to burn. This pattern is particularly apparent around Genesee and Moscow.

The last decade has seen the increase in the occurrence of Cheatgrass (Bromus tectorum L.), an exotic grass species that is able to out-compete native bunchgrasses. Cheatgrass responds well to soil disturbance and is found in abundance along roadsides, driveways, new construction areas, recently burned areas, and particularly along the river breaks. Over time, vegetative species composition in unmanaged land has shifted toward fire prone species like Cheatgrass, particularly in high use areas where disturbance is common.

Ignition Profile

Human ignitions from both planned and unplanned events are the greatest component of the overall ignition profile. Natural ignitions from summertime lightning storms are uncommon, although not necessarily rare. However, lightning strikes in light fuels are frequently quickly extinguished if any precipitation accompanies the storm. Natural ignitions are more common in forested areas, where trees and downed woody fuels are able to sustain fire during precipitation events, emerging hours or days later when surface fuels again dry.

Contributing significantly to the ignition profile are accidental ignitions from machinery during harvest and the planned ignitions from burning of residual stubble following grain harvest.

Although these burning activities have historically not resulted in significant structural damage, the frequency of burning increases the potential for escaped fire. Residential living and recreational use in the area also contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, fireworks, and roadway fires, are just a few of the countless potential human ignition sources in the area.

Potential Mitigation Activities

Rangeland communities typically have lower risk of wildland fire due to the agricultural development in the surrounding areas. However, homes and other structures in outlying areas abutting wildland or agricultural fuels are at an elevated risk. The use of fire in agricultural practices and the proximity to Highway 95 slightly elevates the fire risk by contributing to potential ignition sources.

Individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a fire. Home assessments can address the issue of escape routes and home defensibility characteristics. Creating or expanding defensible space around structures that are at risk can significantly reduce the potential for loss. This can be accomplished by individual residents by removing or pruning trees nearby or overhanging the home, keeping the area clear of surface fuels, and locating wood piles, propane tanks, and other flammable objects away from the home. Creating and widening turnouts and thinning fuels along access routes would reduce the risk of residents becoming trapped and increase the responsiveness and safety of suppression vehicles and personnel.

Communities in this fuel type should focus on projects that will increase the safety of citizens and emergency personnel by improving access and reducing emergency response times. These projects could include providing signage and weight rating information at all bridge crossings, identifying dead end roads, signing escape routes, and pruning trees around power lines. Setting up a community wide program to keep vegetation around structures and along roadways green and clear of hazardous surface fuels would reduce the potential loss of life and property in the event of a wildfire. Adopting FIREWISE standards would help to further reduce the potential loss by educating landowners of simple precautions that can help safeguard their home.

Genesee

The community of Genesee is located in the south western portion of Latah County, on the Nez Perce-Latah County line just to the east of Highway 95. Aside from the concentration of homes within the community's boundaries, there are many homes scattered throughout the rural areas of this town. Genesee is surrounded entirely by agricultural fields, with little native vegetation in the vicinity. The few patches of timber in the area are usually associated with home sites and pose very little direct threat to homes and resources within the area.

Fire Potential

Both the fuels assessment and ignition potential for the community of Genesee fit the prior description for rangeland communities. Again, the dominance of agricultural practices in the vicinity of Genesee reduces the overall potential for loss due to fire.

Risk Assessment

The majority of homes and structures in the Genesee vicinity are at low risk of loss to wildland fire. The prevalence of developed agricultural land and grass fuels 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, 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. In most cases, maintaining a clean and green lawn or clearing weeds and grasses away from structures is sufficient for protection in lighter fuels. However, 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.

Similarly, there is very little threat to the infrastructure serving Genesee. Highway 95 is the primary access route to the community. Additionally, there are a number of secondary routes throughout the area. The potentially for these routes to be compromised for any duration due to wildland fire is very low.

Fire Protection

Structural fire protection in the area is provided by the Genesee City and Rural Fire Department. These fire departments provide quick response for emergencies in the area. Wildland fire protection is provided by the Genesee Rural Fire Department.

Kendrick and Juliaetta

The communities of Kendrick and Juliaetta are located within the steep Potlatch River canyon along the southern boarder of Latah County. Due to the close proximity and geographic similarities between the two communities, they will be assessed together.

Deeply incised canyons carved by the Potlatch River and smaller creeks and drainages are the dominant landscape feature of the area. The Potlatch River serves as the boarder between Latah County and Nez Perce County to the east. Highway 3 provides the primary access to Kendrick from Deary and continues south through Juliaetta, joining with Highway 12 downstream at the Clearwater River. Highway 99 also provides access from Troy. Both Highway 3 and 99 descend steep grades from the Prairie Steppe region above into the deep canyon carved by the Potlatch River. Other drainages that join the Potlatch from the north include Bear Creek in the Kendrick area and Middle Potlatch Creek and Little Potlatch Creek in the Juliaetta area. These drainages have carved steep canyons through the underlying basalt as well, giving the area its deep canyon landscape.

Fire Potential

The intersections of the Potlatch River and smaller feeder drainages create multiple aspects with very steep slopes. Most areas have some southerly aspect, resulting in hot, dry environmental conditions. The thin soils in the area also have very low moisture retention ability, resulting in dry vegetative species composition. The combination of steep slopes, south aspects and xeric species composition result in a landscape that is very fire prone.

Vegetation is dominated by short grasses with scattered timber on the driest sites, with an increasing tree and shrub component on hard east or northeast aspects and along creek drainages. These fuels can best be described as short grass (FM 1) or grass and timber (FM 2). These fuels become available to burn early in the year due to the dry nature of the area. The steep slopes lead to increased rates of spread and increased intensities. However these light, flashy fuels burn out quickly with little residual heat following passage of the flaming front.

Fuels in the more heavily timbered areas can be described as FM 2 or 9 where light grass surface or pine litter are the primary carrier under open pine stands, or FM 5 where shrubs comprise the fuel bed. Fires in these fuel types are generally surface fires that burn with low to moderate intensities. However intensities increase dramatically when burning on steep slopes such as those in the Kendrick-Juliaetta area or when jackpots or consistent ladder fuels are encountered. Under extreme conditions, fires in these fuels can develop extremely high intensities, with torching, mid to long-range spotting.

Natural ignitions from summertime lightening storms are relatively uncommon, although not necessarily rare within the Potlatch Canyon. However, lightning strikes in light fuels are quickly extinguished if any precipitation accompanies the storm. Natural ignitions are more common in forested areas, where trees and downed woody fuels are able to sustain fire during precipitation events, emerging hours or days later when surface fuels again dry.

Human ignition sources contribute significantly to the overall ignition profile. Roadway ignitions from discarded cigarettes or overheated auto components from the long ascent or decent into the canyon are not uncommon. Residential living and recreational use in the area also contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, and fireworks are just a few of the countless potential human ignition sources in the area. Charred shrubs and trees within the area are evidence of the potential for fires to quickly spread upslope from accidental ignitions.

Risk Assessment

The homes and businesses immediately adjacent to the Highway 3 corridor are at low risk to wildland fire. Generally, these structures are surrounded by urban landscaping, with the dry, xeric slopes behind and leading away from the community centers. Fires starting low on the steep slopes would quickly spread up and away from most homes and businesses.

However, homes on midslope locations are at a much elevated risk. This is particularly true in the Juliaetta area where multiple homes have been built high above the valley on the South Grade and Dennler Loop Roads and the American Ridge Road. Fires originated below the steep slopes leading to homes in these areas would burn with very rapid rates of spread and at high intensities. Without adequate defensible space and use of fire retardant building materials these homes would be at a significantly elevated risk of loss.

Roads in this area are quite steep, although they appear to be wide enough to accommodate most emergency traffic. The road network in the area does provide for an alternative escape route to the north in the event an escape to the south were compromised. However, these roads are steep with many switchbacks, slowing egress.

Fire Protection

Structural protection for Kendrick and Juliaetta is provided by the Kendrick City Fire Department and the Juliaetta City Fire Department, respectively. There is no rural structural fire protection in this area; however, the Ponderosa Area of the Idaho Department of Lands provides wildland fire protection. The office is located at 3130 Highway 3 in Deary, Idaho. The close proximity of the Ponderosa District provides quick initial attack response to wildland fires in the area.

Moscow

Moscow is the largest community in Latah County, set in the midst of the rolling Palouse Prairie. Land use in the vicinity of Moscow is dominated by agriculture, with large fields of wheat, hay, peas and other crops surrounding the majority of town. To the south and east of Moscow is Paradise Ridge, which supports mixed pine and fir forest. Paradise Ridge has also been a favored area for residential development, exposing homes in the area to varying degrees of wildland fire risk. There is essentially no measurable threat to the homes within the city center. Homes on the periphery are at some risk where cured grain fields abut the homes.

Fire Potential

Fuels in the vicinity of Moscow are a combination of rangeland and forest fuels. The availability of agricultural lands surrounding the periphery of town is seasonally dependent, with live crop moisture remaining high into mid July. Once cured, grain crops such as wheat become available to burn. In the unharvested state, mature wheat fields can be described as Fuel Model 3 (FM3), with average fuel bed depth of 2.5 feet or more. Following harvest, wheat fields can be described as FM 1 or 2, depending on stubble height. All these fuel models have the potential to burn at high intensities with very rapid rates of spread. However these light, flashy fuels burn out quickly with little residual heat following passage of the flaming front.

Forest fuels along Paradise Ridge can be described as FM 2 or 9 where light grass surface or pine litter are the primary carrier under open ponderosa pine stands, to FM 5 where low shrubs comprise the fuel bed. This is a warm, low elevation site that cures early in the summer months. There is a considerable understory fuel ladder in many areas. When draped with pine needle cast from the overstory trees, this creates a highly flammable ladder fuel that can contribute to torching and an overall increase in fire behavior.

The shrub layer is often interspersed with fine grass fuels that that cure early in the year. The presence of the fine fuels in the shrub understory increases fine fuel continuity, providing a consistent fuel bed for fire to spread. Fires in these fuel types are generally surface fires that burn with low to moderate intensities, but spread with moderate rates of spread. Spread rates escalate dramatically when under the influence of slope and wind. Fire intensities can increase dramatically when jackpots or consistent ladder fuels are encountered. Under extreme conditions, fires in these fuels can develop extremely high intensities, with torching, crowning and long-range spotting.

Human ignitions from both planned and unplanned events are the greatest component of the overall ignition profile. Natural ignitions from summertime lightening storms are uncommon, although not necessarily rare. However, lightning strikes in light fuels are frequently quickly extinguished if any precipitation accompanies the storm. Natural ignitions are more common in forested areas, where trees and downed woody fuels are able to sustain fire during precipitation events, emerging hours or days later when surface fuels again dry.

Contributing significantly to the ignition profile are the planned ignitions from burning of residual stubble following grain harvest. Although these burning activities have historically not resulted in significant structural damage, the frequency of burning increases the potential for escaped fire. Residential living and recreational use in the area also contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, fireworks, and roadway fires, are just a few of the countless potential human ignition sources in the area.

A roadway ignition off South Mountain View Road between East Palouse River Road and the Troy Highway demonstrates the potential for accidental ignitions in residual stubble. The fire burned with rapid rates of spread toward Mountain View Trailer Court. Fortunately, the quick response time of the Moscow Rural Fire Department helped to contain the fire within 20 yards of the homes.

Risk Assessment

The overall risk to homes in the Moscow area is low, with isolated areas of high risk associated with Paradise Ridge. The prevalence of agricultural land along the periphery of town helps to reduce overall risk. These fields can present a significant threat to homes and structures when cured. However, most homes and structures have an adequate fire break of green lawn, roadways or other natural or man made fire breaks, providing adequate protection from direct flame impingement. However, where fuel breaks or defensible space do not exist, the risk presented by these fuels is significant.

Paradise Ridge represents the largest concentration of urban interface in the Moscow assessment. The abundance of dry pine, grass and brush fuels, moderate slopes and windy conditions increases the probability for ignitions to develop into wildland fires, threatening homes and lives in the area.

Many homes have adequate defensible space; however some homes and many outbuildings and garages directly abut wildland fuels. Some structures were observed to have considerable accumulations of dry pine needles on roofs and gutters, increasing the probability of home ignition from long-range spotting. Cedar shake roofing material was also noted in the area, dramatically elevating the potential for home ignition from long-range spotting. Driveway access is good to very poor, with some homes accessed via narrow, overgrown drives with inadequate turn-arounds.

Road access via Blaine road is quite good. Blaine road is quite wide, paved, and not too steep heading south from Lenville Road. Blaine continues on to the south over the top of Paradise Ridge, providing an alternate escape route.

There are a number of primary and secondary escape routes available throughout the area. Most of these are surrounded by agricultural fields and are at very little risk of being compromised.

There are a number of communication sites on Paradise Ridge and Moscow Mountain that may be threatened in the event of wildland fire.

Fire Protection

Structural fire protection provided by the Moscow Volunteer Fire Department. The State of Idaho Department of Lands has equipment and responsibility for the wildland fire protection in this area. The Ponderosa District IDL office is stationed along Highway 3 approximately 1 mile south of Deary.

Potlatch, Onaway, and Princeton

The communities of Potlatch, Onaway, and Princeton are located on Highway 6, east of Highway 95. Due to the geographic proximity and the situational similarities between these communities, they will be assessed together. Differences in community characteristics that warrant detailed description will be addressed separately.

Potlatch, Onaway, and Princeton are located within the Palouse River valley. The valley continues to broaden to the west from Princeton toward Potlatch and Onaway. The topography of much of the surrounding area is gentle to rolling, particularly toward the west end of the Palouse valley near Highway 95. This makes much of the area well-suited to agricultural production. There are a number of timbered stringers that run from the outskirts of town south toward Moscow Mountain and the Palouse Range. These stringers intermix with the agricultural land before transitioning to pine and fir forest on the flanks of the Palouse Range.

Fire Potential

The fuels immediately adjacent to the Potlatch, Onaway, and Princeton community centers are primarily agricultural, with very little wildland fuel in the vicinity. The availability of these agricultural lands to burn is seasonally dependent, with live crop moisture remaining high into mid July. Once cured, grain crops such as wheat become available to burn. In the unharvested state, mature wheat fields can be described as Fuel Model 3 (FM3), with average fuel bed depth of 2.5 feet or more. Following harvest, wheat fields can be described as FM 1 or 2, depending on stubble height. All these fuel models have the potential to burn at high intensities with very rapid rates of spread. However the light, flashy fuels burn out quickly with little residual heat following passage of the flaming front.

Fuels in the timbered stringers can be described as FM 2 or 9 where light grass surface or pine litter are the primary carriers under open pine stands, to FM 5 where low shrubs comprise the fuel bed. Fires in these fuel types are generally surface fires that burn with low to moderate intensities. However intensities increase dramatically when jackpots or consistent ladder fuels are encountered. Under extreme conditions, fires in these fuels can develop extremely high intensities, with torching, crowning and long-range spotting.

Human ignitions from both planned and unplanned events are the greatest component of the overall ignition profile. Natural ignitions from summertime lightening storms are uncommon, although not necessarily rare. However, lightning strikes in light fuels are frequently quickly extinguished if any precipitation accompanies the storm. Natural ignitions are more common in forested areas, where trees and downed woody fuels are able to sustain fire during precipitation events, emerging hours or days later when surface fuels again dry.

Contributing significantly to the ignition profile are the planned ignitions from burning of residual stubble following grain harvest. Although these burning activities have historically not resulted in significant structural damage, the frequency of burning increases the potential for escaped fire. Residential living and recreational use in the area also contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, fireworks, and roadway fires, are just a few of the countless potential human ignition sources in the area. Evidence of such a roadway ignition is visible just east of Potlatch, where blackened brush and scorched trees demonstrates the ignition potential associated with travel routes.

Risk Assessment

The majority of homes and structures in the Potlatch-Onaway vicinity are at low risk of loss to wildland fire. The prevalence of developed agricultural land and grass fuels pose a low threat to homes surrounded by these fuels during most periods of the year. Risk does increase toward late summer and fall as crops cure and become available to burn. However, there are generally few homes that would be threatened in the event of an agricultural fire.

There is scattered development outside the community centers of both Potlatch, Onaway, and Princeton. In particular along Rock Creek Road, East Rock Creek Road, and Dobyn Lane in the Potlatch-Onaway area and along Bear Creek Road outside Princeton. Homes' defensibility in these areas could be further augmented, although there are generally few highly hazardous areas.

There are 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, 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. In most cases, maintaining a clean and green lawn or clearing weeds and grasses away from structures is sufficient for protection in lighter fuels. However, 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.

Similarly, there is very little threat to the infrastructure serving the area. Highway 6 and Highway 95 are the primary access routes to the communities. Additionally, there are a number of secondary routes throughout the area that would provide adequate escape routes in the event of a large wildland fire. The potential for these routes to be compromised for any duration due to wildland fire is very low.

Fire Protection

Fire protection in Potlatch, Onaway, and Princeton is provided by the Potlatch Rural Fire District. Wildland fire Protection is provided by the Idaho Department of Lands, Ponderosa District located in Deary.

Forestland Communities

Includes the communities of Bovill, Deary, Helmer, Harvard, Moscow Mountain, Troy, and Viola

Vegetative structure and composition within the central and eastern portion of Latah 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 communities of the west to the forested ecosystems of the east. Highly variable topography coupled with dry, windy weather conditions typical of the region contribute to the potential for large fire development.

The transition between developed agricultural land and timberlands occurs abruptly, usually along distinct land use and property boundaries. In the higher, mountainous areas, moisture becomes more abundant due to a combination of higher precipitation and reduced solar radiation. Vegetative patterns shift from forested communities dominated by ponderosa pine, western larch, and Douglas-fir at the lower elevations to grand fir pine and western white pine and lodgepole pine at the higher elevations. Engelmann spruce and western red cedar are commonly found in moist draws and frost pockets.

Forested areas dominated by ponderosa pine or Douglas-fir tend to be quite dry, as they typically inhabit south and west aspects where the drying effect of the sun and the wind create conditions favorable for shade-intolerant species. Light grass fuels and the abundance of pine needles cast from overstory trees contribute to the fine fuel loads along the forest floor. Fires in the dry ponderosa pine and mixed species forests tend to burn at reduced rates of spread relative to open range and agricultural areas due to the shielding of the wind by overstory trees. However, in

areas of low stocking, there may not be a significant wind reduction factor, allowing fire to be pushed more rapidly through the surface fuels. If regular forest tending has kept surface fuel loading and ladder fuels to a minimum, fires in these dry forest types will generally remain on the surface. However, if heavy surface fuel loads and abundant understory regeneration is present, fires in these dry forest types can burn at high intensities, leading to torching of large mature trees. These conditions present significant control problems for suppression resources and can pose a significant threat to homes in the fire path.

Many lower elevation forested areas throughout Latah County are highly valued as building sites because of 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.

As elevation and aspect increase available moisture, forest composition transitions to highly productive forest types dominated by grand fir and red cedar. These highly productive forests reflect the high levels of available moisture and the deep soils in these areas. Increases in moisture and cooler mountain climates keep forest fuels moist for longer periods during the summer. This increases the time between fire events, resulting in varying degrees of fuel accumulation. Fire frequency in cedar-hemlock forest types can be quite long, with fire free intervals of hundreds of years or more in some areas. Fire events are often limited to lightning-spot fires of limited size in moist habitats, burning only in the compact needle litter and dead and downed material. However, extreme summer drought coupled with high wind events increases the probability of large, stand-replacing fires. Examples of massive, stand replacing fires have occurred throughout history in these habitat types, most notably in 1910 when hundreds of thousands of acres in north Idaho where burned by wildfire.

Considerable development has occurred in these forest types as well. Although fire occurrence in these forest types is less frequent, when fires do occur they tend to be large, high-intensity fires that resist most control efforts. Homes, infrastructure and other valued resources are at significant risk during these infrequent, high-intensity fire events.

Land ownership throughout the forested portions of Latah County is a mix of state, federal, private-non industrial, and private industrial forest lands. Differing land management objectives between landowners has led to a mosaic of forest conditions throughout the County, ranging from mature old-growth forest to recently harvested clearcuts. Fire potential throughout the actively managed areas is largely determined by slash treatments following harvest. Areas that have actively treated slash through mechanical or prescribed fire treatments are typically at reduced risk of wildland fire, although the open conditions created following timber harvesting allows for the development of light grass and brush fuels that dry early and are exposed to the effects of wind. Fire potential throughout the remaining areas is dependent on past management techniques, current forest structure and fuel load, and forest habitat type. It is difficult to speak in general terms, as a myriad of forest conditions exist throughout the County.

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, as fire typically spreads quickly through the 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 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.

Ignition Profile

The homes, structures and infrastructure throughout Latah County fall along a spectrum from low to moderate to high risk of loss to wildland fire. The specific characteristics of a given site largely determine the relative risk to wildland fire, making generalized discussion of overall County conditions somewhat difficult. High-risk interface conditions tend to peak along the slopes of Moscow Mountain, where xeric fuel types, poor accessibility, poor water supply, lack of defensible space and home construction materials predispose numerous homes to loss in the event of a wildland fire. Many community centers are at very little risk, often times due to isolation from wildland fuels, good accessibility, proximity to emergency response resources, or some combination of these factors. Between community centers are isolated homes, ranches and cabins outside incorporated areas and beyond structural fire protection boundaries. These isolated structures are frequently at elevated risk due primarily to the lack of structural fire protection, posing a significant management challenge to the County.

The urban interface trend is likely to continue to expand throughout Latah County, as development continues along Moscow Mountain and in other forested areas of the County. Contributing to this trend is the sale of high-value industrial timberlands for development along travel corridors, such as the lands offered by Potlatch Corporation off Highway 9 between Deary and Harvard. The sale of these lands and the continued subdivision of other private lands will continue to trend in interface development experienced County and nationwide.

Potential Mitigation Activities

The overall wildland fire risk in the forested communities is typically moderate to high due in large part to the forest fuel types in the vicinity of homes. There are a number of activities that can help to maintain wildfire risks in most areas.

Individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Home assessments can address the issue of escape routes and home defensibility characteristics, including the increased hazard associated with use of flammable roofing material. Creating a defensible space around structures that are at any degree of risk can significantly reduce the potential loss of life and property. This can be accomplished by individual residents by removing or pruning trees nearby or overhanging the home, keeping the area clear of surface fuels, and locating wood piles, propane tanks, and other flammable objects away from the home. Creating and widening turnouts and thinning fuels along access routes would reduce the risk of residents becoming trapped and increase the responsiveness and safety of suppression vehicles and personnel.

Providing signage and weight rating information at all bridge crossings, identifying dead end roads, signing escape routes, and pruning trees around power lines can also help to further reduce

the overall risk to the area. Setting up a community wide program to keep vegetation around structures and along roadways green and clear of hazardous surface fuels would reduce the potential loss of life and property in the event of a wildfire. Adopting FIREWISE standards would help to further reduce the potential loss by educating landowners of simple precautions that can help safeguard their home.

Bovill

The community of Bovill is located at the junction of Highway 8 and Highway 3 in west central Latah County. Bovill sits in the wide flood plain of the Potlatch River, surrounded by forestland that has historically sustained this community. Much of forestland surrounding Bovill is privately owned and managed for timber production. Past harvest activities have broken fuel continuity across the landscape, creating a mosaic of age classes throughout the forest.

Fire Potential

The community of Bovill itself sits in a large, wide meadow created within the flood plain of the Potlatch River. Very few wildland fuels directly abut the homes or structures. Streets and green lawns are the primary feature within the community center, with very little potential for wildland fire to move from outside the community into populated areas.

Dense mixed stands of Douglas- and grand fir mix with western larch in close proximity to the community. The forest type surrounding Bovill is quite moist, only becoming available to burn during late summer. Fuels in the surrounding forest can best be described as FM 5 where the understory is dominated by brush, to FM 8 where compact needle litter comprises the understory, to FM 10 where heavy concentrations of dead and downed woody fuels exist. In areas with few surface fuels, fires typically spread slowly and burn at relatively low intensities. However during extreme fire weather conditions fires in these fuels can erupt into stand replacing, high intensity wildland fires. In such a case wooden structures in Bovill may be at some risk from spotting and radiant heat. However, it is likely that a fire would be traveling away from the community.

Grass fuels within the riparian area or in the meadows of the East Fork Road can be described as FM 1, 2 or 3 (short grass, grass and timber, or tall grass). Fires in these fuel types typically burn rapidly and at high intensities, however the resonance time is low and burned areas cool quickly after passage of the fire front.

Residential living and recreational use in the area contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, and fireworks are just a few of the countless potential human ignition sources in the area.

Ignitions associated with mechanized forest management activities are possible in the area. It is likely that such an ignition would be distant from the community and pose little direct threat to Bovill.

Natural ignitions from summer lightning storms contribute to the overall ignition profile in the area. Although ignitions typically occur further upslope on ridges and mountainsides, natural ignitions can occur in the drainage bottom. During extreme weather events, fires upslope of Bovill could possibly be pushed down toward the homes. Although the probability of such events is quite low, it is possible.

Risk Assessment

Homes and businesses within the community of Bovill are at low risk to wildland fire. Although forest land is in close proximity to the community, it does not continue into the community. Homes on the periphery would be at highest risk in the event of a large wildland fire. The homes within the community are well protected by residential landscaping, streets and other characteristics associated with the urban landscape. The community is located in a flat area, and city streets are well maintained.

There is little infrastructure in the community that is at risk to wildland fire. It is unlikely that travel routes would be jeopardized in the event of a fire.

Fire Protection

Structural fire protection is provided by the Bovill Fire Protection District. The close proximity of emergency resources to all corners of the community helps to keep response times to a minimum. The community is serviced by a hydrant system and the Potlatch River is in close proximity, providing ample water resources.

Wildland fire protection is provided by the Ponderosa Area of the Idaho Department of Lands and the Clearwater-Potlatch Timber Protection Association in Elk River, Idaho. The relatively close proximity of the Ponderosa District and the Clearwater-Potlatch Timber Protective Association provides quick initial attack response to wildland fires in the area.

Deary and Helmer

The community of Deary is located on Highway 8 between the junctions of Highway 3 from the south and the Harvard Deary cut-off (Highway 9) from the north. Helmer is located 5 miles to the east of Deary on Highway 8. Because of the geographic proximity and similarities in vegetation, the communities will be considered together.

The landscape in the Deary-Helmer area is a combination of steppe-prairie that has been largely converted to agricultural and timber stringers. Forest habitats become more consistent at increasing elevations and along creek drainages. Forest tree species is a mix of ponderosa pine, Douglas-fir, larch and dry lodgepole pine. Cedar and Grand fir are also present in moist creek bottoms and cold air drainages.

Fire Potential

The fuels immediately adjacent to Deary and Helmer are a mix of light, flashy grass and agricultural fuels and forest fuels. The availability of the agricultural lands to burn is seasonally dependent, with live crop moisture remaining high into mid July. Once cured, grain crops such as wheat become available to burn. In the unharvested state, mature wheat fields can be described as Fuel Model 3 (FM3), with average fuel bed depth of 2.5 feet or more. Following harvest, wheat fields can be described as FM 1 or 2, depending on stubble height. All these fuel models have the potential to burn at high intensities with very rapid rates of spread. However these light, flashy fuels burn out quickly with little residual heat following passage of the flaming front.

Fuels in the timbered areas can be described as FM 2 or 9 where light grass surface or pine litter are the primary carrier under open pine stands, to FM 5 where low shrubs comprise the fuel bed. On south and west slopes exposed to wind and sun, the light grasses and pine needle litter are quite fire prone, drying early in the season and remaining available to burn well into the fall. These fuel types extend into the northern portion of Deary on the flanks of Potato Hill. Fires in

these fuel types are generally surface fires that burn with low to moderate intensities. However intensities increase dramatically when jackpots or consistent ladder fuels are encountered. Under extreme conditions, fires in these fuels can develop extremely high intensities, with torching, crowning and long-range spotting.

Many of the forested lands in the area are actively managed as timber grounds by private, non-industrial landowners or by large corporate land owners such as Potlatch Corporation. Timber harvest practices in the area help to break fuel continuity and reduce stand densities. Slash is generally treated following harvest, either by piling and burning or by broadcast burning. This effectively reduces fire hazard in the short as well as long term development of the stand.

Natural ignition frequency increases in forested areas with increasing elevation. Potato Hill and the higher hills north of the Deary-Helmer area have the highest potential for lightning ignitions. However, lighting strikes do occur at all elevations and in valley bottom locations throughout Latah County. Down strikes in timbered areas are more likely to ignite large woody fuels capable of sustaining fire during brief rain events than are frequently associated with summer storm events. These brief showers are frequently sufficient to extinguish lighting fires in light fuels in unsheltered areas such as cultivated fields.

Residential living and the proximity to travel corridors in the area present innumerable ignition sources. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are all potential ignition sources. Equipment use in forest management and agricultural practices also increases the probability of ignitions in the area. Power lines fires from tree contact can also spark fires, especially during windy conditions.

There is considerable recreational use of Potato Hill north of Deary, with a number of recreational trails frequented by motorized users. Use in this area further augments the ignition profile by exposing motorized equipment to dry forest fuels.

Slash management activities in the area often utilize prescribed fire in order to abate the hazard from harvest operations. Much of this activity is quite distant from the community centers and posting little threat.

Risk Assessment

Risk in the Deary-Helmer area is isolated to the north end of Deary, where wildland fuels mix with residential development on the flanks of Potato Hill. Some of these homes have been built with materials that are unfavorable for survival of a wildland fire event. Use of cedar shake roofing material was noted in the area. The combination of this highly flammable roofing material and the dry forest type increases the probability of structural loss. Furthermore, access to some homes may be difficult due to narrow roads and lack of adequate turn-arounds.

There are isolated patches of timber south of Highway 8 in Deary, however these pose little risk to the community. The periphery of town is surrounded by light fuel, flashy grass or agricultural fuels, except where noted on Potato Hill. These homes in the peripheral area are generally well separated from burnable vegetation by green lawns or roads. There are isolated outbuildings that have accumulation of light, flammable vegetation in their immediate vicinity, increasing the chance of fire loss.

Homes south of Deary are accessed by Bear Ridge Road, Drury Road and Texas Ridge Road are generally at low risk, although there are a number of homes at significantly higher risk due to lack of defensible space surrounding the home. Many homes have been tucked into the timbered

stringers between agricultural fields. Although these stringers are usually narrow, there is the potential for development of high intensity wildland fires.

The few homes and businesses in the Helmer area are at low risk to wildland fire. Most structures have been constructed in openings with light fuels in the immediate vicinity, making them quite defensible in the event of a wildland fire. The ranches and homes off the Park Road are quite safe as well, as there is very little infringement of forest fuels in residential areas.

There are a number of well-maintained highways and secondary roads leading in all directions from theses communities. It is highly unlikely that any of these routes would be compromised for any duration due to the light fuels in the vicinity of the road corridors. There are some short segments of secondary road that travel through heavily timbered areas. However, road segments are generally quite limited and alternative travel routes generally exist.

Fire Protection

Structural fire protection in the Deary and Helmer area is provided by the Deary Rural Fire District. Wildland fire protection is provided by the Ponderosa Area of the Idaho Department of Lands. The office is located at 3130 Highway 3 in Deary, Idaho. The Fire Protection District encompasses approximately 732,000 acres. The close proximity of the Ponderosa provides quick initial attack response to fires in the Deary-Helmer area.

Harvard

The small community of Harvard lies just to the east of the Highway 6 and the Harvard-Deary Cutoff (Highway 9), along the Palouse River. The Palouse River Valley narrows in the Harvard vicinity, with Gold Hill to the north and Moon Hill and Mt. Margaret to the Palouse Range to the south. Highway 6 continues to the north and east into the St. Joe National Forest and the White Pine Recreation Area.

Fire Potential

Harvard is surrounded primarily by light grass fuels, with forested vegetation confined outside of the community center. Lower elevation areas that have been developed for residential or ranching use are generally a mix of forest and cultivated fields, with few homes directly abutting forestland fuels. Much of the area is grazed or otherwise managed in a manner that helps to reduce fine fuel loads.

Forest fuel composition in this portion of Palouse River Drainage is largely determined by aspect and elevation. Southerly exposures support xeric pure or mixed stands of ponderosa pine and Douglas-fir at low elevations. Forest surface fuels tend to have a high concentration of light grasses and needle litter that dry quickly and are largely responsible for rapid fire spread. Dead and downed branchwood accumulations and scattered areas of wind throw add to surface fuel accumulations, leading to increases in surface fire intensity. Above the dry forest habitats, mesic mixed species stands of grand fir, western red cedar, and western larch populate the mid elevations and along draws and cool-air drainages. Above the fir-larch zone, forest species composition remains mesic through to the highest elevations in the area.

Land ownership patterns in this area are a combination of private and private industrial timberlands. Forest management practices have broken the continuity of fuels at a landscape level in the Harvard area. Slash generated by harvest activities is generally broadcast burned or pile and burned, reducing the hazard from activity fuels.

Natural ignition frequency increases in forested areas with increasing elevation in the Harvard area. However, lightning strikes do occur at all elevations and in valley bottom locations throughout Latah County. Down strikes in timbered areas are more likely to ignite large woody fuels capable of sustaining fire during brief rain events than are frequently associated with summer storm events. These brief showers are frequently sufficient to extinguish lighting fires in light fuels in unsheltered areas.

Residential living and the proximity to travel corridors in the area present innumerable ignition sources. Debris burning, discarded cigarettes, children playing with matches, fireworks, roadway fires, and camp fires are all potential ignition sources. Equipment use in forest management practices also increases the probability of ignitions in the area. Power line fires from tree contact can also spark fires, especially during windy conditions.

Risk Assessment

The overall risk to homes in the Harvard community center is quite low. Homes in the outlying areas along Old River Road, Jerome Creek and Meadow Creek Road are at a slightly elevated risk, although the potential for homes to be threatened in this area is quite low as well.

Bennett Lumber operates a large mill to the west of Harvard, just to the north of the Palouse River. The mill is a large contributor to the economy of the local area as well as to all of Latah County. Forest land is confined to areas south of the Palouse River and the mill. It is highly improbable that the mill would be directly threatened by wildland fire.

There are a number of primary roads that serve as escape routes in the event of a large wildland fire, including Highway 6 to the east and the Harvard-Deary cutoff to the south. It is quite unlikely that either of these roads would be compromised for any duration of time in the event of a wildland fire.

Fire Protection

Structural fire protection is provided by the Potlatch Rural Fire District, with wildland fire protection provided by the Idaho Department of Lands, Ponderosa District located in Deary.

Moscow Mountain

Moscow Mountain is the prominent feature of the Palouse Range, extending from Viola east to Deary. Its close proximity to the Moscow and the scenic and recreational value of the area has resulted in considerable development along the flanks of Moscow Mountain. Development along Moscow Mountain has frequently taken place without consideration for the potential for wildland fire, resulting in interface conditions that pose a significant threat to the homes in the area as well as to the safety of residents and personnel who may be engaged in suppression efforts in the event of a wildland fire.

Fire Potential

Land ownership patterns along Moscow Mountain are a combination of private, private industrial timberlands owned primarily by Bennett Lumber and Potlatch Corporation. Slash generated from timber harvest activities is usually piled and burned or broadcast burned, reducing the fire hazard associated these fuels. The University of Idaho also owns considerable acreage on Moscow Mountain and manages these lands as Experimental Forest. The majority of low elevation private lands suitable for development are owner occupies, generally comprised of residential homes with small timbered lots.

Forest fuel composition along Moscow Mountain is largely determined by aspect and elevation. The south face of Moscow Mountain tends to support xeric mixed stands of ponderosa pine and Douglas-fir at low elevations. Low and mid-elevation forests toward the west end of Moscow Mountain tend to be quite arid due to the south and west aspect and the expose to the prevailing wind. Forest surface fuels tend to have a high concentration of light grasses and needle litter that dry quickly and are largely responsible for rapid fire spread. Dead and downed branchwood accumulations and scattered areas of wind throw add to surface fuel accumulations, leading to increases in surface fire intensity. The combination of prolonged drought and bark beetle activity has resulted in increased mortality in some areas of Moscow Mountain. Many areas are also thick with natural pine and fir regeneration, providing abundant ladder fuels for the transition from a surface fire to the upper forest strata. The combination of dense, dry forest fuels, moderate to steep slopes, and the exposure to the prevailing wind significantly increases the potential for rapid fire spread.

Moisture availability tends to increase further to the east, with dry-site pine inhabiting the lowest elevations along Moscow Mountain. Above the dry forest habitats, mesic mixed species stands of grand fir, western red cedar, and western larch populate the mid elevations and along draws and cool-air drainages. Forest species composition remains mesic throughout the elevation range east of Tamarack Road toward Highway 9 and Deary. However, there are numerous areas were slope, aspect and fuel characteristics are similar to those described above. Thus risk of rapid fire spread is present throughout the lower elevations along Moscow Mountain.

The north aspect of Moscow Mountain tends to have slightly higher moisture availability, due to the shading effect of the north aspect. However, there are many arid sites on the north face as well, particularly along the lowest flanks of the mountain extending north toward Potlatch and Princeton. The north side of the mountain was the site of the 2003 Flannigan Creek fire that burned roughly 200 acres and destroyed multiple homes during its initial run. The fire initially started in light grass fuels, and was pushed through dry stands of mixed ponderosa pine, Douglas-fir and lodgepole pine during a severe fire weather day with high temperatures, low humidity and moderate winds.

Natural ignition frequency increases with increasing elevation along Moscow Mountain, although lighting strikes do occur throughout all elevations in Latah County. Down strikes in timbered areas are more likely to ignite large woody fuels capable of sustaining fire during brief rain events than are frequently associated with summer storm events. These brief showers are frequently sufficient to extinguish lighting fires in light fuels in unsheltered areas.

Residential living and recreational use in the area present innumerable ignition sources. 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. Moscow Mountain also serves as a high-use recreation area for nearby residents. Concentrated use increases the potential for accidental or careless ignitions from recreational users. Power lines fires can also spark fires, especially during windy conditions.

The abundance of human and natural ignition sources and the dry nature of fuels in the area increase the probability of wildland fire in many areas around Moscow Mountain. Once ignited, fire characteristics will depend on fuels type and fuel moisture 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 in any type of fuel.

Risk Assessment

There are numerous homes in the Moscow Mountain area that are at high risk to wildland fire. The concentrations of homes on the south and west ends of Moscow Mountain represent the highest risk areas, specifically, the Nearing and Tatkinmah subdivisions. These developments are accessed via the Saddle Ridge Road and the private Tolo Trail off the Foothills County Road. There are also homes at risk on the north face of Moscow Mountain along Flannigan Creek Road, Rock Creek Road, Davis Road, Marshall Road, Hatter Creek Road and Bear Creek Road.

There are numerous factors that contribute to interface risk in the area, including the dry pine habitat type, the abundance of dry fuels, steep slopes, exposure to wind, and a high ignition potential. Hazards associated with fuel conditions and the high densities of homes in the area are compounded by issues associated with emergency vehicle access. Multiple residences are accessed via narrow, single-lane, unimproved roads that are inaccessible to all but the smallest of emergency vehicles. Other access roads are steep, with non-existent or inadequate turn-around areas for emergency vehicles. The inability of emergency resources to safely access and egress a structure or group of structures precludes suppression resources from engagement. Water availability in many areas is limited, further reducing the effectiveness of suppression efforts. This situation becomes much more serious during the summer months, when adjacent forest fuels dry and are capable of sustaining ignition.

Many homes have been built with non-combustible roofing material, however there are homes roofed with cedar shakes. Use of this roofing material dramatically increases the risk to these homes, as cedar shakes are susceptible to ignition from long-range spotting as well as through direct or indirect flame contact. Although use of fire-resistant roofing material can significantly reduce the ignition potential of a home, use of combustible material in construction of a deck or for siding can significantly increase the ignitability of a home. In keeping with the character of a forested setting, many homes have been constructed with flammable wood materials. Although the use of natural materials may enhance the aesthetic quality of the home site, use of such materials entails an increase in fire risk. This potential is further increased when firewood and other flammable materials are stored under or beside the structure.

In some areas, there is little to no defensible space surrounding the home. In an attempt to remain secluded and maintain the “wilderness” character of the area, native trees and brush of all species grow in close proximity to provide effective visual screens from nearby neighbors. The probability of fire moving from a home to native fuels, then to an adjacent home is quite high. During extreme fire weather conditions, such a scenario would likely end with catastrophic results.

A number of single family residences are located in both subdivisions. Predominant plant growth is a mixture of mature, small, and middle sized coniferous trees of various species, including ponderosa pine and lodgepole pine. There are also bushes and other growth along the County and interior roads and driveways as well as in the forest, which include substantial amounts of ladder fuels.

The West Twin communication site and Paradise Ridge media towers would be at risk in the event of a wildfire in these vicinities.

Fire Protection

Structural fire protection is provided by the Moscow Rural Volunteer Fire Department, with wildland protection provided by the Idaho Department of Lands, Ponderosa District located in Deary. Potential Mitigation Activities

The Moscow Mountain area represents the highest concentration of homes and lives at risk to wildland fire all of Latah County. The Flannigan Creek Fire of 2003 illustrates the devastating potential for wildfire impact within Moscow Mountain.

Troy

The community of Troy is located to the east of Moscow, near the junction of Highway 8 and Highway 99. Troy sits in the West Fork Creek drainage, below the meadow-steppe prairie that surrounds Moscow and Deary. Troy is surrounded by forested vegetation; however, very little of this vegetation directly infringes on the community

Fire Potential

The community center of Troy is surrounded by mixed species forest of Douglas- and grand fir, with ponderosa pine on dry south and west-facing slopes. Fuels in the moist forest type can best be described as FM 5 where the understory is dominated by brush, to FM 8 where compact needle litter comprises the understory, to limited representation of FM 10 where heavy concentrations of dead and downed woody fuels exist. Only under very dry conditions do fires in these fuel types present a significant control problem. However, when extreme fire conditions do emerge, controlling fires in these fuels can be very difficult.

On pine dominated sites, fuels can be described as FM 2 where a grassy understory is present, and a FM 9 where surface fuels are dominated by pine needle cast. The light grasses and pine needle litter surface fuels are quite fire prone, drying early in the season and remaining available to burn well into the fall. Fires in these fuel types are generally surface fires that burn with low to moderate intensities. However intensities increase dramatically when jackpots or consistent ladder fuels are encountered. Under extreme conditions, fires in these fuels can develop extremely high intensities, with torching, crowning and long-range spotting.

The availability of agricultural lands surrounding the periphery of town to burn is seasonally dependent, with live crop moisture remaining high into mid July. Once cured, grain crops such as wheat become available to burn. In the unharvested state, mature wheat fields can be described as Fuel Model 3 (FM3), with average fuel bed depth of 2.5 feet or more. Following harvest, wheat fields can be described as FM 1 or 2, depending on stubble height. All these fuel models have the potential to burn at high intensities with very rapid rates of spread. However these light, flashy fuels burn out quickly with little residual heat following passage of the flaming front.

Human ignitions from both planned and unplanned events are the greatest component of the overall ignition profile. Natural ignitions from summertime lightening storms are uncommon, although not necessarily rare. However, lightning strikes in light fuels are frequently quickly extinguished if any precipitation accompanies the storm. Natural ignitions are more common in forested areas, where trees and downed woody fuels are able to sustain fire during precipitation events, emerging hours or days later when surface fuels again dry.

Contributing significantly to the ignition profile are the planned ignitions from burning of residual stubble following grain harvest. Although these burning activities have historically not resulted in significant structural damage, the frequency of burning increases the potential for

escaped fire. Residential living and recreational use in the area also contribute to the ignition profile. Debris burning, discarded cigarettes, children playing with matches, fireworks, and roadway fires, are just a few of the countless potential human ignition sources in the area.

Risk Assessment

The overall risk to the community of Troy is quite low, with isolated areas of moderate risk where outside the community center along Randall Flat Road, Dutch Flat Road and toward Tamarack Road. Risk is elevated in these areas by lack of defensible space, poor access and presence of dry pine fuels. However, the risk is throughout the area is scattered and could be easily mitigated by adopting a number of defensible space measures.

Risk associated with agricultural fields can easily be mitigated by creating defensible space around homes and outbuildings. Roadside ignition potential can also be reduced by creating fuel breaks of plowed dirt along farm fields where paralleled by roads.

North Idaho Cedar Products of Troy presents some unique challenges for the community. The dangers associated with cedar log decks very near the community center was demonstrated last July when a fire possibly started by fireworks burned a considerable volume of cedar logs. The high-intensity fire that resulted could have easily moved to the surrounding forest land had wildland fuel conditions been drier. This event also demonstrates how easy cedar bark and log decks ignite, and the potential for incendiaries from the roadside or from firebrands generated at a distance to cause considerable loss.

There are multiple escape routes throughout the area that are suitable as escape routes. Most pass through agricultural land and are at very little risk of being compromised for any duration. Roads segments that pass through forested areas are quite short and well-buffered, reducing the potential for compromised access.

Fire Protection

Structural fire protection for the community of Troy is provided by the Troy Rural Fire District. The State of Idaho Department of Lands has equipment and responsibility for the wildland fire protection in this area. The Ponderosa District IDL office is stationed along Highway 3 approximately 1 mile south of Deary.

Viola

The community of Viola is located off Highway 95, about 10 miles north of Moscow. The community itself is quite small and concentrated along Main Street, just to the east of Highway 95. The residential areas east of Viola are addressed in the Moscow Mountain assessment. This includes homes and structures accessed via the Saddle Ridge Road and Flannigan Creek Road.

Fire Potential

Vegetation in the immediate vicinity of Viola is primarily cultivated and well landscaped. There is very little wildland fuel in the area. There are a few isolated timbered areas associated with homes off the Four Mile Road; however these areas are generally at very low risk to wildland fire. The majority of land east of Viola is farmed. Isolated stringers of timber due approach the town, although town itself is isolated from any forest fuels.

Patches of high grasses associated with ditches and other non-maintained areas in the vicinity of the community center are present and are available to burn once cured. However, these areas are quite small and pose no significant threat to resources in the area. Cultivated fields could also

serve as fuel for a fast-moving grass fire once they become available to burn. Fires in these fuel types (FM 3 prior to harvest, FM 1 or 2 following harvest) have the potential to spread rapidly and burn at high intensities. However, there is very little direct threat to Viola from such an event.

The greatest potential contributor to the ignition profile in the vicinity of Viola is Highway 95. This main highway provides numerous potential ignition sources, including discarded cigarettes, tire and vehicle fires, etc. However, the light fuels in the immediate vicinity of Viola are isolated and would not pose a threat to resources in the area. Other human ignition sources could also spark fires. Such sources could include fireworks, children playing with matches, debris burning, etc. Mechanized harvesting of the cultivated fields could also spark fires during harvest. Following harvest, grain fields are often burned under controlled conditions. The potential for natural ignitions cannot be ruled out, as lightning strikes are possible in all parts of Latah County.

Risk Assessment

The risk to homes and structure in the immediate vicinity of Viola is very low. Most homes and buildings are isolated from forest, agricultural, or grass fuels in the area. Field burning practices tend to elevate the fire risk. However, homes in the area are generally surrounded by green, well maintained lawns that would serve as an effective fire break in the event of a grass or agricultural fire, mitigating these risks.

Highway 95 and Four Mile Road are primary access routes in the Viola area. The potential for these to become compromised for any length of time is very low.

Fire Protection

Structural fire protection is provided by the Moscow Rural Fire Department, with wildland protection provided by the Idaho Department of Lands, Ponderosa District.

Chapter 6

Mitigation Recommendations

Critical to implementation of this Community Wildfire Protection Plan are the identification and implementation of an integrated schedule of action items targeted at achieving a reduction in the number of human caused fires and the impact of wildland fires in Latah County. This section of the plan identifies and prioritizes potential mitigation actions, including treatments that can be implemented in the county to pursue that goal. As there are many land management agencies and thousands of private landowners in Latah County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of compliance will be observed across various ownerships.

The federal land management agencies in Latah 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 Latah County.

Latah County encourages the building of 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.

All risk assessments were made based on the conditions existing during 2010. Therefore, 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 regularly to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

Maintenance and Monitoring

As part of the policy of Latah County, the Community Wildfire Protection Plan will be reviewed at least annually at special meetings of the planning committee, 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 Latah County Disaster Services, 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. Re-evaluation of this plan should be made on the 5th anniversary of its acceptance, and every 5-year period following.

Prioritization of Mitigation Activities

The action items recommended in this chapter were prioritized through a group discussion and voting process. The action items in Tables 6.1 – 6.4 are ranked as "High", "Moderate", or "Low" priorities for Latah County as a whole. The CWPP committee does not want to restrict funding to only those projects that are high priority 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 criteria is a necessity for a functional mitigation program at the county and community level.

The proposed treatment areas listed in Table 6.5 were ranked on a 1, 2, 3 . . . hierarchical scale by the committee. This method results in a set of highest priority project recommendations for the Latah County wildfire planning committee.

Policy and Planning Efforts

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 and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

Table 6.1. Action Items in Safety and Policy.

Action Item	Goals Addressed (see page 3)	Responsible Organization	Timeline	2011 Status
6.1.a: Improve rural signage including road and fire district boundary markers throughout the county.	**CWPP Goal #2 and 3** Priority Ranking: Moderate	**Lead:** North Latah County Highway District and South Latah Highway District **Support:** Latah County Planning and Building and rural fire districts	5 years	Ongoing action item
6.1.b: Develop County policy concerning building materials used in high-risk WUI areas on existing structures and new construction.	**CWPP Goals #1 and 2** Priority Ranking: High	**Lead:** Latah County Planning and Building **Support:** Latah County Commissioners and rural fire departments	2 years	Roofing & driveways completed. Ongoing action item.
6.1.c: Work with local planners, developers, and engineers to ensure lands being considered for annexation in Potlatch follow Firesafe guidelines.	**CWPP Goals #1, 2, and 6** Priority Ranking: High	**Lead:** City of Potlatch **Support:** Potlatch Rural Fire District	5 years	New project
6.1.d: Continue to encourage rural residents surrounding Juliaetta and Kendrick to form a rural fire district.	**CWPP Goals #1 and 2** Priority Ranking: High	**Lead:** Latah County Disaster Services **Support:** Juliaetta Volunteer Fire Department, Kendrick Volunteer Fire Department, and IDL	5 years	New project

Since the original document was written in 2005, Latah County has completed 3 of its original "Safety and Policy" action items including:

1. Latah County has amended its existing building codes to apply equally to new single housing construction as it does to subdivisions.

2. Latah County has established its CWPP planning committee as a WUI advisory committee for the Board of Commissioners.
3. Latah County has created a full time GIS staff position.

Fire Prevention and Education Projects

The protection of people and structures will be tied together closely because 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 or to a firefighter combating that fire. Many of the recommendations in this section involve education and increasing wildfire awareness among Latah County residents.

Residents and policy makers of Latah County should recognize certain factors that exist today, the absence of which would lead to increased risk of wildland fires in Latah County. The items listed below should be acknowledged and recognized for their contributions to the reduction of wildland fire risks:

Forest Management has a significant impact on the fuel composition and structure in Latah County. The forest management programs of the Idaho Department of Forestry and numerous industrial forestland companies in the region have led to some reduction of wildland fuels where they are closest to homes and infrastructure; however, there is significant room for growth in these organizations' fuels reduction programs. Furthermore, forests are dynamic systems that will never be completely free from risk. Treated stands will need repeated treatments to reduce the risk to acceptable levels in the long term.

Agriculture is a significant component of Latah 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 Latah County is integral to the continued management of wildfire risk in this region.

Livestock Grazing in and around the communities of Latah 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 Latah 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.

Table 6.2. Action Items for Fire Prevention and Education.				
Action Item	**Goals Addressed (see page 3)**	**Responsible Organization**	**Timeline**	**2011 Status**
6.2.a: Continue to develop youth and adult education programs.	**CWPP Goal #3 and 7** Priority Ranking: High	**Lead:** North Central Idaho Fire Prevention Cooperative **Support:** Latah County	5 years	Ongoing action item.
6.2.b: Continue to develop a program to conduct homesite risk assessments countywide.	**CWPP Goals #5 and 6** Priority Ranking: High	**Lead:** CWPP planning committee **Support:** Latah County and rural fire departments	1 year	Ongoing action item.
6.2.c: Continue to develop the Community Emergency Response Team program throughout Latah County.	**CWPP Goals #2 and 3** Priority Ranking: Moderate	**Lead:** Latah County Disaster Services **Support:** Latah County Commissioners and rural fire departments	5 years	Ongoing action item
6.2.d: Develop a public education campaign specifically to provide awareness for residents in the Juliaetta and Kendrick area regarding the lack of a rural fire district and the ramifications.	**CWPP Goals #1, 2, and 3** Priority Ranking: High	**Lead:** Juliaetta and Kendrick Volunteer Fire Departments **Support:** Latah County Commissioners and Idaho Department of Lands	5 years	Ongoing action item

Since the original document was written in 2005, Latah County has completed 3 of its original "Prevention and Education" action items including:

1. Latah County was awarded a Western States grant to complete homesite assessments and defensible space projects in the Moscow Mountain area.
2. Latah County has completed CERT training for 15 volunteers in Latah County.
3. Latah County is an active partner in the North Central Idaho Fire Prevention Cooperative, which is a multi-jurisdictional non-profit organization that provides wildland fire prevention and education materials and programs throughout a five county area in central Idaho.

Infrastructure Enhancements

Critical 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 northern Idaho and to Latah 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 mitigation recommendations.

Table 6.3. Action Items for Infrastructure Enhancements.				
Action Item	**Goals Addressed (see page 3)**	**Responsible Organization**	**Timeline**	**2011 Status**
6.3.a: Continue to update and add to existing Transportation and Emergency Evacuation Plans.	**CWPP Goal #2 and 4** Priority Ranking: Moderate	**Lead:** North Latah County Highway District, South Latah Highway District, and Idaho Transportation Department **Support:** Latah County, City of Moscow	2 year	Ongoing action item
6.3.b: Complete a Resource Management Plan for the Big Meadow Creek Watershed.	**CWPP Goals #2, 4, 5, and 6** Priority Ranking: High	**Lead:** City of Troy **Support:** Latah County and IDL	2 years	Ongoing
6.3.c: Obtain funding to improve substandard bridges, specifically at Sperry Bridge, Little Bear Creek at Troy, Flat Creek crossing on Highway 9, McGary Bridge, and the South Viola Bridge.	**CWPP Goals #2** Priority Ranking: High	**Lead:** North Latah County Highway District, South Latah Highway District, and Idaho Transportation Department **Support:** Latah County Commissioners and communities of Troy, Juliaetta, Kendrick, and Viola	5 years	Ongoing action item

Since the original document was written in 2005, Latah County has completed 2 of its original "Infrastructure Enhancements" action items including:

1. Both the North Latah and South Latah Highway Districts are currently updating their Transportation Plans. Emergency Evacuation Plans have been completed for the city of Moscow and the University of Idaho.
2. Latah County in cooperation with other partners has improved bridge crossings on Boulder Creek and at Camps Canyon.

Resource and Capability Enhancements

There are a number of resource and capability enhancements identified by the rural and wildland firefighting districts in Latah County. All of the needs identified by the districts are in line with increasing the ability to respond to emergencies and are fully supported by the Community Wildfire Protection Plan committee.

Specific repeated themes of needed resources and capabilities include:

- Retention and recruitment of volunteers
- Training and development of rural fire fighters in structure and wildland fire

- Development of rural fire district for the Kendrick-Juliaetta area and supporting equipment and personnel.

Although additional, and specific, needs were enumerated by the districts in Latah 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 Latah 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.

Table 6.4. Action Items for Resource and Capability Enhancements.

Action Item	Goals Addressed (see page 4)	Responsible Organization	Timeline	2011 Status
6.4.a: Continue to enhance radio availability in each district and improve range within the region.	**CWPP Goal #2 and 4** Priority Ranking: High	**Lead:** Latah County Disaster Services **Support:** IDL and rural fire departments	5 year	Ongoing action item
6.4.b: Develop programs, such as retirement options, to improve retention of volunteer firefighters.	**CWPP Goals #1 and 7** Priority Ranking: Low	**Lead:** Rural fire departments **Support:** Latah County Disaster Services	5 years	Ongoing action item
6.4.c: Continue to improve training program and capabilities of firefighters.	**CWPP Goals #1 and 2** Priority Ranking: High	**Lead:** Rural fire departments **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.d: Obtain funding to update PPE, hand tools, portable radios, and other miscellaneous equipment for city and rural fire departments.	**CWPP Goals #4 and 7** Priority Ranking: High	**Lead:** Rural fire departments **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.e: Establish onsite water sources such as dry hydrants or underground storage tanks for rural housing developments.	**CWPP Goals #1 and 4** Priority Ranking: High	**Lead:** Rural fire departments **Support:** Latah County Disaster Services and Planning and Building, USFS, BLM, and IDL	5 years	Ongoing action item

Table 6.4. Action Items for Resource and Capability Enhancements.

Action Item	Goals Addressed (see page 4)	Responsible Organization	Timeline	2011 Status
6.4.f: Obtain funding for a water tender for the Kendrick Volunteer Fire Department.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Kendrick Volunteer Fire Department **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.g: Obtain funding for a utility vehicle for the Juliaetta Volunteer Fire Department.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Juliaetta Volunteer Fire Department **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.h: Obtain funding for mobile repeater stations with a back up power source.	**CWPP Goals #1, 2, and 4** Priority Ranking: High	**Lead:** Latah County Disaster Services **Support:** Rural fire departments, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.i: Obtain a generator and warning siren for the Deary Rural Fire District.	**CWPP Goals #2 and 4** Priority Ranking: Moderate	**Lead:** Deary Rural Fire District **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.j: Obtain funding for the modernization of apparatus for the Moscow Rural Fire District.	**CWPP Goals #1, 2, and 4** Priority Ranking: Moderate	**Lead:** Moscow Rural Fire District **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	Ongoing action item
6.4.k: Obtain funding to construct a new station to house wildland fire equipment for the Juliaetta Volunteer Fire Department.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Juliaetta Volunteer Fire Department **Support:** Latah County Disaster Services, USFS, BLM, and IDL	3 years	Ongoing action item
6.4.l: Obtain funding to construct a new fire station for the Genesee Fire Department.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Genesee City and Rural Fire Department **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	New action item

Table 6.4. Action Items for Resource and Capability Enhancements.				
Action Item	**Goals Addressed (see page 4)**	**Responsible Organization**	**Timeline**	**2011 Status**
6.4.m: Obtain funding to construct additional storage space to house wildland fire equipment for the Kendrick Volunteer Fire Department.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Kendrick Volunteer Fire Department **Support:** Latah County Disaster Services, USFS, BLM, and IDL	3 years	New action item
6.4.n: Obtain funding to construct a new fire station for the Troy Rural Fire Protection District.	**CWPP Goals #2 and 4** Priority Ranking: High	**Lead:** Troy Rural Fire District **Support:** Latah County Disaster Services, USFS, BLM, and IDL	5 years	New action item

Since the original document was written in 2005, Latah County has completed many of its original "Resource and Capability Enhancements" action items including:

1. Latah County fire districts and departments as well as agency partners have completed countywide mutual aid agreements. Mutual aid agreements have also been completed with Whitman County and the State of Idaho.
2. Latah County has been successful in getting grants and other monies to provide assistance to local fire departments for updating PPEs, radios, and other equipment.
3. Latah County established an additional repeater in Genesee and on Bald Mountain.
4. Latah County and other partners have installed three hydrants in rural housing developments.
5. Latah County procured funding to purchase a vehicle to tow the mobile command unit.
6. The Moscow Rural Fire District was successful in getting funding for a new water tender.
7. The Deary Rural Fire District built a new fire station and obtained funding for various types of new equipment.
8. The Juliaetta Volunteer Fire Department obtained funding to purchase a new structural engine.
9. Both the Kendrick Volunteer Fire Department and the Potlatch Rural Fire District obtained funding to purchase PPEs, hand tools, and radio equipment.
10. The Bovill Rural Fire District built a new fire station.
11. The City of Bovill and the Bovill Rural Fire District worked with Latah County to allow Latah County Dispatch to remotely activate the Bovill Fire Warning System.

Proposed Project Areas

The following project areas were identified by the CWPP planning committee as having multiple factors contributing to the potential wildfire risk to residents, homes, infrastructure, and the ecosystem. Treatments within the project areas will be site specific, but will likely include homeowner education, creation of a wildfire defensible space around structures, fuels reduction,

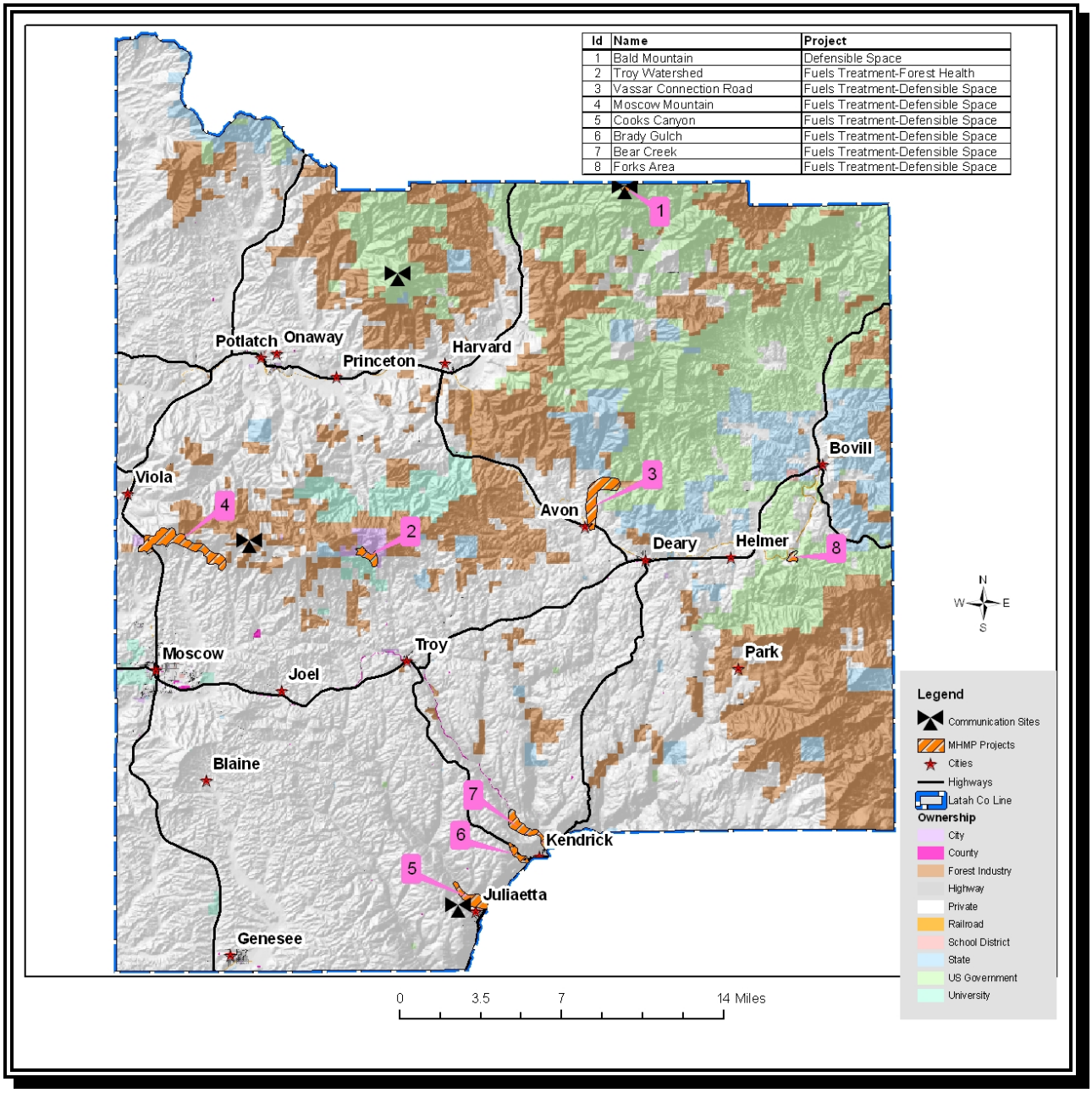
and access corridor improvements. All work on private property will be performed with consent of, and in cooperation with the property owners. Specific site conditions may call for other types of fuels reduction and fire mitigation techniques as well. Defensible space projects may include, but are not limited to commercial or precommercial thinning, pruning, brush removal, chipping, prescribed burning, installation of greenbelts or shaded fuel breaks, and general forest health improvements.

Table 6.5. Proposed Project Areas.

Project Name	Project Type CWPP Goals #5 and 6	# of Acres	# of Structures	Miles of Road	Priority Ranking
Bald Mountain	Defensible Space	19	3	0.1	8
Troy Watershed	Fuels Treatment-Forest Health	228	0	2.2	2
Vassar Connection Road	Fuels Treatment-Defensible Space	836	31	6.3	7
Moscow Mountain	Fuels Treatment-Defensible Space	1,252	147	14.8	1
Cooks Canyon	Fuels Treatment-Defensible Space	397	62	3.3	3
Brady Gulch	Fuels Treatment-Defensible Space	176	47	2.5	4
Bear Creek	Fuels Treatment-Defensible Space	484	11	1.8	5
Forks Area	Fuels Treatment-Defensible Space	88	7	1.5	6

The Idaho Department of Lands, U.S. Fish and Wildlife Service, Bureau of Land Management, US Forest Service, and/or individual fire protection districts may take the lead on implementation of many of these projects; however, project boundaries were purposely drawn without regard to land ownership in order to capture the full breadth of the potential wildland fire risk. Coordination and participation by numerous landowners will be required for the successful implementation of the identified projects.

Figure 6.1. Map of Proposed Projects



Regional Land Management Recommendations

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 forestland conditions, and promotes the use of natural resources (consumptive and non-consumptive) will insure that these lands have value to society and the local region. The Idaho Department of Lands, U.S. Forest Service, industrial forestland owners, private forestland owners, and all agricultural landowners in the region should be encouraged to actively manage their wildland-urban interface lands in a manner consistent with reducing fuels and risks in this zone.

Chapter 7

Supporting Information

List of Tables

Table 3.1. Ownership Categories in Latah County....18
Table 3.2. Vegetative Cover Types in Latah County....19
Table 4.1. Summary of IDL database 1999-2009....26
Table 4.2. National Fire Season Summaries....28
Table 4.3. Total Fires and Acres 1980 - 2008 Nationally....28
Table 4.4. Historic Fire Regimes in Latah County....30
Table 4.5. Fire Regime Condition Classes in Latah County....31
Table 6.1. Action Items in Safety and Policy....80
Table 6.2. Action Items for Fire Prevention and Education....82
Table 6.3. Action Items for Infrastructure Enhancements....83
Table 6.4. Action Items for Resource and Capability Enhancements....84
Table 6.5. Proposed Project Areas....87

List of Figures

Figure 2.1. Sample Press Release. 12
Figure 2.2. Public Meeting Flyer. 14
Figure 4.1. Wildfire Ignitions within IDL Protection Area 1999-2009. 27
Figure 4.2. Acres burned within IDL Protection Area 1999-2009. 29
Figure 4.3. Wildland Urban Interface in Latah County, Idaho. 35
Figure 4.4. C-PTPA Landowners and Acres Protected in 2003. 51
Figure 6.1. Map of Proposed Projects....88

Signature Pages

This Latah County Community Wildfire Protection Plan has been developed in cooperation and collaboration with representatives of the following organizations and agencies.

Latah County Board of Commissioners

BOARD OF COUNTY COMMISSIONERS
LATAH COUNTY, IDAHO

RESOLUTION NO. 2011-10

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF LATAH COUNTY, STATE OF IDAHO DECLARING COUNTY SUPPORT AND ADOPTION OF THE UPDATED LATAH COUNTY MULTI-HAZARD MITIGATION PLAN AND COMMUNITY WILDFIRE PROTECTION PLAN.

WHEREAS, the Board of County Commissioners of Latah County, State of Idaho is the duly elected governing body of Latah County, a political subdivision of the State of Idaho, having such powers and duties as are set forth in the Constitution and Statutes of the State of Idaho; and

WHEREAS, the Latah Board of County Commissioners supports the Multi-Hazard Mitigation Plan and Community Wildfire Protection Plan, and

WHEREAS, The Latah Board of County Commissioners has participated in the development of the Multi-Hazard Mitigation Plan and Community Wildfire Protection Plan, and

WHEREAS, the Multi-Hazard Mitigation Plan and Community Wildfire Protection Plan will be utilized as a guide for planning as related to the FEMA Pre-Disaster Mitigation program as well as other purposes as deemed appropriate.

NOW THEREFORE BE IT RESOLVED that the Latah County Board of County Commissioners do hereby adopt and support and will facilitate implementation of the Latah County Multi-Hazard Mitigation Plan and Community Wildfire Protection Plan as deemed appropriate.

Passed and approved this 9th day of May 2011.

Jennifer Barrett, Chair

Tom S. Stroschein, Commissioner

ATTEST:

5-9-11

Clerk/Deputy

Dawid McGraw, Commissioner

Signatures of Participation by Latah County Fire Districts and Departments

This Community Wildfire Protection Plan and all of its components identified herein were developed in close cooperation with the participating entities listed.

By: Val Norris, Chief
Kendrick Volunteer Fire Department

Date: 6/20/11

By: Ed Button, Chief
Moscow City and Rural Fire District

Date: 5-17-11

[illegible]
[illegible]

Date: 7/12/11

By: Gary Nagle, Chief
Potlatch Rural Fire District

Date: 7-30-11

By: Mike McGee, Chief
Juliaetta Volunteer Fire Department

Date: 06-05-2011

By: Tim Jones, Chief
Deary Rural Fire District

Date: 6-20/11

By: Phil Stradley, Chief
Bovill Rural Fire Protection District

Date: June 25, 2011

By: Becky Peckard, Captain
Genesee City and Rural Fire District

Date: 6-20-11

Signatures of Participation by other Latah County Entities

This Community Wildfire Protection Plan and all of its components identified herein were developed in close cooperation with the participating entities listed.

Jason Svancara — 06/07/2011
By: Jason Svancara
Idaho Department of Lands
Date

Sandy Rollins — May 9, 2011
By: Sandy Rollins
Latah County Disaster Services
Date

Tom McWilliams
By:
Clearwater National Forest, Palouse Ranger District
Date

Will Runnoe — 6/16/2011
By: Will Runnoe, Cottonwood Office Field Manager
Bureau of Land Management
Date

Kevin Renfro chairman SLHD — 5-6-11
By:
South Latah Highway District
Date

06/06/2011
By: DAN CARSCALLEN, CLERK
North Latah County Highway District
Date

Tera R. King — May 9, 2011
By: Tera King, Project Manager
Northwest Management, Inc.
Date

This plan was developed by Northwest Management, Inc. under contract with Latah County. Funding for the project was provided by the Board of County Commissioners and the Federal Emergency Management Agency.

Citation of this work:

King, Tera R. and V. Bloch. *Lead Authors.* Latah County, Idaho Community Wildfire Protection Plan – 2011 Revision. Northwest Management, Inc., Moscow, Idaho. May 2011. Pp 94.

King, Tera R. and V. Bloch. *Lead Authors.* Latah County, Idaho Community Wildfire Protection Plan Appendices – 2011 Revision. Northwest Management, Inc., Moscow, Idaho. May 2011. Pp 49.

Northwest Management, Inc.
233 East Palouse River Drive
PO Box 9748
Moscow ID 83843

208-883-4488 Telephone
208-883-1098 Fax
NWManage@consulting-foresters.com
http://www.Consulting-Foresters.com/