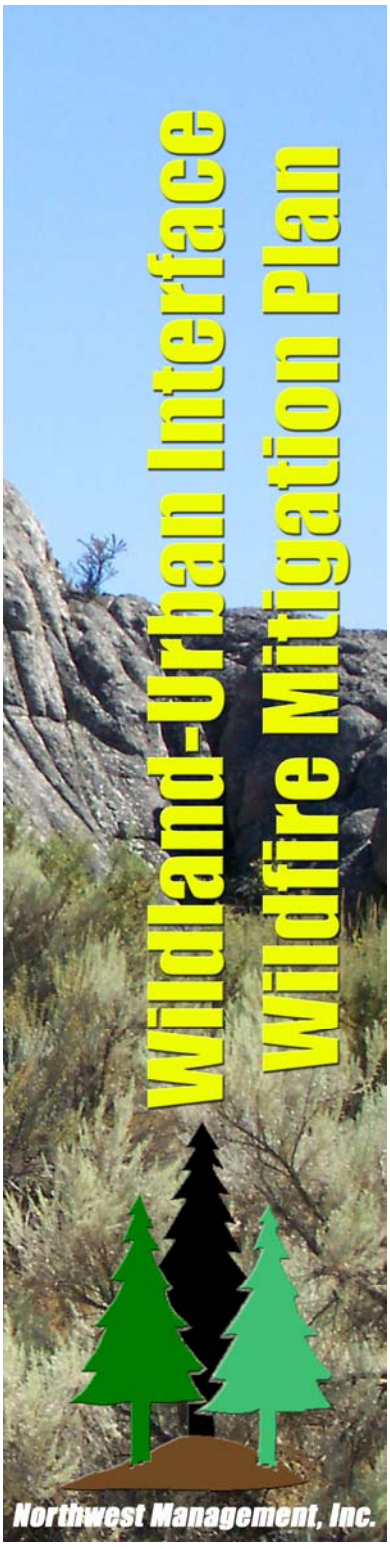



# Washington County, Idaho, Wildland-Urban Interface Wildfire Mitigation Plan

## Main Document

## June 28, 2004

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

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

# Acknowledgments

This Wildland-Urban Interface Wildfire Mitigation Plan represents the efforts and cooperation of a number of organizations and agencies, through the commitment of people working together to improve the preparedness for wildfire events while reducing factors of risk.

Washington County Commissioners
and the employees of Washington County

West Central Highlands of Idaho Resource
Conservation and Development Association

USDI Bureau of Land Management
Lower Snake River District

USDA Forest Service
Payette National Forest

Idaho Department of Lands

Weiser Rural Fire Department #1
Weiser City Fire Department
Cambridge Rural Fire Department
Midvale Rural Fire Department
&
Local Businesses and
Citizens of Washington County

To obtain copies of this plan contact:

**Washington County Commissioners Office**

County Courthouse
Weiser, ID 83672-0670
Phone: (208) 549-2092
Fax: (208) 549-3925

# Table of Contents

# Chapter 1

# 1 Introduction

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

- USDI Bureau of Land Management (also providing funding through the National Fire Plan)
- USDA Forest Service
- Idaho Department of Lands
- West Central Highlands Resource Conservation and Development Council
- Weiser Rural Fire District #1
- Cambridge Rural Fire Department
- Midvale Rural Fire Department
- Northwest Management, Inc.

The Washington County Commissioners solicited competitive bids from companies to provide the service of leading the assessment and the writing of the **Washington County Wildland-Urban Interface Wildland Fire Mitigation Plan**. The Commissioners selected Northwest Management, Inc., to provide this service. Northwest Management, Inc., is a professional natural resources consulting firm located in Moscow, Idaho. The Project Manager from Northwest Management, Inc., was Dr. William E. Schlosser, a professional forester and regional planner. The County also hired a local coordinator to serve as liaison between Northwest Management, Inc., and the Commissioner's Office, local citizenry, and others. The County hired Keith Izatt, a resident of Weiser to fulfill this role. John McGee, of Northwest Management, Inc., took over this role for Keith Izatt beginning in January 2004 during the completion of the plan.

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

## *1.1 Goals and Guiding Principles*

### 1.1.1 Federal Emergency Management Agency Philosophy

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

The new local hazard mitigation plan requirements for HMGP and PDM eligibility is based on the Disaster Mitigation Act of 2000, which amended the Stafford Disaster Relief Act to promote and integrated, cost effective approach to mitigation. Local hazard mitigation plans must meet the minimum requirements of the Stafford Act-Section 322, as outlined in the criteria contained in 44 CFR Part 201. The plan criteria covers the planning process, risk assessment, mitigation strategy, plan maintenance, and adoption requirements.

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

Idaho Bureau of Disaster Services
4040 Guard Street, Bldg 600
Boise, ID 83705
Jonathan Perry, 208-334-2336 Ext. 271

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

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

### 1.1.2 Additional State and Federal Guidelines Adopted

The Wildland-Urban Interface Wildfire Mitigation Plan component of this All Hazards Mitigation Plan will include compatibility with FEMA requirements while also adhering to the guidelines proposed in the National Fire Plan, the Idaho Statewide Implementation Plan, and the Healthy Forests Restoration Act (2004). This Wildland-Urban Interface Wildland Fire Mitigation Plan has been prepared in compliance with:

- The National Fire Plan; A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan–May 2002.
- The Idaho Statewide Implementation Strategy for the National Fire Plan–July 2002.
- Healthy Forests Restoration Act (2004)

- The Federal Emergency Management Agency's Region 10 guidelines for a Local Hazard Mitigation Plan as defined in 44 CFR parts 201 and 206, and as related to a fire mitigation plan chapter of a Natural Hazards Mitigation Plan.

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

#### 1.1.2.1 National Fire Plan

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

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

Its three guiding principles are:

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

This Wildland-Urban Interface Fire Mitigation Plan fulfills the National Fire Plan's 10-Year Comprehensive Strategy and the Idaho Statewide Implementation Strategy for the National Fire Plan. The projects and activities recommended under this plan are in addition to other Federal, state, and private / corporate forest and rangeland management activities. The implementation plan does not alter, diminish, or expand the existing jurisdiction, statutory and regulatory responsibilities and authorities or budget processes of participating Federal, State, and tribal agencies.

By endorsing this implementation plan, all signed parties agree that reducing the threat of wildland fire to people, communities, and ecosystems will require:

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

- Communities and individuals in the wildland-urban interface to initiate personal stewardship and volunteer actions that will reduce wildland fire risks.
- Management activities, both in the wildland-urban interface and in at-risk areas across the broader landscape.
- Active forestland and rangeland management, including thinning that produces commercial or pre-commercial products, biomass removal and utilization, prescribed fire and other fuels reduction tools to simultaneously meet long-term ecological, economic, and community objectives.

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

#### 1.1.2.2 Idaho Statewide Implementation Strategy

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

Emphasis is on a collaborative approach at the following levels:

- County
- State

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

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

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

#### 1.1.2.2.1 County Wildland Fire Interagency Group

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

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

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

- County Commissioners (Lead)
- Local Fire Chiefs
- Idaho Department of Lands representative
- USDA Forest Service representative
- USDI Bureau of Land Management representative
- US Fish and Wildlife representative
- Bureau of Indian Affairs
- Local Tribal leaders
- Bureau of Disaster Services
- LEPC Chairperson
- Resource Conservation and Development representative
- State Fish and Game representative
- Interested citizens and community leaders as appropriate
- Other officials as appropriate

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

County Wildland Fire Interagency Group and/or to facilitate the development of wildland fire mitigation plan.

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

#### 1.1.2.3 National Association of State Foresters

##### 1.1.2.3.1 Identifying and Prioritizing Communities at Risk

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

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

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

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

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

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

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

##### 1.1.2.3.2 Conceptual Approach

1. NASF fully supports the definition of the Wildland Urban Interface (WUI) previously published in the Federal Register. Further, proximity to federal lands should not be a consideration. The WUI is a set of conditions that exists on, or near, areas of wildland fuels nation-wide, regardless of land ownership.

2. Communities at risk (or, alternately, landscapes of similar risk) should be identified on a state-by-state basis with the involvement of all agencies with wildland fire protection responsibilities: state, local, tribal, and federal.
3. It is neither reasonable nor feasible to attempt to prioritize communities on a rank order basis. Rather, communities (or landscapes) should be sorted into three, broad categories or zones of risk: high, medium, and low. Each state, in collaboration with its local partners, will develop the specific criteria it will use to sort communities or landscapes into the three categories. NASF recommends using the publication "Wildland/Urban Interface Fire Hazard Assessment Methodology" developed by the National Wildland/Urban Interface Fire Protection Program (circa 1998) as a reference guide. (This program, which has since evolved into the Firewise Program, is under the oversight of the National Wildfire Coordinating Group (NWCG)). At minimum, states should consider the following factors when assessing the relative degree of exposure each community (landscape) faces.
    - **Risk:** Using historic fire occurrence records and other factors, assess the anticipated probability of a wildfire ignition.
    - **Hazard:** Assess the fuel conditions surrounding the community using a methodology such as fire condition class, or [other] process.
    - **Values Protected:** Evaluate the human values associated with the community or landscape, such as homes, businesses, and community infrastructure (e.g. water systems, utilities, transportation systems, critical care facilities, schools, manufacturing and industrial sites, and high value commercial timber lands).
    - **Protection Capabilities:** Assess the wildland fire protection capabilities of the agencies and local fire departments with jurisdiction.
4. Prioritize by project not by community. Annually prioritize projects within each state using the collaborative process defined in the national, interagency MOU "For the Development of a Collaborative Fuels Treatment Program". Assign the highest priorities to projects that will provide the greatest benefits either on the landscape or to communities. Attempt to properly sequence treatments on the landscape by working first around and within communities, and then moving further out into the surrounding landscape. This will require:
    - First, focus on the zone of highest overall risk but consider projects in all zones. Identify a set of projects that will effectively reduce the level of risk to communities within the zone.
    - Second, determining the community's willingness and readiness to actively participate in an identified project.
    - Third, determining the willingness and ability of the owner of the surrounding land to undertake, and maintain, a complementary project.
    - Last, set priorities by looking for projects that best meet the three criteria above. It is important to note that projects with the greatest potential to reduce risk to communities and the landscape may not be those in the highest risk zone, particularly if either the community or the surrounding landowner is not willing or able to actively participate.
5. It is important, and necessary, that we be able to demonstrate a level of accomplishment that justifies to Congress the value of continuing the current level of appropriations for

the National Fire Plan. Although appealing to appropriators and others, it is not likely that many communities (if any) will ever be removed from the list of communities at risk. Even after treatment, all communities will remain at some, albeit reduced, level of risk. However, by using a science-based system for measuring relative risk, we can likely show that, after treatment (or a series of treatments), communities are at "*reduced risk*".

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

Using the concept described above, the NASF believes it is possible to accurately assess the relative risk that communities face from wildland fire. Recognizing that the condition of the vegetation (fuel) on the landscape is dynamic, assessments and re-assessments must be done on a state-by-state basis, using a process that allows for the integration of local knowledge, conditions, and circumstances, with science-based national guidelines. We must remember that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk.

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

#### 1.1.2.4 Healthy Forests Restoration Act

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

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

- Strengthens public participation in developing high priority projects;
- Reduces the complexity of environmental analysis allowing federal land agencies to use the best science available to actively manage land under their protection;
- Creates a pre-decisional objections process encouraging early public participation in project planning; and
- Issues clear guidance for court action challenging HFRA projects.

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

### 1.1.3 Washington County Planning Effort and Philosophy

The goals of this planning process include the integration of the National Fire Plan, the Idaho Statewide Implementation Strategy, to meet the requirements of FEMA for a county-wide Fire Mitigation Plan; a component of the County's All Hazards Mitigation Plan, and the Healthy Forests Restoration Act (2003). This effort will utilize the best and most appropriate science

from all partners, the integration of local and regional knowledge about wildfire risks and fire behavior, while meeting the needs of local citizens, the regional economy, the significance of this region to the rest of Idaho and the Inland West.

#### 1.1.3.1 Mission Statement

To make Washington County residents, communities, state agencies, local governments, and businesses less vulnerable to the negative effects of wildland fires through the effective administration of wildfire hazard mitigation grant programs, hazard risk assessments, wise and efficient fuels treatments, and a coordinated approach to mitigation policy through federal, state, regional, and local planning efforts. Our combined prioritization will be the protection of people, structures, infrastructure, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy.

#### 1.1.3.2 Vision Statement

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

#### 1.1.3.3 Goals

- To reduce the area of WUI land burned and losses experienced because of wildfires where these fires threaten communities in the wildland-urban interface
- Prioritize the protection of people, structures, infrastructure, economy and way-of-life, and unique ecosystems that contribute to the sustainability of the local and regional economy
- Educate communities about the unique challenges of wildfire in the wildland-urban interface (WUI)
- Establish mitigation priorities and develop mitigation strategies in the WUI
- Strategically locate, plan, and implement fuel reduction projects
- Provide recommendations for alternative treatment methods, such as modifying forest stand density, herbicide treatments, fuel reduction techniques, and disposal or removal of treated slash
- Meet or exceed the requirements of the National Fire Plan and FEMA for a County level Fire Mitigation Plan

# Chapter 2: Planning Process

# 2 Documenting the Planning Process

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

## *2.1 Description of the Planning Process*

The Washington County Wildland-Urban Interface Wildfire Mitigation Plan was developed through a collaborative process involving all of the organizations and agencies detailed in Section 1.0 of this document. The County's local coordinator and the Washington County Emergency Services Director contacted these organizations directly to invite their participation and schedule meetings of the planning committee. The planning process included 5 distinct phases which were in some cases sequential (step 1 then step 2) and in some cases intermixed (step 4 completed though out the process):

1. **Collection of Data** about the extent and periodicity of wildfires in and around Washington County. This included an area encompassing Adams, Gem, Payette, Valley, and Washington Counties to insure a robust dataset for making inferences about fires in Washington County specifically; this included a wildfire extent and ignition profile.
2. **Field Observations and Estimations** about wildfire risks including fuels assessments, juxtaposition of structures and infrastructure to wildland fuels, access, and potential treatments by trained wildfire specialists.
3. **Mapping** of data relevant to wildfire control and treatments, structures, resource values, infrastructure, fire prone landscapes, and related data.
4. **Facilitation of Public Involvement** from the formation of the planning committee, to a public mail survey, news releases, public meetings, public review of draft documents, and acceptance of the final plan by the signatory representatives.
5. **Analysis and Drafting of the Report** to integrate the results of the planning process, providing ample review and integration of committee and public input, followed by acceptance of the final document.

### 2.1.1 The Planning Team

Planning efforts were led by the Project Director, Dr. William E. Schlosser, of Northwest Management, Inc., Mr. Izatt, the Washington County Fire Plan Coordinator, and John McGee, also of Northwest Management, Inc. They led a team of resource professionals that included fire mitigation specialists, wildfire control specialists, resource management professionals, and hazard mitigation experts.

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

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal and state agencies was integrated

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

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

## *2.2 Public Involvement*

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

The public's involvement in this planning process was peaked during the public meetings held in October 2003. A few members of the public viewed the development of a Wildland-Urban Interface Wildfire Mitigation Plan as a negative event, aimed at circumventing public law to remove or limit private property rights. Their comments were heard during the public meeting held in Weiser, at the Commissioner's Office. Newspaper reports summarizing their concerns described a planning process "*conducted in stealth*" and part of a larger effort by a multi-national consortium to take away property rights and even property from the residents of Washington County and the rest of Idaho. Although these allegations were baseless, the planning committee invited representatives of this group to join the planning committee at the monthly planning meetings.

Their input was welcomed and encouraged as this planning process continued. The following news report appeared in the Weiser Signal American, a weekly publication serving Weiser and the rest of Washington County.

**Landowners eye fire plan with suspicion**

by David Trigueiro

The Washington County Board of Commissioners spent the last hour of its weekly meeting Monday attempting to assuage the fears of several landowners that the Washington County Fire Mitigation Plan will infringe on their property rights.

Ron Pound, Esther Smith, Loraine Carr, and two other local landowners requested the meeting to air their concerns that the plan would lead to more government regulation and control over how their land is used. They all accused the commissioners of instituting the plan by stealth.

Pound accused one of the plan's designers of giving people false hope of great growth to come in the cattle and logging industries to gain favor. "The Forest Service has no intention of having more cattle and logging. He just said it. But people are taking it as a guarantee, and we know it s not going to happen," Pound said.

Smith exclaimed it is part of an intricate plot by the Sirolli Institute, a private economic development corporation currently under contract with Washington and Adams counties, "to get you to sacrifice your family and your job and give all your land to Sirolli" with the backing of "all our boys back in Washington (D.C.)..."

The fire plan, explained Commission Chairman Diana Thomas, did begin in Washington, D.C., as part of an effort by Congress to reduce the cost of range and forest fires that have ravaged populated areas of the Southwest in recent years. Particularly fires last year in Colorado and a massive fire this year in southern California that destroyed more than 1,000 homes and killed more than 20 people.

Money was made available to states and counties to develop plans to prevent and control destructive wildfires with special emphasis on forest and range lands where homes are being built. The plan would use predictive models identifying where fires are likely to start and which of those locations would see fire spread most rapidly.

**Landowners eye fire plan with suspicion**

by David Trigueiro

Washington County set up a coordinating team headed by Weiser resident and firefighter Keith Izatt and retained Northwest Management Inc., to provide risk assessments, mapping, field inspections, conduct interviews and collaborate with the committee in preparing the Washington County Fire Mitigation Plan.

Public meetings were held in Cambridge and Weiser the first week of October to discuss the plan. Last Thursday, Nov. 20, another public meeting was held in Weiser to review a draft plan submitted by Northwest Management. The public was invited to attend and ask questions regarding the proposed plan.

When Pound demanded to know if the commissioners intended to gather "any input from landowners," Thomas brought up the open meeting last Thursday and asked if he had attended. "I was there," Pound replied. "You didn't get the feeling there was going to be any input. There hasn't been any public notice. They said they were forming a committee. That was the last I heard."

"But you were there Thursday night, Ron," interjected Commissioner Rick Michael.

"Yes, I was there," Pound replied, "but we didn't know anything about what this plan was. All we had was rumors. If we hadn't hollered there probably wouldn't have been any notice [of the meeting]. As far as the fire plan, why did we have to hire these people (Northwest Management)? We have four fire chiefs and a disaster coordinator in the county. Couldn't they have put this plan together?"

Thomas explained that the fire chiefs did not feel they had the time to do the work and were not certain they had the necessary background to carry it out. Thus, the county brought in professionals.

Michael noted that Northwest [Management] recommended grazing and logging as some of the best ways to keep grasses down and the forest clear of undergrowth in order to suppress fire outbreaks.

Pound replied it is "uncalled for to give people those kind of hopes. This has been a fiasco from the start. I was told by a county employee there would be no building because of the fire damage. I can see the point of making people keep the brush away from their house, but the fact is, all the fire guards in the world won't stop a range fire unless the wind is just right. I don t like to see outsiders come in as experts. They take some project cut and dried out of a book that doesn't necessarily abide by the life-style of the community."

Commissioner Roy Mink said there was nothing in the plan about regulating building on range and forest lands, nor was any regulation contemplated by the plan. He showed Pound a pamphlet distributed by mail to every resident by Northwest Management giving them information about the danger of wildfires and how to protect their homes and buildings. It was addressed to "Resident," he noted, meaning that a copy must have gone to every mailing address in the area. The object was simply to inform as many people as possible about fire control and protection.

Loraine Carr pointed out to the commissioners that all the federal and state agencies involved had the word "management" in their title Federal Emergency Management Agency (FEMA), Bureau of Land Management (BLM). The grants offered, she said, were "bribery and blackmail" devised "to get access to our private land for management. When you accept government money, you let them in to control your land."

Smith, backed by Pound and Carr, asserted that at least "three quarters of the money" for the national fire mitigation came from the Sirolli Institute and its major shareholder Earnesto Sirolli who is "out to control the world" from his base in South Africa.

The commissioners asked Smith how and where the Sirolli Institute, which sells economic development promotion packages to local governments based on their successful programs in Australia and South Africa, is connected to wildfire mitigation.

Smith read out a portion of the Sirolli Institute s mission statement: "Ultimately, the benefit of our work is designed to reach passionate individuals in a manner that will assist them to transform their dreams and talents into meaningful and rewarding work thereby realizing our vision."

"Look, they say our vision!" Smith pointed out. She noted that Washington County Disaster Services Coordinator Steve Domby had used similar wording in reference to the wildfire mitigation plan, saying the county would have to first clear a few hurdles.

"That's what they say, jump over your hurdles, slaughter your family and give all your land to Sirolli," Smith concluded.

Clearly confused, Chairman Thomas looked elsewhere among the protestors for more light. Lloyd Roberts said he was not familiar with the Sirolli Institute, but did have some concerns of his own to present.

**Landowners eye fire plan with suspicion**

by David Trigueiro

Roberts said he simply did not understand why the plan was necessary. "Let me tell you this. I have an insurance agent come out every year. He pointed out the weeds were all cut down around the buildings and said that was the way it should be. I asked him what would happen if they weren't cut down and he said, We would not insure you. It seems pretty simple to me. I think it s a private matter, not something for the government to get involved in."

Thomas replied that the plan simply coordinates the efforts of fire prevention and suppression agencies. No county money is involved. Michael repeated there is no regulatory aspect to the plan.

"Is it going to increase our taxes?" Roberts asked bluntly.

All of the commissioners replied they knew of no way the Washington County Wildfire Mitigation Plan could have any effect on taxes.

Roberts said his taxes "have gone up 60 percent in 35 years" and made the point that county government is costing too much, especially in a time when farm incomes are falling or static.

Rex Winegar, who also denied any knowledge of the Sirolli connection espoused by Smith and Pound, pointed out what seemed an inconsistency in BLM policy. He said the BLM has offered to buy rangeland from him and take it out of grazing. And yet, in the fire mitigation plan, the BLM is apparently advocating grazing rangeland as a form of fire control.

The commissioners, too, had no explanation for this apparent inconsistency.

***--WEISER SIGNAL AMERICAN***

***11/26/03***

## 2.2.1 News Releases

Under the auspices of the Washington County Wildland-Urban Interface Wildfire Mitigation Planning Committee, news releases were submitted to area news papers and radio (there are no local television companies servicing this county).

### 2.2.1.1 Newspaper Articles

Committee and public meeting announcements were published in the local newspaper ahead of each meeting. The following are examples of newspaper announcements that ran in the local newspaper (*WEISER SIGNAL AMERICAN)*.

**NOTICE**

**Washington County Fire Plan Public Meetings**

October 1st at 7:00 pm at the Washington County Fairgrounds exhibition building in Cambridge

October 2nd at 7:00 pm in the County Commissioners Chambers in the Washington County Court House in Weiser

**Wildfire Mitigation Plan Project**

The Washington County Fire Mitigation Plan Committee has been created to complete a Fire Mitigation Plan for Washington County as part of the National Fire Plan authorized by congress and the Whitehouse. The Washington County Fire Mitigation Plan will include risk analysis at the community level with predictive models for where fires are likely to ignite and where they are likely to spread rapidly once ignited. The local coordinator for this effort is Keith Izatt of Weiser.

Northwest Management, Inc. has been retained by the county to provide risk assessments, mapping, field inspections, interviews, and to collaborate with the committee to prepare the plan. The coordinating team includes rural and wildland fire districts, land managers, elected officials, and others. Northwest Management specialists will conduct an analysis of fire prone landscapes and make recommendations for potential treatments. Specific fuel modification activities for homes and structures will be proposed as part of the analysis.

The planning team will be conducting Public Meetings to discuss preliminary findings and to seek public involvement in the planning process.

For more information on the Fire Mitigation Plan project in Washington County contact your County Commissioner, Northwest Management, Inc. project director Dr. William Schlosser (208) 883-4488, or the Fire Mitigation Plan Coordinator Keith Izatt at 208-707-1416.

**NOTICE**

**Washington County Fire Plan Committee Meeting**

Thursday, November 20th at 4:00 pm
Vendome Events Center
Weiser, Idaho

The purpose of this meeting is to allow the committee members an opportunity to review the draft plan that will be submitted by Northwest Management. The public is invited, and will given an opportunity after the presentation to ask questions regarding the proposed plan.

**Wildfire Mitigation Plan Project**

The Washington County Fire Mitigation Plan Committee has been created to complete a Fire Mitigation Plan for Washington County as part of the National Fire Plan authorized by congress and the Whitehouse. The Washington County Fire Mitigation Plan will include risk analysis at the community level with predictive models for where fires are likely to ignite and where they are likely to spread rapidly once ignited. The local coordinator for this effort is Keith Izatt of Weiser. Northwest Management, Inc., has been retained by the county to provide risk assessments, mapping, field inspections, interviews, and to collaborate with the committee to prepare the plan. The coordinating team includes rural and wildland fire districts, land managers, elected officials, and others. Northwest Management specialists will conduct an analysis of fire prone landscapes and make recommendations for potential treatments. Specific fuel modification activities for homes and structures will be proposed as part of the analysis.

For more information on the Fire Mitigation Plan project in Washington County contact your County Commissioner, Northwest Management, Inc. project director Dr. William Schlosser (208) 883-4488, or the Fire Mitigation Plan Coordinator Keith Izatt at 208-707-1416.

### 2.2.2 Public Mail Survey

In order to collect a broad base of perceptions about wildland fire and individual risk factors of homeowners in Washington County, a mail survey was conducted. Using a database of landowners provided by the Washington County Assessor, homeowners from the Wildland-Urban Interface surrounding each community were identified. They were included in a database

of names that integrated individuals living on parcels with a home, at least 3 acres of land, and a mailing address within Washington County. This database created a list of 5,522 names to which was affixed a random number that contributed to the probability of being selected for the public mail survey. A total of 212 landowners meeting the above criteria were selected.

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

The first in the series of mailing was sent August 7, 2003, and included a cover letter, a survey, and an offer of receiving a custom GIS map of the area of their selection in Washington County if they would complete and return the survey. The free map incentive was tied into assisting their community and helping their interests by participating in this process. Each letter also informed residents about the planning process. A return self-addressed enveloped, was included in each packet. A postcard reminder was sent to the non-respondents on August 20, 2003, encouraging their response. A final mailing, with a revised cover letter pleading with them to participate, was sent to non-respondents on September 2, 2003.

Surveys were returned during the months of August, September, October, and early November. A total of 113 residents responded to the survey. Two of the surveys were returned as undeliverable. The effective response rate for this survey was 53%. Statistically, this response rate allows the interpretation of all of the response variables significantly at the 99% confidence level.

#### 2.2.2.1 Survey Results

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

All of the respondents have a home in Washington County, with approximately 95% of the respondents completing the survey considering this their primary residence (i.e., 5% completed the survey for a Washington County residence that is not their primary residence). About 55% of the respondents were from the Weiser area, 22% were from the Cambridge Area, 12% were from the Midvale area, and the remainder were from a variety of other areas in the county totaling 11% of all responses.

Virtually all (98%) of the respondents correctly identified that they have emergency telephone 911 services in their area.

Not all home owners correctly identified if their home was protected by a rural or city fire district. Overall, 94% of the respondents reported their home protected by a rural or city fire district. Of these respondents, about 17% indicated they do live in a fire district, when in fact they do not. The remaining 83% of homeowners reporting protection from rural and city fire districts were correct.

Only 6% of respondents reported no rural or city fire district coverage. Of these households, approximately 35% (2% of the total) reported incorrectly as records indicate they are in a protected area. The remaining 65% of these respondents (4% of the total) reporting no structural fire protection were correct in this assessment. Only 1 respondent reported they were unsure of their fire protection status.

Respondents were asked to indicate the type of roofing material covering the main structure of their home. The majority of the respondents, 54% indicated their homes were covered with

aluminum, tin, or other metal. About 36% indicated their home were covered with a composite roofing material. Only 6% of the respondents indicated they have a wooden roofing material such as shakes; these are the homes at the greatest risk to roof ignition during a wildfire. The remaining 4% of respondents indicated other roofing materials were used.

Residents were asked to evaluate the proximity of trees within certain distances of their homes. Often, the density of trees around a home is an indicator of increased fire risk. The results are presented in Table 1.1

**Table 1.1 Survey responses indicating the proximity of trees to homes.**

| Number of Trees | Within 250 feet of your home | Within 75 feet of your home |
|---|---|---|
| None | 50% | 65% |
| Less than 10 | 39% | 29% |
| Between 10 and 25 | 11% | 6% |
| More than 25 | 0% | 0% |

Approximately 88% of those returning the survey indicated they have a lawn surrounding their home. Of these individual home sites, 99% indicated they keep this lawn green through the fire season.

The average driveway length of the respondents was approximately 1/5 mile long (1,000 feet), from their main road to their parking area. Roughly 7% of the respondents had a driveway over ½ mile long, and a corresponding 26% had a driveway over ¼ of a mile long. Of these homes, roughly 63% have turnouts allowing two vehicles to pass each other in the case of emergency. Approximately 79% of all homeowners indicated they have an alternative escape route, with the remaining 21% indicating only one-way-in and one-way-out.

Nearly all respondents indicated they have some type of tools to use against a wildfire that threatens their home. Table 1.2 summarizes these responses.

**Table 1.2. Percent of homes with indicated fire fighting tools in Washington County.**

| |
|---|
| 99% – Hand tools (shovel, Pulaski, etc.) |
| 29% – Portable water tank |
| 12% – Stationery water tank |
| 43% – Pond, lake, or stream water supply close |
| 29% – Water pump and fire hose |
| 42% – Equipment suitable for creating fire breaks (bulldozer, cat, skidder, etc.) |

Roughly 31% of the respondents in Washington County indicated they have someone in their household trained in wildland fire fighting. Approximately 26% indicated someone in the household had been trained in structural fire fighting. However, it is important to note that these questions did not specify a standard nor did it refer to how long ago the training was received.

A couple of questions in the survey related to on-going fire mitigation efforts households may be implementing. Respondents were asked if they conduct a periodic fuels reduction program near their home sites, such as grass or brush burning. Approximately 64% answered affirmative to this question, while 66% responded that livestock (cattle, horses, sheep) graze the grasses and forbs around their homes.

Respondents were asked to complete a fuel hazard rating worksheet to assess their home's fire risk rating. An additional column titled "results" has been added to the table, showing the percent of respondents circling each rating (Table 1.3).

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

| Table 1.3. Fuel Hazard Rating Worksheet | | Rating | Results |
|---|---|---|---|
| **Fuel Hazard** | Small, light fuels (grasses, forbs, weeds, shrubs) | 1 | 77% |
| | Medium size fuels (brush, large shrubs, small trees) | 2 | 20% |
| | Heavy, large fuels (woodlands, timber, heavy brush) | 3 | 3% |
| **Slope Hazard** | Mild slopes (0-5%) | 1 | 75% |
| | Moderate slope (6-20%) | 2 | 15% |
| | Steep Slopes (21-40%) | 3 | 9% |
| | Extreme slopes (41% and greater) | 4 | 1% |
| **Structure Hazard** | Noncombustible roof and noncombustible siding materials | 1 | 44% |
| | Noncombustible roof and combustible siding material | 3 | 1% |
| | Combustible roof and noncombustible siding material | 7 | 55% |
| | Combustible roof and combustible siding materials | 10 | 0% |
| **Additional Factors** | Rough topography that contains several steep canyons or ridges | +2 | Average -2.17 pts |
| | Areas having history of higher than average fire occurrence | +3 | |
| | Areas exposed to severe fire weather and strong winds | +4 | |
| | Areas with existing fuel modifications or usable fire breaks | -3 | |
| | Areas with local facilities (water systems, rural fire districts, dozers) | -3 | |

**Calculating your risk**

Values below are the average response value to each question.

| | | |
|---|---|---|
| Fuel hazard __1.25___ x Slope Hazard ____1.36___ = ____1.7____ | | |
| Structural hazard | + | ____3.55___ |
| Additional factors | (+ or -) | ____-2.17___ |
| Total Hazard Points | = | ____3.08___ |

| Table 1.4. Percent of respondents in each risk category as determined by the survey respondents. |
|---|
| 00% – Extreme Risk = 26 + points |
| 02% – High Risk = 16–25 points |
| 20% – Moderate Risk = 6–15 points |
| 78% – Low Risk = 6 or less points |

Maximum household rating form score was 20 points, as assessed by the homeowners.

Finally, respondents were asked “if offered in your area, would members of your household attend a free, or low cost, one-day training seminar designed to teach homeowners in the wildland–urban interface how to improve the defensible space surrounding your home and adjacent outbuildings?” Almost half of respondents, 46% indicated a desire to participate in this type of training.

Homeowners were also asked, “Would you be interested in participating in a cost share program that would pay a portion of the costs of implementing fire risk projects on your property?” To this question, only 29% indicated a willingness to do so. It has been pointed out that some landowners may have interpreted this question and responded with the intention of indicating they would be willing to pay 100% of the costs themselves, or none of the costs themselves, relying on a 100% federal, state, or grant payment to make the treatments happen. Because this vastly differing interpretation of the same question, further elucidation of this response should not be made.

### 2.2.3 Committee Meetings

The Wildland-Urban Interface Wildfire Mitigation Planning Committee held formal meetings on the following dates:

---

**September 2, 2003**

**Agenda from the Meeting:** The progress on the fire mitigation plan continued through August, 2003. Specific activities have included:

- GIS data has been collected and summarized for Washington County,
- Fire Prone Landscapes have been estimated and have gone through field review internally. Sample maps are available for review.
- Field visits by NMI fire personnel have been conducted with community evaluations completed in and around the county.
- Resources and Capabilities Data has been collected from Rural and Wildland Fire Fighting agencies. Some data still needs to be obtained, the fire season is hampering the collection of data, but it will be forth coming,
- Public surveys were sent to 212 landowners in Washington County on August 7. A post Card reminder was sent on August 20. The final mailing went out on September 2.
- Fire Mitigation Projects are being developed for specific areas, and for general county wide recommendations. These will be made available to committee members for review prior to the community meetings.
- Keith Izatt working with NMI has set dates for the public meetings
- Items to be completed in the near-term:
- Committee members with information that should be included in the County’s Fire Mitigation Plan should convey this information to William E. Schlosser as soon as possible to make sure we incorporate as much detail at this point as possible. Ideas include where risk is located, on-going mitigation projects in the county, limiting factors that would logically be incorporated into the plan (policy, planning and zoning), and other opportunities we can incorporate.

**November 20, 2003**

**Agenda from the Meeting:** The progress on the fire mitigation plan continues through November, 2003. Specific activities have included:

**Public meetings** were held in Cambridge (Oct 1) and Weiser (Oct 2) to present the Fire Mitigation Planning process. Both were well attended and facilitated lively discussion.

**Follow-up item:** NMI needs the written summaries of the meetings from the local coordinator to integrate them into the draft FMP.

**Rural Fire District Maps:** there has been some discussion about the accuracy of the Rural Fire District maps. John McGee of NMI has a map at this meeting with sections lines on it to facilitate verification of the boundaries. Each fire district should review these lines and make any corrections on the map boundary. We have some corrections in hand, but a couple of the corrections are conflicting with each other. Once the changes are made, John will deliver the revised map to Bill Schlosser in Moscow for final corrections.

**Resources and Capabilities:** John McGee has a summary of the data provided by the Rural Fire Districts. Please read and verify the accuracy of the data, look for missing data and please complete changes ASAP so that this data can be integrated into the final plan.

**USFS Projects:** We have the hard copy map Monty Herd delivered at the last meeting (thank you!) but still need that same data in GIS format if possible. Please confirm if it is available.

**Cadastral Data:** Although we talked about it at the last meeting, NMI has not received detailed landowner ownership data in GIS format from the Washington County Assessor's Office. Please copy it to a CD and forward it on to NMI so that the Draft FMP can include this information.

**Public surveys** were sent to 212 landowners in Washington County. Thus far we have received 113 completed surveys for a response rate of 53%. We still receive about 1 per week, but expect that what we have now is all we are going to get.

**High Tension Powerlines:** We are working with Idaho Power to get the existing and proposed lines in GIS format for inclusion in this project as a significant infrastructure resource.

**Items to be completed in the near-term:**

Committee members with information that should be included in the County's Fire Mitigation Plan should convey this information to William E. Schlosser as soon as possible to make sure we incorporate as much detail at this point as possible. Ideas include where risk is located, on-going mitigation projects in the county, limiting factors that would logically be incorporated into the plan (policy, planning and zoning), and other opportunities we can incorporate.

**January 23, 2004**

**Meeting Notes:**

Next meeting is scheduled for Wednesday, February 11 at the Vendome in Weiser at 1:00PM.

**Maps - 15 minutes to review and comments:**

Commissioner Roy Mink – question on wildfire location map. Knows of one missing near his residence.
Monte Hurd: Has info on three fires not on map: Advent Gulch 1990, Pearl Fire, and Cuddy Fires 1994. Contact him for info.
Land Ownership Map: not up-to-date, State to BLM exchange not on map.
Wildland Fire District Map – would like to see the rural fire district boundaries overlaid on this map.
Infrastructure Map – Commissioner Ray sketched in new power line to be constructed this summer by Idaho Power.

**Resource and Capabilities Guide:**

Weiser City Fire Department - was sent to Bill Schlosser – do you have? -yes.
Monte Hurd – Gary Philips has sent info on wildland fire resources and capabilities for USFS.
Monte Hurd: repeater locations should be included on the map. Sturgill Lookout (near middle of County), Lookout Mtn. (in Oregon, covers the west side), and Indian Mtn. in Adams Co which services Council and Cambridge.

**Communications**

Basically in good shape. FS is on narrow band. System needs to be tested
Possible repeater funding for Snake River Canyon area (Sturgill Cr.), currently three in the area.
Weiser area has several, not a problem
Place repeater location on map (Commissioner)
Always going to have some “black holes” behind canyons, buttes, etc.
Cuddy Mountain has eliminated many black spots
Satellite phone in Midvale area would be helpful or a cell phone tower
Most districts are happy with amount of radios, some extra like always, would be helpful—would they have to be project 25 radios—probably
All fire departments use clear text

**Fire District Maps**

Need to bring map next time with suggested changes and Midvale has not seen the map yet
Section south of rural district down to county line has no protection, would like to set up a meeting, near Weiser rural, tried a previous annexation, will point out on map at next meeting

**Water Storage**

Water tenders, ponds and dry hydrants (prefer dry hydrants—easier to access)
Need 4,000 and 5,000 gallon, like Indian Valley has, more reservoirs between Midvale and Weiser
Need more tenders, the current is under power and slow, need a newer one
Cambridge would like a water tender and needs a fire house, station room for Weiser Rural Fire, more capable equipment, Midvale would like to finish station, currently shell, good place for cistern / dry hydrant need bathroom facilities.

**Firefighters**

training, currently doing twice a month, both structural and wildland, BLM is giving wildland fire along with SRV fire chiefs

Weiser rural, 30 volunteers, spread out especially during the day, pay $7.00/hr which is less than they make at their jobs, recently took out small life insurance policy($700.00/yr) fill in the gap of a non fire related death

Keeping them is easy, getting new ones is hard, average age is 55 in Midvale, budgets won't allow for payment,

City fire is paid once a month, workman's comp is based on the $30 dollar small amount of the fire

Some states and communities use tax breaks for volunteer fire fighters, commissioner said may be hard

Junior FF Program- training drills, teenagers can participate, Weiser Rural, Weiser City.

**Misc.**

Midvale-can't get tender over some bridges, are under-rated. Bridge weights need to be posted.

Need better addressing, post where you can see. Make an ordinance where you are required to have a visible address.

**Infrastructure:**

Page 11, are there other issues? Yes. Highway 71 – recreation, RV, Motor homes, camping, ATV. BLM – sand dunes area, Steck Park.

**Community Assessments:**

Midvale: failed to mention 70% of district. Only looked at and took pictures of Midvale. Largest area is along lake. Terribly large district, 500 sq. miles. Luckily only sparsely populated.

Crystal – now called the Cove area – Mann Creek Area is more a designated community than Crystal. **Delete** Crystal and **add** Mann Creek.

Page 5 – Weiser Community Assessment- Should read the Weiser community is protected by the City of Weiser Fire Department/Weiser Area Rural Protection District #1.

Page 5-"sport burners" –change to maintenance burning.

Page 2 – no burning May 10 –October 20.

**Misc Comments:**

Audience – Loraine: don't want Feds involved. The County has good personnel to take care of mitigation.

Search and Rescue person- would like a map showing topo and gridlines to navigate with GPS. Wants coordinates on map.

Karson: Has all the resource and capabilities info for Midvale.

---

**February 11, 2004**

Review of the edits to the DRAFT document

## 2.2.4 Public Meetings

Public meetings were held during the planning process, as an integral component to the planning process. It was the desire of the planning committee, and the Washington County Commissioners to integrate the public's input to the development of the fire mitigation plan.

Formal public meetings were held on October 1, 2003, in Cambridge, Idaho, and on October 2, 2003, at Weiser, Idaho. The purpose of these meetings was to share information on the planning process with a broadly representative cross section of Washington County residents.

Both meetings had wall maps posted in the meeting rooms with many of the analysis results summarized specifically for the risk assessments, location of structures, fire protection, and related information. The formal portion of the presentations included a PowerPoint presentation made by Project Director, Dr. William E. Schlosser. During his presentations, comments from committee members, fire chiefs, and others were encouraged in an effort to engage the audience in a discussion.

It was made clear to all in attendance that their input was welcome and encouraged, as specific treatments had not yet been decided, nor had the risk assessment been completed. Attendees were told that they could provide oral comment during these meetings (which was recorded by the County Fire Plan Facilitator Keith Izatt and are summarized below), they could provide written comment to the meetings, or they could request more information in person to discuss the plan. In addition, attendees were told they would have an opportunity to review the draft plan prior to its completion to further facilitate their comments and input.

The formal presentations lasted approximately 1½ hours and included many questions and comments from the audience. Following the meetings, many discussions continued with the committee members and the general public discussing specific areas, potential treatments, the risk analysis, and other topics.

---

**Washington County Fire Plan**

**Public Meeting Minutes**

**October 1, 2003 7:00 PM**

**Washington County Fairgrounds Exhibition Hall**

Presentation from Dr. Schlosser summarized the National Fire Plan, FEMA, and the Statewide Implementation Strategy being followed in this planning effort. He illustrated the wildfire hazard profile for Washington County and a risk assessment putting wildfire in the context of Washington County past losses. Specific community assessments were discussed along with potential mitigation activities being proposed in the county. The status of fire fighting resources and capabilities were presented and discussed.

**Public Questions**

Will the BLM and Forest Service use dozers more?

Where have wildfires hit this county the hardest?

Why does FEMA have the right to tell us how to build our homes?

Is grant money available to implement treatments?

Is grant money available to landowners for bridge improvements?

I thought the count y took care of our bridges!?

Who is responsible to implement all of this?

**Roster of people present at meeting:**

| **Name:** | **Organization:** |
|---|---|
| Keith Izatt | Washington County Fire Plan |
| Steve Domby | Washington County Disaster Services |
| Dean Page | Cambridge Fire Department (Fire Chief) |
| Roy Mink | Washington County Commissioner |
| David Craig | Midvale Fire Department |
| Karson Craig | Midvale Fire Department (Assistant Chief) |
| Loraine Carr | Property owner (Washington County) |
| Russ Manwaring | West Central Highlands RC&D |
| Monte Heard | Forrest Service (FMO) |
| Brian Sines | Forrest Service (Assistant FMO) |
| John Sachtjen | Cambridge Fire Department |

| | |
|---|---|
| Cecelia Sachtjen | Property owner (Cambridge) |
| William E. Schlosser | Northwest Management, Inc., Presenter |

**Methods of advertising this meeting**

Public notices placed in the Weiser Signal American Newspaper (The only newspaper published in Washington County)

Flyers-posted in Cambridge, Midvale and Weiser

---

**Washington County Fire Plan**

**Public Meeting**

**October 2, 2003 7:00 PM**

**Washington County Commissioners Chambers**

Presentation from Dr. Schlosser summarized the National Fire Plan, FEMA, and the Statewide Implementation Strategy being followed in this planning effort. He illustrated the wildfire hazard profile for Washington County and a risk assessment putting wildfire in the context of Washington County past losses. Specific community assessments were discussed along with potential mitigation activities being proposed in the county. The status of fire fighting resources and capabilities were presented and discussed.

**Public Questions**

What is the RC&D?

-Is it a federal or state agency?

Where does the funding for this project come from?

-Is this federal money?

Does the BLM run this project?

Is the BLM doing this project to their lands?

Where is the BLM getting this money?

Why do us taxpayers have to pay for people that build where they should not?

Is there anything drafted up?

Will the landowners be involved?

Why are the roads taken out and re-contoured so that you can't go back in and fight fire?

Will we be able to have more public meetings since our commissioners have not informed us?

Can you explain the word treatment?

-Why did the BLM take the cattle off? We never had fires, now we have fires.

-Why not get the cows and sheep back? It would help the economy.

Can the public change the proposal?

Where did the background information come from?

You said we have no choice. We have to do what (you) have already decided?

Can any future commissioners cancel this program?

What other organizations are involved? Is FEMA and Homeland Security involved?

FEMA was late. Where was FEMA? (Regarding recent hurricanes)

This plan has to be compatible to the national fire plan, where do we get a copy of that plan?

Can we look at other counties fire plans?

How many people will this employ?

Why are you taking away from our local volunteer fire departments?

Why isn't the BLM stopping the ATV's? They cut my fence. Why can't you put this in your plan?

What is the difference between rangeland and wildland?

Is the forest service getting away from 'burn baby burn'?

Why can't we burn noxious weeds?

How are you going to get around the environmentalists that got the cattle off in the first place?

Are they going to make us fence the streams?

How are you going to handle the steep slopes down on the Snake River that the campers have messed up?

Why wasn't the survey easier to understand?

Why are the feds changing the way they handle the forests?

Do you have any literature?

Can we get copies of the maps?

Can we photograph the maps?

How accurate is this ownership map?

Why didn't we have an intermission?

Why didn't the volunteer fire fighters do some of the leg work for free? When the government spent our dollars to do it?

How much wages are they taking away from us?

Why is FEMA blackmailing us?

**Methods of advertising this meeting**

Public notices placed in the Weiser Signal American Newspaper (The only newspaper published in Washington County)

Flyers-posted in Cambridge, Midvale and Weiser

**Attendees**

| **Name:** | **Community/Entity** |
|---|---|
| Betty Woods | Weiser |
| Ed Woods | Weiser |
| Robert Peters | Weiser |
| Bud Fisher | Weiser City Fire Department (Chief) |
| Nate Marvin | Weiser Rural Fire Department (Chief) |
| Esther Smith | Weiser |
| Mark Jurry | Weiser |
| Rex Winegar | Weiser |
| Susie Moyle | Weiser |
| Unreadable Signature | Weiser |
| Brian Sines | Forrest Service, Weiser (AFMO) |
| Lorraine Carr | Weiser |
| Ronald Pound | Weiser |
| Diana Thomas | Washington County Commissioner |
| Steve Domby | Washington County Disaster Services |
| Keith Izatt | Washington County Fire Plan Coordinator |
| William E. Schlosser | Northwest Management, Inc., Presenter |

#### 2.2.4.1 Public Document Review

Sections of the Washington County Wildland-Urban Interface Wildfire Mitigation Plan were provided to the Committee members in December of 2003 (as they were completed). Specifically, community risk assessments and the summary of the Resources and Capabilities information were provided to committee members. Due to scheduling complications surrounding the holidays, the committee meeting to discuss these draft sections was held in January 2003. The committee provided comment and revisions to these sections of the document at that

meeting. The revisions were included in a DRAFT Washington County Wildland-Urban Interface Wildfire Mitigation Plan presented to the committee on February 11, 2004. This document was made available to the members of the planning committee and others to obtain a first round of edits, modifications, and enhancements.

On February 25, 2004, members of the planning committee met to discuss changes to the Washington County Wildland-Urban Interface Wildfire Mitigation Plan DRAFT. Many positive and constructive comments were made to the DRAFT document. All of the proposed changes were entered into the DRAFT document which was given the date of DRAFT: February 27, 2004. This version of the plan was distributed on March 1, 2004, to the County Courthouse and county libraries for public review. A press release indicating the public review process was advertised in the local newspaper.

The Public Review period was extended from the March 12 date to March 30. Edits were collected and entered into the plan. The County Commissioners Office and the Emergency Coordinator's office provided additional edits. Once the changes were made to the plan, the County Commissioners requested that the plan be once again offered for public review from May 10 through June 25. Ten copies of the plan's main document and appendices were distributed in the county, along with a press release in the Signal American informing the public about the additional public review period.

# Chapter 3: County Characteristics & Risk Assessment

## 3 Background and Area Description

The following is summarized from the Washington County, Internet web site found at http://www.ruralnetwork.net/~wcassr/.

Washington County was officially created by act of the 9th Territorial Legislature on February 20, 1879. For many years preceding, this section was already contributing to the historical drama of the "Old West", and in the decades that followed, Washington County had given much to the agricultural and economic growth of Idaho

William Allison, of the Upper Valley, later named Salubria, and Thomas Gray of Gray Creek, Indian Valley were of the Ada County lower house delegation in the legislature and were the fathers of the act creating Washington County.

Since Governor Mason Brayman signed acts creating both this and Cassia Counties on the same day, it is impossible to tell whether Washington County was the tenth or eleventh county to come into being in Idaho territory. The new county of Washington then was composed of all that area now included in both Adams and Washington Counties. This area came from the extreme northern part of Ada County and the southwestern part of Idaho County.

The act of creation for Washington County also appointed a temporary board of County Commissioners, consisting of Isaac Spoor of Indian Valley; Nelson Haven, and S.M. Jeffreys of lower Weiser whose duties were to call an election to decide upon a location for the county seat, elect a set of county officers, canvas the vote and declare the county seat. Lower Weiser, which meant this valley from the Weiser Canyon to the Snake River, and Upper Weiser, the valley known as Salubria. There was no town at either place, but Lower Weiser did have a store, located beside the old stage road. Through a bit of political maneuvering Lower Weiser was selected as the county seat by a majority of eleven votes.

During the summer of 1880, nearly all the land in the fertile valley west of Weiser was settled by immigrants from other states. There was no water for irrigation and nothing but sagebrush greeted the eye. In the fall and winter following their coming, numerous meetings were held. It was decided to form a corporation for the purpose of constructing the necessary works for diverting water from the Weiser River to these arid lands. The Articles of Incorporation and by-laws were written up by Judge Frank Harris. The first subscription was used to employ a surveyor to locate and survey out the rout of the proposed canal. The second assessment was to buy some equipment. After working out the amount of the assessment levied, they had constructed about half mile of ditch or one fortieth of its length as surveyed and had used up twenty-five percent of the company's capital. Upon realization of how little they had accomplished and how much must yet be done to bring the needed water to their lands the incorporators decided the task was beyond their ability. A new corporation known as the Weiser Water Company took over the assets of the original company.

The capacity of the ditch thus far constructed was not sufficient to carry water enough to irrigate one eighth of the land under it. Seeing that the project was beyond their ability, the Weiser Water Company sold out to the T.C. Galloway and a number of Boise people who had made land investments on which the principal portion of Weiser now stands. These new owners enlarged the ditch to some extent and carried water through its entire length in 1886, but not in sufficient quantity to satisfy the needs of the settlers who were increasing their cultivated area of land each year. Mr. Galloway later sold the canal and its water rights to the irrigation district for

$20,000. The district was formed and bonded for $40,000. The additional amount was to enlarge the canal sufficiently to irrigate all the land under it.

Weiser grew at a rapid rate beginning in 1881. As it had been assured the fact that the railroad was coming. After all the bridges were built the rails were rapidly laid out to the Weiser River. A town was laid out at a point about two and a half miles east of the present depot called New Weiser. This was an enterprise of R.E. Strahorn, a town site prompter, who had founded the towns of Shoshone and Caldwell. The first freight and passengers arrived in the winter of 1883. In 1885, the railroad company built its permanent depot where the present depot now stands. This caused the demise of the Strahorn's venture.

Weiser began to take on signs of life in the spring of 1881. The board of county commissioner decided that a courthouse should be built and planned for a frame building 24 by 40 feet with offices below and a courtroom above. The contract was awarded to J.W. McCully for the sum of one thousand dollars. Lumber for the structure was hauled from the mills north of Salubria. Weiser School District was also formed that year from territory formerly a part of the lower Mann Creek of Jeffreys District. This school district extended from a line two miles east of the east side of the school house as far west and north as there was territory within the county.

Upon the arrival of the railroad, with its camp followers, many of who had followed the camps all the way from Granger, Weiser took on a sudden change, but not for the better. They were composed of a motley mob of tinhorn gamblers, pimps, burglars, pickpockets, prostitutes, and every variety of mankind that was low and despicable. Saloons flourished and gambling was carried on in all of them, day and night. The coming of this new population resulted in commodities reaching an abnormal altitude. Grains of all kinds sold at four cents a pound and flour at $16.00 per barrel. Beef was more reasonable, as there was an abundance of that commodity on the range, but the price was far above what it had been two or three years before.

In 1881 Robert Morehead and Company completed and began operation of its grist mill located on the Monroe Creek a short distance below where the railroad bridge spans that stream. Power for the mill was water diverted from the Weiser River Through the mill ditch. The building and operation of this new venture was of great value to farmers who had been obliged to haul their wheat to Middleton, 50 Miles away, to get it converted into flour. In the fall of 1882, Washington County saw the launching of the first newspaper venture within its borders, when the Weiser Leader made its journalists bow before the public. The venture was not a profitable one and it shortly sold to the second party. The enterprise changed hands a number of times and was finally taken over by R.E. Lockwood, who founded the Weiser Signal.

Washington County was not without its mining excitements and many of them occurred. There were Mineral Ruthbery, now called Heath, Seven Devils, Rapid River, and late the Blue Dog, the latter being a little ways up Monroe Creed.

The first mineral location ever made in the territory afterwards carved into Washington County was the Peacock, now in Adams County in the seven Devils County.

Levi Allen made a location but was unable to tell if he was in Ada or Idaho County. Allen and I.I. Lewis had location when two Scotchmen from Ruthbery relocated it, as Allen and Lewis had left it undeveloped. Allen and Lewis brought suit to recover possession of the ground which was pending in Ada County at the time of the creation of Washington County. The suit was the first case ever docketed in Washington County. It was never tried, as a compromise was arrived when Allen and Lewis sold their holdings to Kleinschmidt and others.

The early claims were copper. In 1886 or 1887 gold bearing quartz was discovered on a tributary of Rapid River. The ore quit and the claim was abandoned.

There was the Heath or Ruthburg area fist discovered in 1875. There was a town at Mineral where there were three saloons, a hotel, a store, and a shoemaker shop around 1880.

Poker, both stud and draw, were indulged in sometimes for considerable stakes, while others, who did not like to go as strong as playing for money, played solo for the drinks. Judge Huston was a great solo enthusiast and when in camp always took a hand. E.A. Van Sicklin, who then had a sheep ranch on the river came up frequently and he, the Judge and Darby, proprietor of the salons would have an all day sitting at their favorite game. This was prior to 1892 when silver was demonetized. All the mines and smelters closed. Mining resumed later but not to the extent of the first explorations.

The first permanent white settlers on the Weiser River were William and Nancy Logan, and the latter's brother J.N. (Norm) Harris. Logan and his future wife Nancy were fleeing from the wrath of her parents, who were keeping a boarding house at the old town of Auburn, southwest of Baker. The parents were opposed to a union between them as Nancy was better than a raw hand at cooking and waiting on the table. The young people had an entirely different notion about it and Logan secured a couple of saddle horses and a pack horse and with Nancy's brother Norm Harris, lit out for Idaho. The nearest place they knew where they could procure the services of someone to perform a marriage ceremony.

They came by way of Burnt River and struck Snake River where the Olds Ferry was later established. They camped overnight at the current location of Weiser. Logan was delighted with the appearance of the country. Understanding that Olds was soon to put in a ferry on the Snake somewhere below here, he decided that here would be a good place to start a road house, as the travel would no doubt follow down this side of the river as soon as the ferry was in, instead of going along the Oregon side of the river as it had for a number of years.

They went on to Placerville, in the Idaho basin where the Justice of the Peace was found and the wedding ceremony performed. After the wedding the three returned to Weiser, selected a site and built a house of mud and willows and began to get ready for the entertainment of the travel that was soon to come.

As Logan had been advised, Olds and associates put in their ferry, long known as Olds Ferry in the fall of 1863 and began operations, under a charter granted them by the first territorial legislature at Lewiston, the territorial capital at the time. The cost was $3.00 for the team and wagon, for the extra team, $1.00; for a loaded pack animal $ .75; for pack animal returning, $.50; for horse and rider $.75; for footman $.25; for loose animals $.25.

The ferry business proved to be financially successful as did Logan's roadhouse. The Logan's ran the business for a few years when they disposed of it and took a ranch about three miles up the Weiser River. Their first two children were born in 1864 and 1865 respectively.

Ada County came into existence on the 22nd day of December 1864. All of what is now Washington, Valley, Adams, practically all of Payette and a large part of Gem County was then within the confines of Idaho County.

The year following the coming of the Logan's came Woodson Jeffreys and Thomas C. Galloway, both from the Willamette Valley. Jeffereys had a family of a wife two sons and two daughters whom he left as the Dalles because of the want of school facilities there, and who joined him a few years later. Galloway was a bachelor at the time. With the three different counties although on the same places they had taken on their arrival here.

Woodson Jeffreys had two brothers who came to make their homes on the Weiser River, not long after his arrival. They were Solomon and James. Sol, as he was generally known, became associated with Woodson in the cattle business and later in merchandise and flour milling

projects, the cattle business being carries n under the name of Jeffrey Brothers, merchandise, under the name of T.M. Jeffereys & Company and the flour mill under the name of R. Morehead & Company.

## *3.1 Demographics*

Washington County reported a total population of 9,977 in 2000 with approximately 4,138 housing units. Washington County has three incorporated communities, Weiser (pop. 5,343), Midvale (pop. 176), and Cambridge (pop. 360) (Census 2000). The total population for the county increased 7% from 1990 to 2000. The total land area of the county is roughly 1,482 square miles (932,096 acres).

Washington County was established 1879, with its county seat at Weiser, where it remains to this day. Washington County was named for George Washington, the first President of the United States. The area was first visited by white men in 1811, when Wilson Price Hunt, McDonald McKenzie, and four companions passed through it on their way to Astoria. Table 3.1 summarizes some relevant current demographic statistics for Washington County.

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

| Subject | Number | Percent |
|---|---|---|
| **Total population** | 9,977 | 100.0 |
| | | |
| **SEX AND AGE** | | |
| Male | 4,881 | 48.9 |
| Female | 5,096 | 51.1 |
| | | |
| Under 5 years | 673 | 6.7 |
| 5 to 9 years | 780 | 7.8 |
| 10 to 14 years | 781 | 7.8 |
| 15 to 19 years | 770 | 7.7 |
| 20 to 24 years | 456 | 4.6 |
| 25 to 34 years | 972 | 9.7 |
| 35 to 44 years | 1,359 | 13.6 |
| 45 to 54 years | 1,350 | 13.5 |
| 55 to 59 years | 541 | 5.4 |
| 60 to 64 years | 532 | 5.3 |
| 65 to 74 years | 894 | 9.0 |
| 75 to 84 years | 618 | 6.2 |
| 85 years and over | 251 | 2.5 |
| | | |
| **Median age (years)** | 39.2 | (X) |
| | | |
| 18 years and over | 7,239 | 72.6 |
| Male | 3,488 | 35.0 |
| Female | 3,751 | 37.6 |
| 21 years and over | 6,883 | 69.0 |
| 62 years and over | 2,085 | 20.9 |
| 65 years and over | 1,763 | 17.7 |

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

| Subject | Number | Percent |
|---|---|---|
| Male | 763 | 7.6 |
| Female | 1,000 | 10.0 |
| | | |
| **RACE** | | |
| One race | 9,742 | 97.6 |
| White | 8,741 | 87.6 |
| Black or African American | 10 | 0.1 |
| American Indian and Alaska Native | 66 | 0.7 |
| Asian | 103 | 1.0 |
| Asian Indian | 0 | 0.0 |
| Chinese | 19 | 0.2 |
| Filipino | 5 | 0.1 |
| Japanese | 70 | 0.7 |
| Korean | 7 | 0.1 |
| Vietnamese | 0 | 0.0 |
| Other Asian [1] | 2 | 0.0 |
| Native Hawaiian and Other Pacific Islander | 7 | 0.1 |
| Native Hawaiian | 1 | 0.0 |
| Guamanian or Chamorro | 0 | 0.0 |
| Samoan | 1 | 0.0 |
| Other Pacific Islander [2] | 5 | 0.1 |
| Some other race | 815 | 8.2 |
| Two or more races | 235 | 2.4 |
| | | |
| **Race alone or in combination with one or more other races** [3] | | |
| White | 8,959 | 89.8 |
| Black or African American | 21 | 0.2 |
| American Indian and Alaska Native | 151 | 1.5 |
| Asian | 136 | 1.4 |
| Native Hawaiian and Other Pacific Islander | 19 | 0.2 |
| Some other race | 942 | 9.4 |
| | | |
| **HISPANIC OR LATINO AND RACE** | | |
| Total population | 9,977 | 100.0 |
| Hispanic or Latino (of any race) | 1,372 | 13.8 |
| Mexican | 1,098 | 11.0 |
| Puerto Rican | 0 | 0.0 |
| Cuban | 0 | 0.0 |
| Other Hispanic or Latino | 274 | 2.7 |
| Not Hispanic or Latino | 8,605 | 86.2 |
| White alone | 8,294 | 83.1 |
| | | |
| **RELATIONSHIP** | | |
| Total population | 9,977 | 100.0 |

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

| Subject | Number | Percent |
|---|---|---|
| In households | 9,830 | 98.5 |
| Householder | 3,762 | 37.7 |
| Spouse | 2,284 | 22.9 |
| Child | 3,073 | 30.8 |
| Own child under 18 years | 2,517 | 25.2 |
| Other relatives | 383 | 3.8 |
| Under 18 years | 173 | 1.7 |
| Nonrelatives | 328 | 3.3 |
| Unmarried partner | 141 | 1.4 |
| In group quarters | 147 | 1.5 |
| Institutionalized population | 120 | 1.2 |
| Noninstitutionalized population | 27 | 0.3 |
| | | |
| **HOUSEHOLDS BY TYPE** | | |
| Total households | 3,762 | 100.0 |
| Family households (families) | 2,737 | 72.8 |
| With own children under 18 years | 1,232 | 32.7 |
| Married-couple family | 2,284 | 60.7 |
| With own children under 18 years | 977 | 26.0 |
| Female householder, no husband present | 310 | 8.2 |
| With own children under 18 years | 184 | 4.9 |
| Nonfamily households | 1,025 | 27.2 |
| Householder living alone | 883 | 23.5 |
| Householder 65 years and over | 499 | 13.3 |
| | | |
| Households with individuals under 18 years | 1,346 | 35.8 |
| Households with individuals 65 years and over | 1,228 | 32.6 |
| | | |
| Average household size | 2.61 | (X) |
| Average family size | 3.10 | (X) |
| | | |
| **HOUSING OCCUPANCY** | | |
| Total housing units | 4,138 | 100.0 |
| Occupied housing units | 3,762 | 90.9 |
| Vacant housing units | 376 | 9.1 |
| For seasonal, recreational, or occasional use | 62 | 1.5 |
| | | |
| Homeowner vacancy rate (percent) | 2.9 | (X) |
| Rental vacancy rate (percent) | 7.4 | (X) |
| | | |
| **HOUSING TENURE** | | |
| Occupied housing units | 3,762 | 100.0 |
| Owner-occupied housing units | 2,773 | 73.7 |
| Renter-occupied housing units | 989 | 26.3 |

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

| Subject | Number | Percent |
|---|---|---|
| | | |
| Average household size of owner-occupied unit | 2.61 | (X) |
| Average household size of renter-occupied unit | 2.62 | (X) |

(X) Not applicable

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] In combination with one or more other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000 Summary File 1, Matrices P1, P3, P4, P8, P9, P12, P13, P,17, P18, P19, P20, P23, P27, P28, P33, PCT5, PCT8, PCT11, PCT15, H1, H3, H4, H5, H11, and H12.

## *3.2 Socioeconomics*

Washington County had a total of 4,138 housing units and a population density of 2.5 persons per square mile reported in the 2000 Census (Table 3.1). Ethnicity in Washington County is distributed: white 97.6%, black or African American 0.1%, American Indian or Alaskan Native 0.7%, other race 8.2%, two or more races 2.4%, Hispanic or Latino 13.8%, and white alone (not Hispanic or Latino) 83.1%.

Specific economic data for individual communities is collected by the US Census; in Washington County this includes Weiser, Midvale, and Cambridge. Washington County households earn a median income of $30,625 annually, Weiser had a median household income of $31,017 in 2000. The city of Midvale had a median household income of $30,125 in 2000, which is nearly identical to the Washington County median income during the same period. Additionally, Cambridge had a median income of $25,850 in 2000, which is 15.5% below the County median income during the same period. Table 3.2 shows the dispersal of households in various income categories in both communities.

| **Table 3.2. Washington County Income in 1999.** | **Washington County Totals Number (%)** | **Weiser Number (%)** | **Midvale Number (%)** | **Cambridge Number (%)** |
|---|---|---|---|---|
| Households | 3761 (100) | 3,069 (100) | 289 (100) | 403 (100) |
| Less than $10,000 | 454 (12.1) | 351 (11.4) | 46 (15.9) | 57 (14.1) |
| $10,000 to $14,999 | 315 (8.4) | 243 (7.9) | 31 (10.7) | 41 (10.2) |
| $15,000 to $19,999 | 367 (9.8) | 303 (9.9) | 18 (6.2) | 46 (11.4) |
| $20,000 to $24,999 | 386 (10.3) | 309 (10.1) | 28 (9.7) | 49 (12.2) |
| $25,000 to $29,999 | 304 (8.1) | 250 (8.1) | 21 (7.3) | 33 (8.2) |
| $30,000 to $34,999 | 347 (9.2) | 299 (9.7) | 13 (4.5) | 35 (8.7) |
| $35,000 to $39,999 | 230 (3.1) | 189 (6.2) | 17 (5.9) | 24 (6.0) |
| $40,000 to $44,999 | 292 (7.8) | 240 (7.8) | 28 (9.7) | 24 (6.0) |
| $45,000 to $49,999 | 163 (4.3) | 145 (4.7) | 3 (1.0) | 15 (3.7) |
| $50,000 to $59,999 | 267 (7.1) | 221 (7.2) | 22 (7.6) | 24 (6.0) |
| $60,000 to $74,999 | 276 (7.3) | 227 (7.4) | 29 (10.0) | 20 (5.0) |
| $75,000 to $99,999 | 188 (5.0) | 157 (5.1) | 10 (3.5) | 21 (5.2) |
| $100,000 to $124,999 | 41 (1.1) | 32 (1.0) | 4 (1.4) | 5 (1.2) |
| $125,000 to $149,999 | 57 (1.5) | 50 (1.6) | 3 (1.0) | 4 (1.0) |

| Table 3.2. Washington County Income in 1999. | Washington County Totals Number (%) | Weiser Number (%) | Midvale Number (%) | Cambridge Number (%) |
|---|---|---|---|---|
| $150,000 to $199,999 | 36 (1.0) | 24 (0.8) | 9 (3.1) | 3 (0.7) |
| $200,000 or more | 38 (1.0) | 29 (0.9) | 7 (2.4) | 2 (0.5) |
| Median income (dollars) | 30,625 (X) | 31,017 (X) | 30,125 (X) | 25,850 (X) |

(Census 2000)

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of its projects on minority or low-income populations. In Washington County, a significant number (10.0%) of families are at or below the poverty level (Table 3.3).

| Table 3.3 Poverty Status in 1999 (below poverty level) | Washington County | |
|---|---|---|
| | Number | Percent |
| **Families** | **273** | **(X)** |
| Percent below poverty level | (X) | 10.0 |
| With related children under 18 years | 206 | (X) |
| Percent below poverty level | (X) | 15.7 |
| With related children under 5 years | 123 | (X) |
| Percent below poverty level | (X) | 20.9 |
| **Families with female householder, no husband present** | **106** | **(X)** |
| Percent below poverty level | (X) | 38.1 |
| With related children under 18 years | 90 | (X) |
| Percent below poverty level | (X) | 52.0 |
| With related children under 5 years | 60 | (X) |
| Percent below poverty level | (X) | 65.9 |
| **Individuals** | **1302** | **(X)** |
| Percent below poverty level | (X) | 13.3 |
| 18 years and over | 828 | (X) |
| Percent below poverty level | (X) | 11.6 |
| 65 years and over | 160 | (X) |
| Percent below poverty level | (X) | 9.9 |
| Related children under 18 years | 436 | (X) |
| Percent below poverty level | (X) | 16.6 |
| Related children 5 to 17 years | 271 | (X) |
| Percent below poverty level | (X) | 13.9 |
| Unrelated individuals 15 years and over | 360 | (X) |
| Percent below poverty level | (X) | 26.5 |

(Census 2000)

The unemployment rate was 4.7% in Washington County in 1999, compared to 4.4% nationally during the same period. Approximately 13.7% of the Washington County employed population worked in natural resources, with much of the indirect employment relying on the employment created through these natural resource occupations; Table 3.4 (Census 2000).

| Table 3.4 Employment & Industry | Washington County | |
|---|---|---|
| | Number | Percent |
| Employed civilian population 16 years and over | 7,610 | 100.0 |
| **OCCUPATION** | | |
| Management, professional, and related occupations | 1,123 | 26.5 |
| Service occupations | 660 | 15.5 |
| Sales and office occupations | 889 | 20.9 |
| Farming, fishing, and forestry occupations | 243 | 5.7 |
| Construction, extraction, and maintenance occupations | 403 | 9.5 |
| Production, transportation, and material moving occupations | 927 | 21.8 |
| **INDUSTRY** | | |
| Agriculture, forestry, fishing and hunting, and mining | 583 | 13.7 |
| Construction | 265 | 6.2 |
| Manufacturing | 729 | 17.2 |
| Wholesale trade | 131 | 3.1 |
| Retail trade | 483 | 11.4 |
| Transportation and warehousing, and utilities | 232 | 5.5 |
| Information | 112 | 2.6 |
| Finance, insurance, real estate, and rental and leasing | 147 | 3.5 |
| Professional, scientific, management, administrative, and waste management services | 140 | 3.3 |
| Educational, health and social services | 658 | 15.5 |
| Arts, entertainment, recreation, accommodation and food services | 243 | 5.7 |
| Other services (except public administration) | 201 | 4.7 |
| Public administration | 321 | 7.6 |

Approximately 67% of Washington County's employed persons are private wage and salary workers, while nearly 18% are government workers (Table 3.5).

| Table 3.5 Class of Worker | Washington County | |
|---|---|---|
| | Number | Percent |
| Private wage and salary workers | 2,820 | 66.5 |
| Government workers | 754 | 17.8 |
| Self-employed workers in own not incorporated business | 630 | 14.8 |
| Unpaid family workers | 41 | 1.0 |

(Census 2000)

## 3.2.1 Forestry and Logging

Over the past century, employment through timber harvesting has been significant in the region, although less so in Washington County. Forestry, logging, trucking, and related support industries have relied on timber harvests from the West Central Highlands of Idaho. Today, the mill at Tamarack operates a dimension lumber sawmill to the north in Adams County. There are no commercial sawmills operating today in Washington County.

### 3.2.2 Recreation

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

### 3.2.3 Resource Dependency

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

Idaho communities with more than 10% employment in resource-based sectors (wood products, travel & tourism, agriculture, and mining) were evaluated by Harris *et al.* (2003). Their findings indicate that Weiser falls into this category as an "Agriculture Only" dependent community. Midvale is considered under the heading of "Agriculture and Mining" dependent community. Cambridge is considered to be in the category of "Wood Products and Agriculture" (Harris *et al.* 2000).

From 1993 to 1998 sawmill capacity dropped rapidly in response to dwindling public log supplies. Only two of five dominant companies operating in 1995 were still operating in 1998, and one of these, Boise Cascade, closed two of its large sawmills during this period. In the mid-1980s Boise Cascade operated three sawmills, one plywood mill and a finishing-planer mill. Idaho closures included its Council and Horseshoe Bend sawmills. Only two facilities remained open in 1999, the sawmill in Cascade and a plywood mill in Emmett. In the last few years, both of these mills closed, along with Croman's mill (Harris *et al.* 2000).

Harris *et al.* (2003) further evaluated Idaho communities based on their level of direct employment in several industrial sectors. Their findings for communities in Washington County are summarized in Table 3.6.

**Table 3.6. Levels of direct employment by industrial sector**

| Community | Economic Diversity Index | Agriculture | Timber | Travel and Tourism | State/Local Government | Federal Government | Mining and Minerals |
|---|---|---|---|---|---|---|---|
| Weiser | High | Med. High | Low | Med. Low | Med. High | Low | Med. Low |
| Midvale | Low | High | Low | Low | Med. Low | Low | High |
| Cambridge | Med. High | High | Med. High | Med. Low | Med. High | Low | Low |

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

Source: Harris *et al.* 2000

### 3.2.4 Development Trends & County Zoning

Washington County established a building department and began keeping records on April 9, 1979. From that date to present (10/16/03), 688 new residences have been built, not including replacement houses.

By looking at the location of these developments, in relation to the Wildland-Urban Interface, three areas of concern were identified; Low Hazard, Medium Hazard, and High Hazard. The construction of these new residences (688) were located in each zone as follows:

- Low Hazard: 448 (65%) of these residences
- Medium Hazard: 186 (27%) of these residences

- High Hazard: 54 (8%) of these residences

**Table 3.7. Building numbers in five-year periods:**

| Construction Periods | Low Hazard | Medium Hazard | High Hazard |
|---|---|---|---|
| **1979-83** | 78 (60%) | 45 (34%) | 8 (6%) |
| **1984-88** | 58 (77%) | 13 (17%) | 4 (6%) |
| **1989-93** | 69 (67%) | 26 (25%) | 8 (8%) |
| **1994-98** | 154 (65%) | 63 (27%) | 20 (8%) |
| **1999-03** | 89 (61%) | 39 (27%) | 18 (12%) |

In the late nineties, the three rural fire departments located in Washington County adopted access requirements associated with new construction:

- A 26-foot wide easement with 16 feet of all-weather roadway for one residence and 20 feet for two residences. Midvale requires a 20'-all weather driving surface. These apply in that part of the County within a fire district.

In 2003 Washington County adopted the following standard:

- A 26-foot wide easement for a drive serving two residences, a third residence requires a road built to county standards with a 60-foot easement (public or private).

There has been very little new infrastructure development in the last 25 years. A substandard private road built in 1979 accesses 40+ vacation homes in a High Hazard area (Pine Creek Mountain Estates). Another private road, built to county specifications, accesses a 16-lot subdivision in the same area (Brownlee Summit Estates). There is a substandard private road (Gentry Lane) serving 10 residences in a Medium Hazard area that does not meet present standards and could become a problem in an emergency.

## *3.3 Cultural Resources*

Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their proposals on historic properties, and to provide state historic preservation officers, tribal historic preservation officers, and, as necessary, the Advisory Council on Historic Preservation a reasonable opportunity to review and comment on these actions.

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

Washington County is within the Aboriginal territory boundary of the Nez Perce Indian Nation and the Shoshone-Paiute Indian Tribes. Much of this territory was ceded to the US Government in 1855. Today, the northern edge of Washington County is approximately 100 miles south of the southeastern tip of the Nez Perce Indian Reservation boundary (1863 Treaty).

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

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

- **EO 13175, November 6, 2000**, Consultation and Coordination with Indian Tribal Governments.
- **Presidential Memorandum, April, 1994**. Government-Government Relations with Tribal Governments (Supplements EO 13175). Agencies must consult with federally recognized tribes in the development of Federal Policies that have tribal implications.
- **EO 13007, Sacred sites, May 24, 1996**. Requires that in managing Federal lands, agencies must accommodate access and ceremonial use of sacred sites and must avoid adversely affecting the physical integrity of these sites.
- **EO 12875, Enhancing Intergovernmental Partnerships, October 26, 1993**. Mainly concerned with unfunded mandates caused by agency regulations. Also states the intention of establishing "regular and meaningful consultation and collaboration with state, local and tribal governments on matters that significantly or uniquely affect their communities."
- **Native American Graves Protection and Repatriation Act (NAGPRA) of 1989**. Specifies that an agency must take reasonable steps to determine whether a planned activity may result in the excavation of human remains, funerary objects, sacred objects and items of cultural patrimony from Federal lands. NAGPRA also has specified requirements for notifying and consulting tribes.
- **Archaeological Resources Protection Act (ARPA), 1979**. Requires that Federal permits be obtained before cultural resource investigations begin on Federal land. It also requires that investigators consult with the appropriate Native American tribe prior to initiating archaeological studies on sites of Native American origin.
- **American Indian Religious Freedom Act (AIRFA), 1978**. Sets the policy of the US to protect and preserve for Native Americans their inherent rights of freedom to believe, express, and exercise the traditional religions of the American Indian . . . including, but not limited to access to sacred sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.
- **National Environmental Policy Act (NEPA), 1969**. Lead agency shall invite participation of affected Federal, State, and local agencies and any affected Indian Tribe(s).
- **National Historic Preservation Act (NHPA), 1966**. Requires agencies to consult with Native American tribes if a proposed Federal action may affect properties to which they attach religious and cultural significance. (Bulletin 38 of the act, identification of TCPs, this can only be done by tribes.)
- Treaties (supreme law of the land) in which tribes were reserved certain rights for hunting, fishing and gathering and other stipulations of the treaty.
- Unsettled aboriginal title to the land, un-extinguished rights of tribes.

Typical archeological sites include lithic scatters, village sites, rock art, and hunting blinds. The Indians of this region had a network of trails throughout the area which included various trade

routes, as well as gathering and hunting routes. Some of the same trails were later used by homesteaders and miners. Traditional Cultural Properties (TCPs) are cultural resources defined as a significant place or setting, and does not necessarily have any associated material remains. For example, a TCP can be a mountain, river, or natural feature (i.e., rock formation, meadow, etc.). Many of these are present in Washington County.

Many of these sites are at risk from wildland fire due to the increase in fuel accumulation since historic times. The integrity of some cultural resources has been impacted in the past by logging activities, road building, mining, and grazing.


The National Park Service maintains the National Register of Historical Places as a repository of information on significant cultural locale. These may be buildings, roads or trails, places where historical events took place, or other noteworthy sites. The NPS has recorded sites in its database. These sites are summarized in Tables 3.8-3.35.

| **Table 3.8. Historic Places: Anderson-Elwell House** | Added 1982 - **Building** - #82000373<br>547 W. 1st St., Weiser |
|---|---|
| Historical Engineering | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.9. Historic Places: Baptist Church** | Added 1977 - **Building** - #77000470<br>Also known as Advent Christian Church of the Chimes<br>E. Main and 8th Sts., Weiser |
|---|---|
| Historical Significance | Architecture/Engineering |
| Architect, builder, or engineer: | Cousens, John |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1875-1899 |
| Owner: | **Private** |
| Historic Function: | Religion |
| Historic Sub-function: | Religious Structure |
| Current Function: | Religion |
| Current Sub-function: | Religious Structure |

(NRHP 2003)

| **Table 3.10. Historic Places: Butterfield Livestock Company House** | Added 1982 - **Building** - #82000374<br>N of Weiser on Jenkins Creek Rd., Weiser |
|---|---|
| Historical Significance | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte & Hummel |
| Architectural Style: | Other |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.11. Historic Places: Cambridge News Office** | Added 1989 - **Building** - #89002128<br>Also known as **The News Office and The News Reporter Office; 014022**<br>155 N. Superior St., Cambridge |
|---|---|
| Historic Significance: | Event |
| Area of Significance: | Communications |
| Period of Significance: | 1900-1924, 1925-1949 |
| Owner: | **Private** |
| Historic Function: | Commerce/Trade |
| Historic Sub-function: | Business |
| Current Function: | Commerce/Trade |
| Current Sub-function: | Business |

(NRHP 2003)

| **Table 3.12. Historic Places: Drake, Col. C. F., House** | Added 1978 - **Building** - #78001104<br>516 E. Main St., Weiser |
|---|---|
| Historical Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Unknown |
| Architectural Style: | Shingle Style |
| Area of Significance: | Architecture |
| Period of Significance: | 1875-1899, 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.13. Historic Places: Edwards--Gillette Barn** | **Added 2002 - Building - #02000013**<br>**Also known as Kellar Barn**<br>**3059 Rush Creek Rd., Cambridge** |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architectural Style: | Other |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | Private |
| Historic Function: | Agriculture/Subsistence |
| Historic Sub-function: | Agricultural Outbuildings |
| Current Function: | Agriculture/Subsistence |
| Current Sub-function: | Agricultural Outbuildings |

(NRHP 2003)

| **Table 3.14. Historic Places: Fisher, James M., House** | Added 1986 - **Building** - #86002146<br>598 Pioneer Rd., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Bond, H.W. & Co. |
| Architectural Style: | Queen Anne, Colonial Revival |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.15. Historic Places: Galloway, Thomas C., House** | Added 1978 - **Building** - #78001105<br>1120 E. 2nd St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering, Person |
| Architect, builder, or engineer: | Hummel, Charles I |
| Architectural Style: | Queen Anne |
| Historic Person: | Galloway, Thomas C. |
| Significant Year: | 1900 |
| Area of Significance: | Social History, Architecture, Politics/Government, Exploration/Settlement |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.16. Historic Places: Haas, Bernard, House** | Added 1978 - **Building** - #78001106377<br>E. Main St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte & Co. |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |

| **Table 3.17. Historic Places: Haas, Herman, House** | Added 1982 - **Building** - #82000375<br>253 W. Idaho St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |

| **Table 3.18. Historic Places: Hilliard, Cartter, Barn** | Added 1980 - **Building** - #80004672<br>Jenkins Creek Rd., Weiser |
|---|---|
| Owner: | **Private** |
| (NRHP 2003) | |

| **Table 3.19. Historic Places: Intermountain Institute** | Added 1979 - **District** - #79000811<br>Paddock Ave., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering, Person |
| Architect, builder, or engineer: | Tourtellotte & Hummel |
| Architectural Style: | Classical Revival |
| Historic Person: | Paddock, Rev. Edward A. |
| Significant Year: | 1929, 1907 |
| Area of Significance: | Architecture, Education |
| Period of Significance: | 1900-1924, 1925-1949 |
| Owner: | **Private** |
| Historic Function: | Education |
| Historic Sub-function: | Educational Related Housing, School |

| **Table 3.19. Historic Places: Intermountain Institute** | Added 1979 - **District** - #79000811<br>Paddock Ave., Weiser |
|---|---|
| Current Function: | Vacant/Not In Use |
| (NRHP 2003) | |
| **Table 3.20. Historic Places: Jewell Building** | Added 1990 - **Building** - #89002263<br>Also known as **Burgess Building**<br>15 N. Superior, Cambridge |
| Historic Significance: | Event |
| Area of Significance: | Commerce |
| Period of Significance: | 1900-1924, 1925-1949 |
| Owner: | **Local Gov't** |
| Historic Function: | Commerce/Trade |
| Historic Sub-function: | Department Store, Specialty Store |
| Current Function: | Recreation And Culture |
| Current Sub-function: | Museum |
| (NRHP 2003) | |
| **Table 3.21. Historic Places: Knights of Pythias Lodge Hall** | Added 1976 - **Building** - #76000683 Also known as **Pythian Castle**<br>30 E. Idaho St., Weiser |
| Historic Significance: | Architecture/Engineering, Event |
| Architect, builder, or engineer: | Tourtellotte & Co. |
| Architectural Style: | No Style Listed |
| Area of Significance: | Social History, Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Social |
| Historic Sub-function: | Clubhouse |
| Current Function: | Commerce/Trade, Social |
| Current Sub-function: | Clubhouse |
| (NRHP 2003) | |
| **Table 3.22. Historic Places: Kurtz-Van Sicklin House** | Added 1982 - **Building** - #82000376<br>439 W. 3rd. St., Weiser |
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte & Hummel, Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1875-1899, 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |

| **Table 3.22. Historic Places: Kurtz-Van Sicklin House** | Added 1982 - **Building** - #82000376<br>439 W. 3rd. St., Weiser |
|---|---|
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |
| **Table 3.23. Historic Places: Larsen, Archie, House** | Added 1982 - **Building** - #82000377<br>S of Weiser on Larsen Rd., Weiser |
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Bungalow/Craftsman |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |
| **Table 3.24 Historic Places: Nesbit, G. V., House** | Added 1982 - **Building** - #82000378<br>308 W. Liberty, Weiser |
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John & Company |
| Architectural Style: | Bungalow/Craftsman |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |
| **Table 3.25. Historic Places: Numbers, Dr. J. R., House** | Added 1982 - **Building** - #82000379<br>240 W. Main St., Weiser |
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte & Hummel |
| Architectural Style: | Queen Anne, Colonial Revival |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.26. Historic Places: Salubria Lodge No. 31** | Added 1990 - **Building** - #90000368 Also known as 014091<br>85 W. Central St., Cambridge |
|---|---|
| Historic Significance: | Event |
| Area of Significance: | Exploration/Settlement |
| Period of Significance: | 1900-1924, 1925-1949 |
| Owner: | **Private** |
| Historic Function: | Social |
| Historic Sub-function: | Meeting Hall |
| Current Function: | Social |
| Current Sub-function: | Meeting Hall |

(NRHP 2003)

| **Table 3.27. Historic Places: Sommer, Morris, House** | Added 1982 - **Building** - #82000380<br>548 W. 2nd St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne |
| Area of Significance: | Architecture |
| Period of Significance: | 1875-1899 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.28. Historic Places: Sommer camp, Mary Elizabeth, House** | Added 1982 - **Building** - #82000381<br>411 W. 3rd St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne, Colonial Revival |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |

(NRHP 2003)

| **Table 3.29. Historic Places: St. Agnes Catholic Church** | Added 1978 - **Building** - #78001107<br>204 E. Liberty St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte & Hummel |
| Architectural Style: | Other, Colonial Revival |
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Religion |
| Historic Sub-function: | Religious Structure |
| Current Function: | Religion |
| Current Sub-function: | Religious Structure |
| (NRHP 2003) | |

| **Table 3.30. Historic Places: St. Luke's Episcopal Church** | Added 1978 - **Building** - #78001108<br>E. 1st and Liberty Sts., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Snavely, Rev. Charles W. |
| Architectural Style: | Other |
| Area of Significance: | Architecture |
| Period of Significance: | 1875-1899 |
| Owner: | **Private** |
| Historic Function: | Religion |
| Historic Sub-function: | Religious Structure |
| Current Function: | Religion |
| Current Sub-function: | Religious Structure |
| (NRHP 2003) | |

| **Table 3.31. Historic Places: Star Theater** | Added 1999 - **Building** - #99001413<br>342 State St., Weiser |
|---|---|
| Historic Significance: | Event |
| Area of Significance: | Entertainment/Recreation |
| Period of Significance: | 1925-1949 |
| Owner: | **Private** |
| Historic Function: | Recreation And Culture |
| Historic Sub-function: | Theater |
| Current Function: | Recreation And Culture |
| Current Sub-function: | Theater |
| (NRHP 2003) | |

| **Table 3.32. Historic Places: Varian, B. S., House** | Added 1982 - **Building** - #82000382<br>241 Main St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |
| Architect, builder, or engineer: | Tourtellotte, John E. & Company |
| Architectural Style: | Queen Anne |

| **Table 3.32. Historic Places: Varian, B. S., House** | Added 1982 - **Building** - #82000382<br>241 Main St., Weiser |
|---|---|
| Area of Significance: | Architecture |
| Period of Significance: | 1900-1924 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |

| **Table 3.33. Historic Places: Washington County Courthouse** | Added 1987 - **Building** - #87001602<br>Also known as 001009 E. Court St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering, Event |
| Architect, builder, or engineer: | Ulmer, J.F., Tourtellotte & Hummel |
| Architectural Style: | Moderne |
| Area of Significance: | Architecture, Politics/Government |
| Period of Significance: | 1925-1949 |
| Owner: | **Local Gov't** |
| Historic Function: | Government |
| Historic Sub-function: | Courthouse |
| Current Function: | Government |
| Current Sub-function: | Courthouse |
| (NHRP 2003) | |

| **Table 3.34. Historic Places: Watlington, Benjamin, House** | Added 1991 - **Building** - #91000458<br>Also known as Clausen, Steve and Cheri, House; 013844<br>206 W. Court St., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering, Event |
| Architect, builder, or engineer: | King, James |
| Architectural Style: | Second Empire |
| Area of Significance: | Architecture, Exploration/Settlement |
| Period of Significance: | 1875-1899 |
| Owner: | **Private** |
| Historic Function: | Domestic |
| Historic Sub-function: | Single Dwelling |
| Current Function: | Domestic |
| Current Sub-function: | Single Dwelling |
| (NRHP 2003) | |

| **Table 3.35. Historic Places: Weiser Post Office** | Added 1982 - **Building** - #82000383 Main and W. 1st Sts., Weiser |
|---|---|
| Historic Significance: | Architecture/Engineering |

| **Table 3.35. Historic Places: Weiser Post Office** | Added 1982 - **Building** - #82000383 Main and W. 1st Sts., Weiser |
|---|---|
| Architect, builder, or engineer: | Tourtellotte & Hummel |
| Architectural Style: | Other, Colonial Revival |
| Area of Significance: | Architecture |
| Period of Significance: | 1925-1949 |
| Owner: | **Federal** |
| Historic Function: | Government |
| Historic Sub-function: | Post Office |
| Current Function: | Government |
| Current Sub-function: | Post Office |

(NRHP 2003)

Fire mitigation activities in and around these sites has the potential to affect historic places. In all cases, the fire mitigation work will be intended to reduce the potential of damaging the site due to wildfire.

## *3.4 Transportation*

Primary north-south access to and from Washington County is provided by US Highway 95, a two-lane paved road with turnouts. State Highway 71 (Cambridge to Brownlee Reservoir) and State Highway 70 (Weiser - west) connect major areas together. Smaller access roads (many gravel) provide access to the adjoining areas within the county. A variety of trails and closed roads are to be found throughout the region.

Many of the roads in the county were originally built to facilitate farming activities. As such, many of these roads can support fire fighting equipment referenced in this document. However, many of the new roads have been built for home site access, especially for new sub-divisions of homes. In most cases, these roads are adequate to facilitate firefighting equipment and are in compliance with the county's planning and zoning ordinances. County building codes for new developments should be adhered to closely to insure this tendency continues.

The most limiting point of access in the county is along State Highway 71 from Cambridge to Brownlee Reservoir. The highway in this area is often narrow, has many turns, and climbs 1,500 feet in the first 13 miles, then drops 2,100 feet in the last 7 miles. Traffic congestion during the summer (RV season) is sometimes extreme. The state highway is a narrow two-lane paved road that follows a meandering path roughly analogous to the stream's path. Limited shoulder width provides poor parking for vehicles. In addition, the forest fuels surrounding this road are heavy in places, exacerbating a potentially catastrophic situation.

Primary and Secondary Access routes for use in emergency situations have been identified to include US Highway 95 and State Highway 71 as Primary access routes and a variety of surface streets and county roads as secondary access. These routes would be identified as FEMA evacuation routes to be used by emergency personnel to access areas in the case of an emergency while evacuating residents. Because of this status, these routes should be given increased priority for treatments and improvements. These routes would serve this priority consideration for other natural and man caused hazards as needed.

## *3.5 Vegetation & Climate*

Vegetation in Washington County is a mix of forestland and rangeland ecosystems. An evaluation of satellite imagery of the region provides some insight to the composition of the forest vegetation of the area. The full extent of the county was evaluated for cover type as determined from Landsat 7 ETM+ imagery in tabular format, Table 3.36.

The most represented vegetated cover type is "Basin & Wyoming Big Sagebrush" dominated rangelands at approximately 16.7% of the total area. The next most common vegetation cover type represented is the Bitterbrush rangeland at 15.6%. Perennial grass slopes are the third most common plant cover type at 13.6% along with Perennial Grassland (11.4%) and Shrub/Steppe Annual Grass-Forb (7.7%), and Agricultural lands (7.4%). None of the remaining ground cover types total in excess of 7% in any one category (Table 3.36).

| Table 3.36. Cover Types in Washington County | Acres | Percent of County's Total Area |
|---|---|---|
| Basin & Wyoming Big Sagebrush | 714,183 | 16.9% |
| Bitterbrush | 662,345 | 15.6% |
| Perennial Grass Slope | 576,079 | 13.6% |
| Perennial Grassland | 483,094 | 11.4% |
| Shrub/Steppe Annual Grass-Forb | 326,173 | 7.7% |
| Agricultural land | 312,778 | 7.4% |
| Low Sagebrush | 273,329 | 6.5% |
| Mixed Xeric Forest | 163,546 | 3.9% |
| Ponderosa Pine | 144,535 | 3.4% |
| Warm Mesic Shrubs | 107,553 | 2.5% |
| Douglas-fir | 76,916 | 1.8% |
| Subalpine Fir | 76,406 | 1.8% |
| Mountain Big Sagebrush | 67,414 | 1.6% |
| Water | 55,007 | 1.3% |
| Shrub Dominated Riparian | 53,128 | 1.3% |
| Montane Parklands and Subalpine Meadow | 34,290 | 0.8% |
| Mixed Subalpine Forest | 24,649 | 0.6% |
| Grand Fir | 19,837 | 0.5% |
| Douglas-fir/Grand Fir | 12,721 | 0.3% |
| Broadleaf Dominated Riparian | 12,667 | 0.3% |
| Subalpine Pine | 7,392 | 0.2% |
| Needleleaf Dominated Riparian | 6,258 | 0.1% |
| High Intensity Urban | 5,422 | 0.1% |
| Foothills Grassland | 4,970 | 0.1% |
| Mud Flat | 3,132 | 0.1% |
| Lodgepole Pine | 2,663 | 0.1% |
| Herbaceous Burn | 2,196 | 0.1% |
| Deep Marsh | 1,623 | 0.0% |
| Disturbed, High | 1,409 | 0.0% |
| Shallow Marsh | 1,043 | 0.0% |
| Low Intensity Urban | 766 | 0.0% |

| Table 3.36. Cover Types in Washington County | Acres | Percent of County's Total Area |
|---|---|---|
| Wet Meadow | 766 | 0.0% |
| Graminoid or Forb Dominated Riparian | 431 | 0.0% |
| Exposed Rock | 129 | 0.0% |

Vegetative communities within the county follow the strong moisture and temperature gradient related to the major river drainages. Limited precipitation and steep slopes result in a relatively arid environment in most of the county, limiting vegetation to drought-tolerant plant communities of grass and shrublands.

## 3.5.1 Monthly Climate Summaries in Washington County

### 3.5.1.1 Weiser, Idaho (109638)

Period of Record Monthly Climate Summary

Period of Record : 7/ 1/1948 to 7/31/2003

**Table 3.37 Climate records for Weiser, Idaho**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Max. Temperature (F) | 35.4 | 43.9 | 55.5 | 64.6 | 74.6 | 83.0 | 92.4 | 90.6 | 80.1 | 66.0 | 49.3 | 37.3 | 64.4 |
| Average Min. Temperature (F) | 18.6 | 23.8 | 30.1 | 35.7 | 43.3 | 50.4 | 55.1 | 52.6 | 43.6 | 33.9 | 27.6 | 20.8 | 36.3 |
| Average Total Precipitation (in.) | 1.65 | 1.26 | 1.01 | 0.94 | 0.98 | 0.86 | 0.24 | 0.32 | 0.47 | 0.71 | 1.51 | 1.69 | 11.65 |
| Average Total SnowFall (in.) | 6.9 | 3.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 6.9 | 18.8 |
| Average Snow Depth (in.) | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

Percent of possible observations for period of record.
Max. Temp.: 88.9% Min. Temp.: 89.5% Precipitation: 87.9% Snowfall: 82.8% Snow Depth: 76.8%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Max. Temp.: 87.1% Min. Temp.: 87.1% Precipitation: 90.7% Snowfall: 87.6% Snow Depth: 85.9%

### 3.5.1.2 Cambridge, Idaho (101408)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1931 to 7/31/2003

**Table 3.38 Climate records for Cambridge, Idaho**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Max. Temperature (F) | 31.6 | 38.5 | 50.6 | 63.0 | 72.9 | 81.1 | 92.4 | 90.9 | 80.5 | 66.1 | 46.8 | 35.1 | 62.5 |
| Average Min. Temperature (F) | 13.7 | 18.1 | 27.1 | 34.3 | 40.9 | 47.7 | 53.8 | 50.8 | 41.3 | 32.3 | 25.3 | 17.8 | 33.6 |
| Average Total Precipitation (in.) | 2.98 | 2.45 | 2.02 | 1.37 | 1.43 | 1.27 | 0.33 | 0.39 | 0.73 | 1.32 | 2.63 | 3.16 | 20.08 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Total SnowFall (in.) | 17.9 | 9.8 | 2.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 5.4 | 15.4 | 51.1 |
| Average Snow Depth (in.) | 6 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |

Percent of possible observations for period of record.
Max. Temp.: 99.2% Min. Temp.: 99.4% Precipitation: 99.6% Snowfall: 95.1% Snow Depth: 59.8%
Check Station Metadata or Metadata graphics for more detail about data completeness.

## *3.6 Wildfire Hazard Profiles*

### 3.6.1 Wildfire Ignition Profile

Fire was once an integral function of the majority of ecosystems in Idaho. The seasonal cycling of fire across the landscape was as regular as the August and September lightning storms plying across the canyons and mountains. Depending on the plant community composition, structural configuration, and buildup of plant biomass, fire resulted from ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition (Johnson 1998). The fires burned from 1 to 47 years apart, with most at 5- to 20-year intervals (Barrett 1979). With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age (Johnson *et al.* 1994). Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels. Fire history data (from fire scars and charcoal deposits) suggest fire has played an important role in shaping the vegetation in the Columbia Basin for thousands of years (Steele *et al.* 1986, Agee 1993).

Detailed records of fire ignition and extent have been compiled by the BLM Lower Snake River District. Using this data on past fire extents and fire ignition data, the occurrence of wildland fires in Washington County has been evaluated.

Many fires have burned in Washington County historically. Table 3.39 summarizes fire ignitions during the period of the 1980s and 1990s by cause. Unfortunately, this data is incomplete but provides some insights to wildfire ignitions in the county, based on roughly 120 fire ignitions during this period. During this period, it would appear that roughly 81% of all large fires in the region have been ignited by nature, while the remaining 19%, on average have been human caused. This is a much lower percentage of total fires ignited by humans, which reflects positively on local efforts to reduce this source of fire ignitions.

**Table 3.39 Wildfire Ignitions by Cause in Washington County.**

| | 1980s-1990s | |
|---|---|---|
| **Cause** | **Cause Reference** | **Percent** |
| Lightning | 1 | 81% |
| Campfire | 2 | 1% |
| Smoking | 3 | 1% |
| Debris Burning | 4 | 4% |
| Arson | 5 | 1% |
| Equipment Use | 6 | 3% |
| Railroad | 7 | 2% |
| Children | 8 | 0% |

**Table 3.39 Wildfire Ignitions by Cause in Washington County.**

| | 1980s-1990s | |
|---|---|---|
| **Cause** | **Cause Reference** | **Percent** |
| Miscellaneous | 9 | 8% |
| **Total** | | |

[1] Data from 1980-1999 of recorded fire ignitions within Washington County (Quigley *et. al* 2001) is considered incomplete data.

## 3.6.2 Wildfire Extent Profile

Across the west, wildfires have been increasing in extent and cost of control. The National Interagency Fire Center (2003) reports nearly 88,500 wildfires in 2002 burned a total of nearly 7 million acres and cost $1.6 billion (Table 3.40). By most informed accounts, the 2003 totals will be significantly higher in terms of acres burned and cost.

**Table 3.40. National Fire Season 2002 Summary**

| | |
|---|---|
| Number of Fires (2002 final) | 88,458 |
| 10-year Average (1992-2001) | 103,112 |
| Acres Burned (2002 final) | * **6,937,584** |
| 10-year Average (1992-2001) | 4,215,089 |
| Structures Burned (835 primary residences, 46 Commercial buildings, 1500 outbuildings) | 2,381 |
| Estimated Cost of Fire Suppression (Federal agencies only) | $ 1.6 billion |

*This figure differs from the 7,184,712 acres burned estimate provided by the National Interagency Coordination Center (NICC). The NICC estimate is based on information contained in geographic area and incident situation reports prepared at the time fires occurred. The 6,937,584 estimate is based on agency end-of-year reports.*

The National Interagency Fire Center, located in Boise, Idaho, maintains records of fire costs, extent, and related data for the entire nation. Tables 3.41 and 3.42 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 in areas like Washington County.

**Table 3.41. Total Fires and Acres 1960 - 2002 Nationally.**

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

| Year | Fires | Acres | Year | Fires | Acres |
|---|---|---|---|---|---|
| 2002 | 88,458 | * **6,937,584** | 1980 | 234,892 | 5,260,825 |
| 2001 | 84,079 | 3,555,138 | 1979 | 163,196 | 2,986,826 |
| 2000 | 122,827 | 8,422,237 | 1978 | 218,842 | 3,910,913 |
| 1999 | 93,702 | 5,661,976 | 1977 | 173,998 | 3,152,644 |
| 1998 | 81,043 | 2,329,709 | 1976 | 241,699 | 5,109,926 |
| 1997 | 89,517 | 3,672,616 | 1975 | 134,872 | 1,791,327 |
| 1996 | 115,025 | 6,701,390 | 1974 | 145,868 | 2,879,095 |
| 1995 | 130,019 | 2,315,730 | 1973 | 117,957 | 1,915,273 |
| 1994 | 114,049 | 4,724,014 | 1972 | 124,554 | 2,641,166 |
| 1993 | 97,031 | 2,310,420 | 1971 | 108,398 | 4,278,472 |
| 1992 | 103,830 | 2,457,665 | 1970 | 121,736 | 3,278,565 |
| 1991 | 116,953 | 2,237,714 | 1969 | 113,351 | 6,689,081 |
| 1990 | 122,763 | 5,452,874 | 1968 | 125,371 | 4,231,996 |
| 1989 | 121,714 | 3,261,732 | 1967 | 125,025 | 4,658,586 |
| 1988 | 154,573 | 7,398,889 | 1966 | 122,500 | 4,574,389 |
| 1987 | 143,877 | 4,152,575 | 1965 | 113,684 | 2,652,112 |
| 1986 | 139,980 | 3,308,133 | 1964 | 116,358 | 4,197,309 |
| 1985 | 133,840 | 4,434,748 | 1963 | 164,183 | 7,120,768 |
| 1984 | 118,636 | 2,266,134 | 1962 | 115,345 | 4,078,894 |
| 1983 | 161,649 | 5,080,553 | 1961 | 98,517 | 3,036,219 |
| 1982 | 174,755 | 2,382,036 | 1960 | 103,387 | 4,478,188 |
| 1981 | 249,370 | 4,814,206 | | | |

(National Interagency Fire Center 2003)

**Table 3.42 Suppression Costs for Federal Agencies Nationally**

| Year | Bureau of Land Management | Bureau of Indian Affairs | Fish and Wildlife Service | National Park Service | USDA Forest Service | Totals |
|---|---|---|---|---|---|---|
| 1994 | $98,417,000 | $49,202,000 | $3,281,000 | $16,362,000 | $678,000,000 | **$845,262,000** |
| 1995 | $56,600,000 | $36,219,000 | $1,675,000 | $21,256,000 | $224,300,000 | **$340,050,000** |
| 1996 | $96,854,000 | $40,779,000 | $2,600 | $19,832,000 | $521,700,000 | **$679,167,600** |
| 1997 | $62,470,000 | $30,916,000 | $2,000 | $6,844,000 | $155,768,000 | **$256,000,000** |
| 1998 | $63,177,000 | $27,366,000 | $3,800,000 | $19,183,000 | $215,000,000 | **$328,526,000** |
| 1999 | $85,724,000 | $42,183,000 | $4,500,000 | $30,061,000 | $361,000,000 | **$523,468,000** |
| 2000 | $180,567,000 | $93,042,000 | $9,417,000 | $53,341,000 | $1,026,000,000 | **$1,362,367,000** |
| 2001 | $192,115,00 | $63,200,000 | $7,160,000 | $48,092,000 | $607,233,000 | **$917,800,000** |
| 2002 | $204,666,000 | $109,035,000 | $15,245,000 | $66,094,000 | $1,266,274,000 | **$1,661,314,000** |

(National Interagency Fire Center 2003)

Although many very large fires, growing to over 250,000 acres have burned in the West Central Highlands of Idaho, which Washington County is a part, actual fires in this county have usually been controlled at much smaller extents. This is not to imply that wildfires are not a concern in this county, but to point to the aggressive and professional manner to which the wildland and rural fire districts cooperate in controlling these blazes. The BLM provides primary wildland fire protection to areas east of Highway 95, the USDA Forest Service provides primary wildfire protection west of Highway 95, while rural fire districts augment these services with home protection and related services.

During the development of this Wildland-Urban Interface Wildfire Mitigation Plan, nearby Adams County was faced with a wildland fire that threatened people, structures, and infrastructure just to the northeast of Council. The **"*Hall Fire*"** ignited in August 9, 2003, and burned a total of 1,886 acres before it was contained on August 14, 2003. The cost of this fire is estimated at $4.0 million. One home and one out-building were reported lost during this fire. This blaze also threatened the high-tension power lines servicing the city of McCall in Valley County, and caused US Highway 95 traffic to be rerouted through Fruitvale and Glendale along gravel roads. No lives were lost. However, this fire points to the primary concern for developing this plan; the need to provide for the protection of people, structures, the environment, and infrastructure during wildfire events.

While some of these fires were centered outside of Washington County, all of the listed fires burned within the geographical extent of the county. On average, wildfires in Washington County have reached a size of 2,831 acres, however, this is highly variable (STD 5,861 acres). By removing the seven largest fires (which exceeded 10,000 each), and the smallest 18 fires (less than 100 acres each) from this database, the average large fire size is approximately 1,900 acres (STD 2,458).

**Table 3.43. Wildland fires in Washington County 1957-2002.**

| Year | Fire Name | Date Started | Acres | Hectares |
|---|---|---|---|---|
| 1957 | SAND SPRINGS | 7/1/1957 | 1,775 | 718 |
| 1958 | MERCURY MINE | 6/26/1958 | 38 | 16 |
| 1958 | SMITH | 8/10/1958 | 951 | 385 |
| 1958 | BISSELL | 8/25/1958 | 1,056 | 427 |
| 1958 | SHEEP CREEK | 8/14/1958 | 2,046 | 828 |
| 1958 | BUTTE | 8/16/1958 | 2,410 | 975 |
| 1958 | GYPSUM | 7/14/1958 | 7,900 | 3,197 |
| 1958 | POWER LINE | 7/22/1958 | 17,775 | 7,193 |
| 1959 | MANNS CREEK | 8/1/1959 | 6,604 | 2,672 |
| 1959 | CRANE CREEK CANYON | 8/1/1959 | 10,608 | 4,293 |
| 1960 | FISH POND | 7/12/1960 | 4,203 | 1,701 |
| 1961 | CANARD | 6/11/1961 | 1,225 | 496 |
| 1961 | BRANCH HOMESTEAD | 6/15/1961 | 1,715 | 694 |
| 1962 | WEISER COVE | 7/19/1962 | 956 | 387 |
| 1962 | MCLOUGH | 7/9/1962 | 1,227 | 496 |
| 1963 | JACK MILLER | 6/27/1963 | 419 | 170 |
| 1963 | JACKSON GULCH | 8/4/1963 | 2,531 | 1,024 |
| 1963 | GROUSE | 18991230 | 2,583 | 1,045 |
| 1963 | WEBB CREEK | 8/6/1963 | 9,976 | 4,037 |
| 1963 | EAST CRANE CREEK | 8/6/1963 | 21,029 | 8,510 |
| 1963 | WILLOW CREEK | 8/6/1963 | 23,487 | 9,505 |
| 1963 | RATTLESNAKE | 8/6/1963 | 40,961 | 16,576 |
| 1972 | SCOTT CREEK | 7/24/1972 | 515 | 208 |
| 1972 | MINERAL | 8/11/1972 | 1,450 | 587 |
| 1974 | DENNETT CREEK | | 215 | 87 |
| 1974 | COVE ROAD | | 415 | 168 |
| 1975 | HEART GULCH | | 657 | 266 |
| 1975 | COVE CREEK | | 2,671 | 1,081 |
| 1977 | WOLF CREEK | | 229 | 93 |
| 1978 | PADDOCK | | 404 | 163 |
| 1978 | JENKINS CREEK | | 507 | 205 |
| 1978 | HAYSTACK | | 621 | 251 |
| 1978 | CRANE CREEK | | 673 | 272 |
| 1979 | DIERDORFF | | 191 | 77 |
| 1979 | ROCK CREEK | | 546 | 221 |
| 1979 | SHEEP CREEK | | 1,372 | 555 |
| 1981 | MANNS CREEK | | 139 | 56 |
| 1981 | | | 2,121 | 858 |

**Table 3.43. Wildland fires in Washington County 1957-2002.**

| Year | Fire Name | Date Started | Acres | Hectares |
|---|---|---|---|---|
| 1981 | | | 5,381 | 2,178 |
| 1982 | | | 1,259 | 509 |
| 1983 | | | 367 | 148 |
| 1983 | CAMP CREEK | | 416 | 169 |
| 1983 | | | 427 | 173 |
| 1983 | | | 1,198 | 485 |
| 1984 | | | 266 | 108 |
| 1984 | | | 310 | 126 |
| 1984 | | | 742 | 300 |
| 1985 | | | 845 | 342 |
| 1986 | | | 197 | 80 |
| 1986 | | | 267 | 108 |
| 1986 | | | 643 | 260 |
| 1986 | | | 753 | 305 |
| 1986 | | | 2,306 | 933 |
| 1986 | | | 2,556 | 1,034 |
| 1986 | | | 2,815 | 1,139 |
| 1986 | | | 4,849 | 1,962 |
| 1986 | | | 5,131 | 2,076 |
| 1986 | | | 9,280 | 3,755 |
| 1986 | | | 9,685 | 3,919 |
| 1986 | | | 15,120 | 6,119 |
| 1986 | | | 27,276 | 11,038 |
| 1987 | | | 250 | 101 |
| 1987 | | | 371 | 150 |
| 1987 | JENKINS CREEK | | 545 | 221 |
| 1987 | SCOTT CREEK | | 597 | 242 |
| 1987 | | | 687 | 278 |
| 1988 | CRANE CREEK | | 66 | 27 |
| 1988 | | | 992 | 401 |
| 1989 | HOPPER CREEK | | 81 | 33 |
| 1989 | SOULEN | | 113 | 46 |
| 1989 | | | 243 | 98 |
| 1989 | | | 253 | 102 |
| 1989 | | | 551 | 223 |
| 1989 | | | 598 | 242 |
| 1989 | | | 881 | 357 |
| 1989 | BROWNLEE CREEK | | 2,330 | 943 |
| 1989 | | | 7,882 | 3,190 |
| 1989 | | | 8,401 | 3,400 |
| 1990 | | | 1,975 | 799 |
| 1991 | | | 213 | 86 |
| 1991 | | | 229 | 93 |
| 1991 | | | 235 | 95 |

**Table 3.43. Wildland fires in Washington County 1957-2002.**

| Year | Fire Name | Date Started | Acres | Hectares |
|---|---|---|---|---|
| 1991 | | | 406 | 164 |
| 1991 | | | 556 | 225 |
| 1991 | | | 1,337 | 541 |
| 1992 | | | 74 | 30 |
| 1992 | | | 629 | 255 |
| 1992 | | | 736 | 298 |
| 1992 | | | 989 | 400 |
| 1992 | | | 1,170 | 473 |
| 1992 | | | 1,209 | 489 |
| 1992 | | | 9,085 | 3,677 |
| 1994 | | | 79 | 32 |
| 1996 | | 8/1/1996 | 169 | 68 |
| 1996 | | 7/8/1996 | 201 | 81 |
| 1996 | | | 733 | 297 |
| 1996 | | | 1,994 | 807 |
| 1996 | | | 2,919 | 1,181 |
| 1997 | | | 276 | 112 |
| 1998 | LAMONT | | 19 | 8 |
| 1998 | RAFT CR. | | 24 | 10 |
| 1998 | SCHOOL HSE | | 36 | 15 |
| 1998 | MTN. MAN | | 99 | 40 |
| 1998 | RAFT CR. | | 414 | 168 |
| 1998 | CRANECRCYN | | 2,961 | 1,198 |
| 1999 | | | 34 | 14 |
| 1999 | | | 42 | 17 |
| 1999 | | | 4,815 | 1,949 |
| 2000 | IP 235 | 6/29/2000 | 20 | 8 |
| 2000 | SCOTT CK | 8/24/2000 | 84 | 34 |
| 2000 | ROCK CK | 7/18/2000 | 156 | 63 |
| 2001 | Toe JAM | 7/15/2001 | 77 | 31 |
| 2001 | CoveRoad | 18991230 | 89 | 36 |
| 2001 | CoveRoad | 9/10/2001 | 1,975 | 799 |
| 2002 | SAND CHERRY | 7/25/2002 | 6 | 2 |
| 2002 | MCFADDEN | 7/7/2002 | 39 | 16 |
| 2002 | CCC | 8/4/2002 | 73 | 30 |
| 2002 | JACKS CK | 7/8/2002 | 6,787 | 2,746 |

## *3.7 Analysis Tools and Techniques to Assess Fire Risk*

Washington County and the adjacent counties comprising the West Central Highlands of Idaho, were analyzed using a variety of techniques, managed on a GIS system (ArcGIS 8.2). Physical features of the region were represented by data layers including roads, streams, soils, elevation, and remotely sensed images from the Landsat 7 ETM+ satellite. Field visits were conducted by specialists from Northwest Management, Inc. Discussions with area residents and fire control

specialists augmented field visits and provided insights to forest health issues and treatment options.

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

### 3.7.1 Fire Prone Landscapes

Schlosser *et al.* 2002, developed a methodology to assess the location of fire prone landscapes on forested and non-forested ecosystems in the western US. Working under an agreement with the Clearwater Resource Conservation and Development Council, Inc., (RC&D), Northwest Management, Inc., a natural resources consulting firm, completed a similar assessment for five counties in the north central Idaho area including Clearwater County, Idaho County, Latah County, Lewis County, and Nez Perce County. In a separate project, also funded by the Bureau of Land Management working in cooperation with the Elmore County, Ada County, Canyon County, and the Southwest Idaho RC&D, Northwest Management, Inc., completed a Fire Prone Landscapes assessments on those listed areas. This assessment of Fire Prone Landscapes was completed simultaneously for Adams County, Valley County, Washington County, Payette County, and Gem County, working in cooperation with the West Central Highlands RC&D located in Emmett.

The goal of developing the Fire Prone Landscapes analysis is to make inferences about the relative risk factors across large geographical regions (5 counties) for wildfire spread. This analysis uses the extent and occurrence of past fires as an indicator of characteristics for a specific area and their propensity to burn in the future. Concisely, if a certain combination of vegetation cover type, canopy closure, aspect, slope, stream and road density have burned with a high occurrence and frequently in the past, then it is reasonable to extrapolate that they will have the same tendency in the future, unless mitigation activities are conducted to reduce this potential.

The analysis for determining those landscapes prone to wildfire utilized a variety of sources.

**Digital Elevation:** Digital elevation models (DEM) for the project used USGS 10 meter DEM data provided at quarter-quadrangle extents. These were merged together to create a continuous elevation model of the analysis area. Elevations were reported in meters in the source files and converted to feet using the relationship of 1 Meter = 3.28084 Feet.

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

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

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

Image spectrometry has great application for monitoring vegetation and biophysical characteristics. Vegetation reflectance often contains information on the vegetation chlorophyll

absorption bands in the visible region and the near infrared region. Plant water absorption is easily identified in the middle infrared bands. In addition, exposed soil, rock, and non-vegetative surfaces are easily separated from vegetation through standard hyper-spectral analysis procedures.

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

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

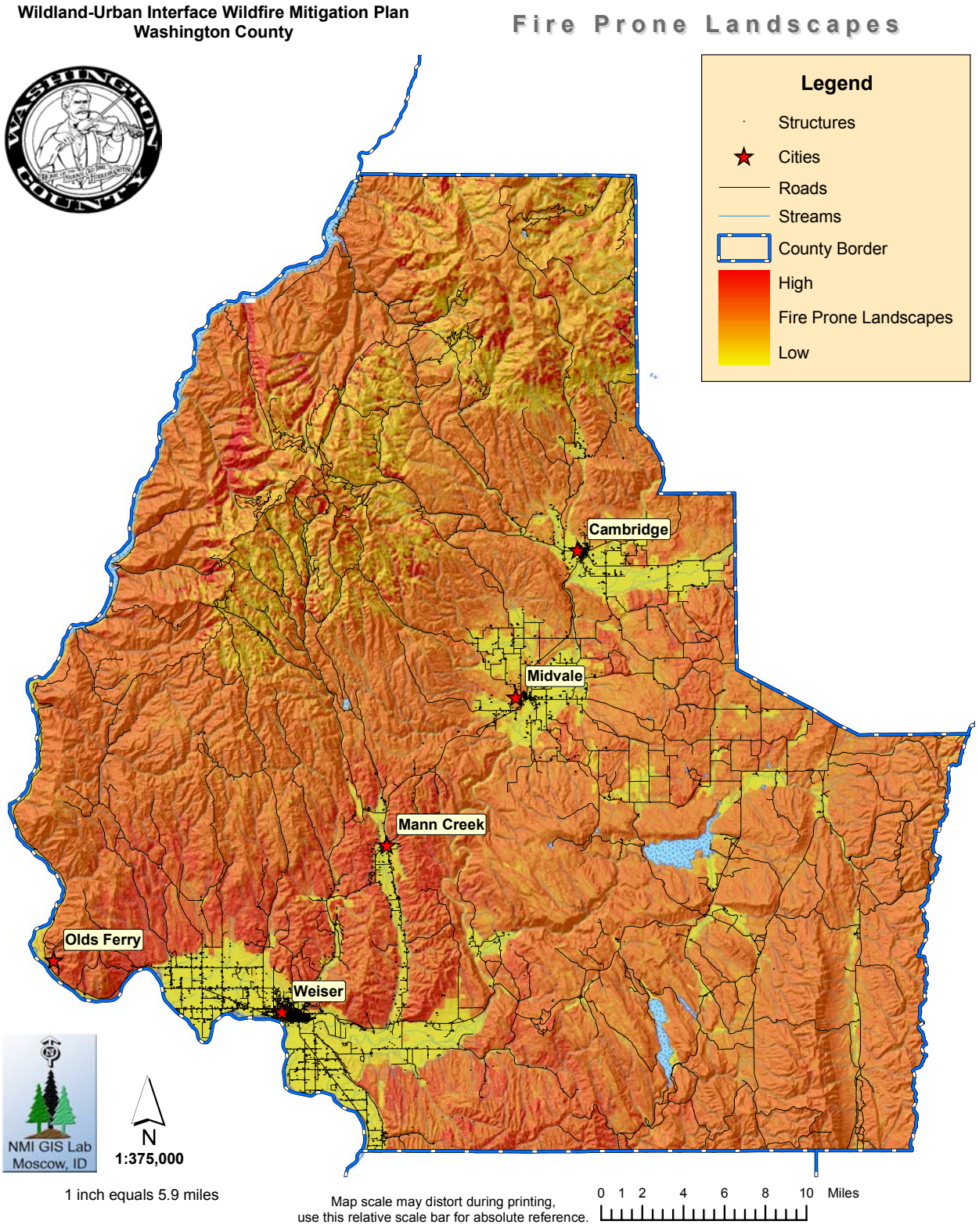
**Wind Direction:** Wind direction and speed data detailed by monthly averages was used in this project to better ascertain certain fire behavior characteristics common to large fire events. These data are spatially gridded Average Monthly Wind Directions in Idaho. The coverage was created from data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

**Past Fires:** Past fire extents represent those locations on the landscape that have previously burned during a wildfire. Past fire extent maps were obtained from a variety of sources for the central Idaho area including the USFS Payette National Forest and the Lower Snake River B.L.M..

**Fire Prone Landscapes:** Using the methodology developed by Schlosser *et al.* (2002), and refined for this project, the factors detailed above were used to assess the potential for the landscape to burn during the fire season in the case of fire ignition. Specifically, the entire region was evaluated at a resolution of 10 meters (meaning each pixel on the map represented 10 square meters on the ground) to determine the propensity for a particular area (pixel) to burn in the case of a wildfire. The analysis involved creating a linear regression analysis within the GIS program structure to assign a value to each significant variable, pixel-by-pixel. The analysis ranked factors from 0 (little to no risk) to 100 (extremely high risk) based on past fire occurrence. In fact, the maximum rating score for rangelands was 88, while a few acres of forestland ranked as high as 100.

The maps depicting these risk categories display yellow as the lowest risk and red as the highest with values between a constant gradient from yellow to orange to red (Table 3.44). While large maps (12 square feet) have been provided as part of this analysis, smaller size maps are presented in Appendix I.

## Fire Prone Landscapes in Washington County:




***This map is presented for reference in this section of the plan. This map, and additional maps are detailed in Appendix I.***

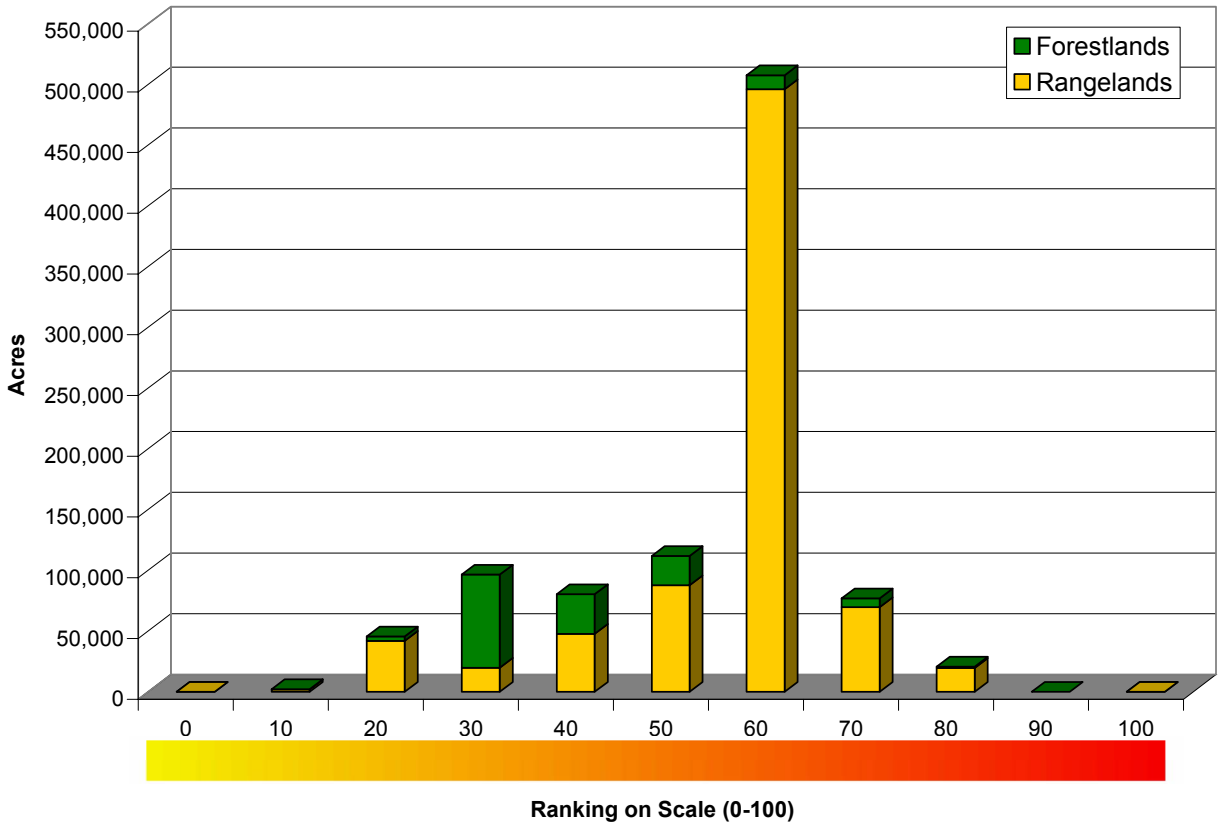
**Table 3.44. Fire Prone Landscape rankings and associated acres in each category for the entire West Central Highlands Area.**

| Color Code | Value | Acres | | | Percent of Total Area |
|---|---|---|---|---|---|
| | | Forestlands | Rangelands | Total | |
|  | 0 | 23 | 4,026 | 4,049 | 0.1% |
| | 10 | 49,207 | 76,978 | 126,186 | 2.6% |
| | 20 | 131,378 | 97,229 | 228,607 | 4.7% |
| | 30 | 974,129 | 121,784 | 1,095,913 | 22.7% |
| | 40 | 976,803 | 138,115 | 1,114,918 | 23.1% |
| | 50 | 699,750 | 829,636 | 1,529,387 | 31.7% |
| | 60 | 138,152 | 210,525 | 348,677 | 7.2% |
| | 70 | 151,801 | 90,535 | 242,336 | 5.0% |
| | 80 | 117,034 | 2,218 | 119,251 | 2.5% |
| | 90 | 19,067 | - | 19,067 | 0.4% |
| | 100 | - | - | - | - |
| | | | **Total** | **4,828,391** | |

**Table 3.45. Fire Prone Landscape rankings and associated acres in each category for the Washington County.**

| Color Code | Value | Acres | | | Percent of Total Area |
|---|---|---|---|---|---|
| | | Forestlands | Rangelands | Total | |
|  | 0 | 0 | 0 | - | 0.00% |
| | 10 | 77 | 1,999 | 2,076 | 0.22% |
| | 20 | 3,518 | 42,003 | 45,521 | 4.84% |
| | 30 | 76,683 | 19,716 | 96,399 | 10.24% |
| | 40 | 32,534 | 47,737 | 80,271 | 8.53% |
| | 50 | 24,139 | 87,715 | 111,854 | 11.88% |
| | 60 | 11,594 | 495,973 | 507,567 | 53.92% |
| | 70 | 7,256 | 69,644 | 76,900 | 8.17% |
| | 80 | 1,044 | 19,619 | 20,663 | 2.20% |
| | 90 | 43 | 5 | 48 | 0.01% |
| | 100 | - | - | - | 0.00% |
| | | | **Total** | 941,299 | |

**Distribution of Fire Prone Landscapes by Ranking in Washington County**




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

### 3.7.2 Fire Regime Condition Class

The US Forest Service has provided their assessment of Fire Regime Condition Class for Washington County to this WUI Fire Mitigation Plan analysis. These measures of forest conditions are the standard method of analysis for the USDA Forest Service.

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993, Brown 1995). Coarse scale definitions for natural (historical) fire regimes have been developed by Hardy *et al.* (2001) and Schmidt *et al.* (2002) and interpreted for fire and fuels management by Hann and Bunnell (2001). The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant overstory vegetation. These five regimes include:

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

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

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

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

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

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

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

The three classes are based on low (FRCC 1), moderate (FRCC 2), and high (FRCC 3) departure from the central tendency of the natural (historical) regime (Hann and Bunnell 2001, Hardy *et al.* 2001, Schmidt *et al.* 2002). The central tendency is a composite estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated natural disturbances. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside.

Characteristic vegetation and fuel conditions are considered to be those that occurred within the natural (historical) fire regime. Uncharacteristic conditions are considered to be those that did not occur within the natural (historical) fire regime, such as invasive species (e.g. weeds, insects, and diseases), “high graded” forest composition and structure (e.g. large trees removed in a frequent surface fire regime), or repeated annual grazing that maintains grassy fuels across relatively large areas at levels that will not carry a surface fire. Determination of the amount of departure is based on comparison of a composite measure of fire regime attributes (vegetation characteristics; fuel composition; fire frequency, severity and pattern) to the central tendency of the natural (historical) fire regime. The amount of departure is then classified to determine the fire regime condition class. A simplified description of the fire regime condition classes and associated potential risks are presented in Table 3.46. Maps depicting Fire Regime and Condition Class are presented in Appendix I.

**Table 3.46. Fire Regime Condition Class Definitions.**

| FRCC | Description | Potential Risks |
|---|---|---|
| **Condition Class 1** | Within the natural (historical) range of variability of vegetation characteristics; fuel | Fire behavior, effects, and other associated disturbances are similar to those that occurred prior to fire exclusion (suppression) and other |

**Table 3.46. Fire Regime Condition Class Definitions.**

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

An analysis of Fire Regime Condition Class in Washington County shows that approximately 13% of the County is in Condition Class 1 (low departure), just about 78% is in Condition Class 2 (moderate departure), with 3% in Condition Class 3, and 4.5% dedicated to agriculture (Table 3.47).

**Table 3.47. FRCC by area in Washington County.**

| | Condition Class | Acres | Percent of Area |
|---|---|---|---|
| 1 | Low departure | 125,547.45 | 13.3% |
| 2 | Moderate departure | 733,753.54 | 77.9% |
| 3 | High departure | 28,608.21 | 3.0% |
| 4 | Agriculture | 42,613.08 | 4.5% |
| 5 | Rock / barren | 2,842.21 | 0.3% |
| 7 | Urban | 812.63 | 0.1% |
| 8 | Water | 7,331.69 | 0.8% |

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

### 3.7.3 Current Fire Severity

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

The characterization of likely fire severity was based upon historic fire regimes, potential natural vegetation, cover type, size class, and canopy cover with respect to slope and aspect. Each cover type was assigned a qualitative rating of fire tolerance based upon likely species composition and the relative resistance of each species to fire. The US Forest Service researchers defined 3 broad classes of fire tolerance: high tolerance (<20 percent post-fire mortality); moderate tolerance (20 to 80 percent mortality); and low tolerance (>80 percent mortality). We would expect that fires would be less severe within cover types comprised by species that have a high tolerance to fire (for example, western larch and ponderosa pine). Conversely, fires would likely burn more severely within cover types comprised by species having a low tolerance to fire (for example grand fir, subalpine fir). Data assignments were based upon collective experience in the field, as well as stand structure characteristics reported in the fire-history literature. For example, if they estimated that a fire would remove less than 20 percent of the overstory, the current fire severity would be assigned to the non-lethal class (that is, NL). However, if they expected fire to remove more than 80 percent of the overstory, the current fire severity was assigned to a stand replacement class (that is, SR or SR3).

#### 3.7.3.1 Purpose

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

#### 3.7.3.2 General Limitations

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

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

**Table 3.48. Predicted Fire Severity by area in Washington County.**

| | Predicted Fire Severity | Acres | Percent of Area |
|---|---|---|---|
| 1 | Non-lethal | 24,571 | 3% |
| 2 | Mixed severity, short interval | 15,238 | 2% |
| 3 | Mixed severity, long interval | 90,724 | 10% |
| 5 | Stand replacement – forestlands | 23,376 | 2% |
| 6 | Non-forest stand replacement, short interval | 658,213 | 70% |
| 7 | Non-forest mixed severity, moderate interval | 3,112 | 0% |
| 8 | Non-forest stand replacement, moderate interval | 72,674 | 8% |
| 10 | Agriculture | 42,613 | 5% |
| 11 | Rock / barren | 2,842 | 0% |
| 13 | Urban | 813 | 0% |

See Appendix I for a map of Predicted Fire Severity.

## 3.7.4 On-Site Evaluations

Fire control and evaluation specialists as well as hazard mitigation consultants evaluated the communities of Washington County to determine, first-hand, the extent of risk and characteristics of hazardous fuels in the Wildland-Urban Interface. The on-site evaluations have been summarized in written narratives and are accompanied by photographs taken during the site visits. In addition, field personnel completed FEMA's Fire Hazard Severity Forms and Fire Hazard Rating Criteria Worksheets (Appendix II). These worksheets and standardized rating criteria allow comparisons to be made between all of the counties in the country using the same benchmarks. The FEMA rating forms are summarized for each community in Appendix II.

## 3.7.5 Fuel Model Descriptions

Anderson (1982) developed a categorical guide for determining fuel models to facilitate the linkage between fuels and fire behavior. These 13 fuel models, grouped into 4 basic groups: grass, chaparral and shrub, timber, and slash, provide the basis for communicating fuel conditions and evaluating fire risk. There are a number of ways to estimate fuel models in forest and rangeland conditions. The field personnel from Northwest Management, Inc., that evaluated communities and other areas of Washington County have all been intricately involved in wildland fire fighting and the incident command system. They made ocular estimates of fuel models they observed. In an intense evaluation, actual sampling would have been employed to determine fuel models and fuel loading. The estimations presented in this document (Chapter 3) are estimates based on observations to better understand the conditions observed.

**Fuel Model 0-** This type consists of non-flammable sites, such as exposed mineral soil and rock outcrops. Other lands are also identified in this type.

### 3.7.5.1 Grass Group

#### 3.7.5.1.1 Fire Behavior Fuel Model 1

Fire spread is governed by the fine, very porous, and continuous herbaceous fuels that have cured or are nearly cured. Fires are surface fires that move rapidly through the cured grass and associated material. Very little shrub or timber is present, generally less than one-third of the area.

Grasslands and savanna are represented along with stubble, grass-tundra, and grass-shrub combinations that met the above area constraint. Annual and perennial grasses are included in this fuel model.

*This fuel model correlates to 1978 NFDRS fuel models A, L, and S.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch dead and alive, tons/acre ..... 0.74
Dead fuel load, ¼-inch, tons/acre ..... 0.74
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet ..... 1.0

#### 3.7.5.1.2 Fire Behavior Fuel Model 2

Fire is spread primarily through the fine herbaceous fuels, either curing or dead. These are surface fires where the herbaceous material, in addition to litter and dead-down stemwood from the open shrub or timber overstory, contribute to the fire intensity. Open shrub lands and pine stands or scrub oak stands that cover one-third to two-thirds of the area may generally fit this model; such stands may include clumps of fuels that generate higher intensities an that may produce firebrands. Some pinyon-juniper may be in this model.

*This fuel model correlates to 1978 NFDRS fuel models C and T.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch dead and alive, tons/acre ..... 4.0
Dead fuel load, ¼-inch, tons/acre ..... 2.0
Live fuel load, foliage, tons/acre ..... 0.5
Fuel bed depth, feet ..... 1.0

#### 3.7.5.1.3 Fire Behavior Fuel Model 3

Fires in this fuel are the most intense of the grass group and display high rates of spread under the influence of wind. Wind may drive fire into the upper heights of the grass and across standing water. Stands are tall, averaging about 3 feet (1 m), but considerable variation may occur. Approximately one-third or more of the stand is considered dead or cured and maintains the fire. Wild or cultivated grains that have not been harvested can be considered similar to tall prairie and marshland grasses.

*This fuel correlates to 1978 NFDRS fuel model N.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch dead and live, tons/acre ..... 3.0
Dead fuel load, ¼-inch, tons/acre ..... 3.0
Live fuel load, foliage tons/acre ..... 0

Fuel bed depth, feet ..... 2.5

#### 3.7.5.2 Shrub Group

##### 3.7.5.2.1 Fire Behavior Fuel Model 4

Fire intensity and fast-spreading fires involve the foliage and live and dead fine woody material in the crowns of a nearly continuous secondary overstory. Stands of mature shrubs, 6 or more feet tall, such as California mixed chaparral, the high pocosin along the east coast, the pinebarrens of New Jersey, or the closed jack pine stands of the north-central States are typical candidates. Besides flammable foliage, dead woody material in the stands significantly contributes to the fire intensity. Height of stand qualifying for this model depends on local conditions. A deep litter layer may also hamper suppression efforts.

*This fuel model represents 1978 NFDRS fuel models B and O; fire behavior estimates are more severe than obtained by Models B or O.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch dead and live, tons/acre ..... 13.0
Dead fuel load, ¼-inch, tons/acre ..... 5.0
Live fuel load, foliage, tons/acre ..... 5.0
Fuel bed depth, feet ..... 6.0

##### 3.7.5.2.2 Fire Behavior Fuel Model 5

Fire is generally carried in the surface fuels that are made up of litter cast by the shrubs and the grasses or forbs in the understory. The fires are generally not very intense because surface fuel loads are light, the shrubs are young with little dead material, and the foliage contains little volatile material. Usually shrubs are short and almost totally cover the area. Young, green stands with no dead wood would qualify: laurel, vine maple, alder, or even chaparral, manzanita, or chamise.

*No 1978 NFDRS fuel model is represented, but model 5 can be considered as second choice for NFDRS model D or as third choice for NFDRS model T. Young green stands may be up to 6 feet (2m ) high but have poor burning properties because of live vegetation.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch dead and live, tons/acre ..... 3.5
Dead fuel load, ¼-inch, tons/acre ..... 1.0
Live fuel load, foliage, tons/acre ..... 2.0
Fuel bed depth, feet ..... 2.0

##### 3.7.5.2.3 Fire Behavior Fuel Model 6

Fires carry through the shrub layer where the foliage is more flammable than fuel model 5, but this requires moderate winds, greater than 8 mi/h (13 km/h) at mid-flame height. Fire will drop to the ground at low wind speeds or at openings in the stand. The shrubs are older, but not as tall as shrub types of model 4, nor do they contain as much fuel as model 4. A broad range of shrub conditions is covered by this model. Fuel situations to be considered include intermediate stands of chamise, chaparral, oak brush, low pocosin, Alaskan spruce taiga, and shrub tundra. Even hardwood slash that has cured can be considered. Pinyon-juniper shrublands may be

represented but may over-predict rate of spread except at high winds, like 20 mi/h (32 km/h) at the 20-foot level.

*The 1978 NFDRS fuel models F and Q are represented by this fuel model. It can be considered a second choice for models T and D and a third choice for model S.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch dead and live, tons/acres..... 6.0
Dead fuel load, 1/4 –inch, tons/acre ..... 1.5
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet..... 2.5

#### 3.7.5.2.4 Fire Behavior Fuel Model 7

Fires burn through the surface and shrub strata with equal ease and can occur at higher dead fuel moisture contents because of the flammability of live foliage and other live material. Stands of shrubs are generally between 2 and 6 feet (0.6 and 1.8 m( high. Palmetto-gallberry understory-pine overstory sites are typical and low pocosins may be represented. Black spruce-shrub combinations in Alaska may also be represented.

*This fuel model correlates with 1978 NFDRS model D and can be a second choice for model Q.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch dead and live, tons/acre ..... 4.9
Dead fuel load, ¼-inch, tons/acre ..... 1.1
Live fuel load, foliage, tons/acre ..... 0.4
Fuel bed depth, feet..... 2.5

### 3.7.5.3 Timber Group

#### 3.7.5.3.1 Fire Behavior Fuel Model 8

Slow-burning ground fires with low flame lengths are generally the case, although the fire may encounter an occasional “jackpot” or heavy fuel concentration that can flare up. Only under severe weather conditions involving high temperatures, low humilities, and high winds do the fuels pose fire hazards. Closed canopy stands of short-needle conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mainly needles, leaves, and occasionally twigs because little undergrowth is present in the stand. Representative conifer types are white pine, and lodgepole pine, spruce, fire and larch

*This model can be used for 1978 NFDRS fuel models H and R.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch, dead and live, tons/acre ..... 5.0
Dead fuel load, ¼-inch, tons/acre ..... 1.5
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet..... 0.2

#### 3.7.5.3.2 Fire Behavior Fuel Model 9

Fires run through the surface litter faster than model 8 and have longer flame height. Both long-needle conifer stands and hardwood stands, especially the oak-hickory types, are typical. Fall

fires in hardwoods are predictable, but high winds will actually cause higher rates of spread than predicted because of spotting caused by rolling and blowing leaves. Closed stands of long-needled pine like ponderosa, Jeffrey, and red pines, or southern pine plantations are grouped in this model. Concentrations of dead-down woody material will contribute to possible torching out of trees, spotting, and crowning.

*NFDRS fuel models E, P, and U are represented by this model. It is also a second choice for models C and S.*

**Fuel model values for estimating fire behavior**

Total fuel load, <3-inch dead and live, tons/acre ..... 3.5
Dead fuel load, ¼-inch, tons/acre ..... 2.9
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet ..... 0.2

#### 3.7.5.3.3 Fire Behavior Fuel Model 10

The fires burn in the surface and ground fuels with greater fire intensity than the other timber little models. Dead-down fuels include greater quantities of 3-inch (7.6 cm) or larger limbwood, resulting from overmaturity or natural events that create a large load of dead material on the forest floor. Crowning out, spotting, and torching of individual trees are more frequent in this fuel situation, leading to potential fire control difficulties. Any forest type may be considered if heavy down material is present; examples are insect- or disease-ridden stands, wind-thrown stands, overmature situations with dead fall, and aged light thinning or partial-cut slash.

*The 1978 NFDRS fuel model G is represented.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch dead and live, tons/acre ..... 12.0
Dead fuel load, ¼-inch, tons/acre ..... 3.0
Live fuel load, foliage, tons/acre ..... 2.0
Fuel bed depth, feet ..... 1.0

The fire intensities and spread rates of these timber litter fuel models are indicated by the following values when the dead fuel moisture content is 8 percent, live fuel moisture is 100 percent, and the effective windspeed at mid-flame height is 5 mi/h (8 km/h):

**Table 3.49. Comparative Fire Intensities and Rates of Spread in Timber Fuel Models.**

| Fuel Model | Rate of Spread Chains/hour | Flame length Feet |
|---|---|---|
| 8 | 1.6 | 1.0 |
| 9 | 7.5 | 2.6 |
| 10 | 7.9 | 4.8 |

Fires such as above in model 10 are at the upper limit of control by direct attack. More wind or drier conditions could lead to an escaped fire.

### 3.7.5.4 Logging Slash Group

#### 3.7.5.4.1 Fire Behavior Fuel Model 11

Fires are fairly active in the slash and herbaceous material intermixed with the slash. The spacing of the rather light fuel load, shading from overstory, or the aging of the fine fuels can contribute to limiting the fire potential. Light partial cuts or thinning operations in mixed conifer stands, hardwood stands, and southern pine harvests are considered. Clearcut operations generally produce more slash than represented here. The less-than-3-inch (7.6-cm) material load is less than 12 tons per acre (5.4 t/ha). The greater-than-3-inch (7.6-cm) is represented by not more than 10 pieces, 4 inches (10.2 cm) in diameter, along a 50-foot (15 m) transect.

*The 1978 NFDRS fuel model K is represented by this model.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch, dead and live, tons/acre ..... 11.5
Dead fuel load, ¼-inch, tons/acre ..... 1.5
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet ..... 1.0

#### 3.7.5.4.2 Fire Behavior Fuel Model 12

Rapidly spreading fires with high intensities capable of generating firebrands can occur. When fire starts, it is generally sustained until a fuel break or change in fuels is encountered. The visual impression is dominated by slash and much of it is less than 3 inches (7.6 cm) in diameter. The fuels total less than 35 tons per acres (15.6 t/ha) and seem well distributed. Heavily thinned conifer stands, clearcuts, and medium or heavy partial cuts are represented. The material larger than 3 inches (7.6 cm) is represented by encountering 11 pieces, 6 inches (15.3 cm) in diameter, along a 50-foot (15-m) transect.

*This model depicts 1978 NFDRS model J and may overrate slash areas when the needles have dropped and the limbwood has settled. However, in areas where limbwood breakup and general weathering have started, the fire potential can increase.*

**Fuel model values fore estimating fire behavior**

Total fuel load, < 3-inch, dead and live, tons/acre ..... 34.6
Dead fuel load, ¼-inch, tons/acre ..... 4.0
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet ..... 2.3

#### 3.7.5.4.3 Fire Behavior Fuel Model 13

Fire is generally carried across the area by a continuous layer of slash. Large quantities of material larger than 3 inches (7.6 cm) are present. Fires spread quickly through the fine fuels and intensity builds up more slowly as the large fuels start burning. Active flaming is sustained for long periods and a wide variety of firebrands can be generated. These contribute to spotting problems as the weather conditions become more severe. Clearcuts and heavy partial-cuts in mature and overmature stands are depicted where the slash load is dominated by the greater-tayhn-3-inch (7.6-cm) diameter material. The total load may exceed 200 tons per acre (89.2 t/ha) but fuel less than 3 inches (7.6 cm_ is generally only 10 percent of the total load. Situations where the slash still has “red’ needles attached but the total load is lighter, more like model 12, can be represented because of the earlier high intensity and quicker area involvement.

*The 1978 NFDRS fuel model I is represented. Areas most commonly fitting his model are old-growth stands west of the Cascade and Sierra Nevada Mountains. More efficient utilization standards are decreasing the amount of large material left in the field.*

**Fuel model values for estimating fire behavior**

Total fuel load, < 3-inch dead and live, tons/acre ..... 58.1
Dead fuel load, ¼-inch, tons/acre ..... 7.0
Live fuel load, foliage, tons/acre ..... 0
Fuel bed depth, feet ..... 3.0

**For other slash situations:**

Hardwood slash .....Model 6
Heavy "red" slash.....Model 4
Overgrown slash .....Model 10
Southern pine clearcut slash.....Model 12

The comparative rates of spread and flame lengths for the slash models at 8 percent dead fuel moisture content and a 5 mi/h (8 km/h) mid-flame wind are presented in Table 3.25.

**Table 3.50. Comparative Fire Intensities and Rates of Spread in Slash Fuel Models.**

| Fuel Model | Rate of Spread Chains/hour | Flame length Feet |
|---|---|---|
| 11 | 6.0 | 3.5 |
| 12 | 13.0 | 8.0 |
| 13 | 13.5 | 10.5 |

## *3.8 Wildland-Urban Interface*

### 3.8.1 People and Structures

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

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

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

Four wildland/urban conditions have been identified for use in the wildland urban interface (Norton 2002). These include the Interface Condition, Intermix Condition, Occluded Condition, and Rural Condition. Descriptions of each are as follows:

**Interface Condition** – a situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;

**Intermix Condition** – a situation where structures are scattered throughout a wildland area. There is no clear line of demarcation, the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres;

**Occluded Condition** – a situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size; and

**Rural Condition** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.

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

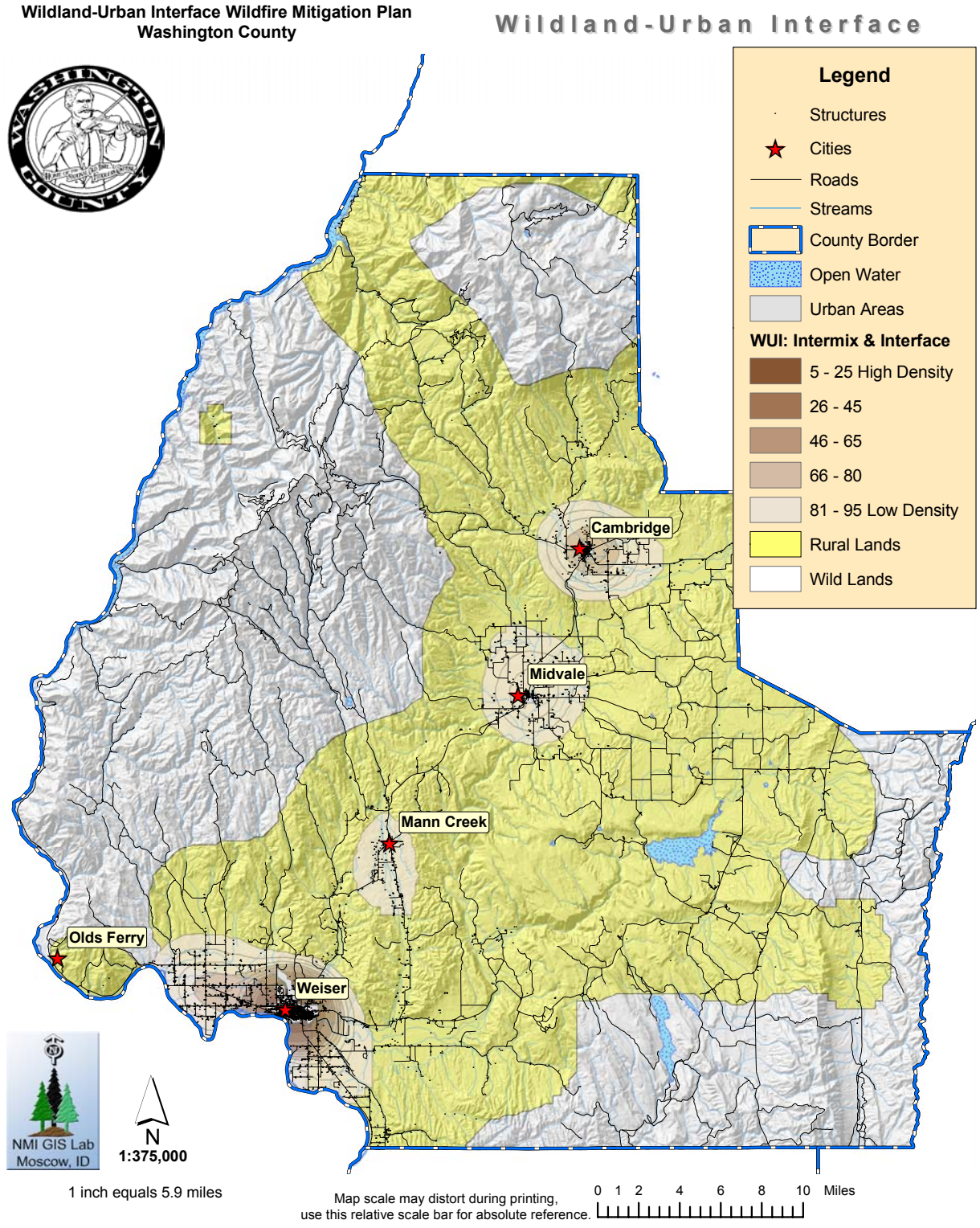
All structures are represented by a “dot” on the map. No differentiation is made between a garage and a home, or a business and a storage building. The density of structures and their specific locations in this management area are critical in defining where the potential exists for casualty loss in the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

By evaluating this structure density, we can define WUI areas on maps by using mathematical formulae and population density indexes to define the WUI based on where structures are located. The resulting population density indexes create concentric circles showing high density

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

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

## Wildland-Urban Interface in Washington County:




***This map is presented for reference in this section of the plan. This map, and additional maps are detailed in Appendix I.***

### 3.8.2 Infrastructure

Washington County has regionally and locally significant infrastructure within its boundaries. Of note for this WUI Fire Mitigation Plan is the existence of the primary state highway route connecting north and south Idaho (US Highway 95), State Highway 71, and the presence of high tension power lines run through Washington County and supply Southern Idaho. These resources will be considered in the protection of infrastructural resources for Washington County and to the larger extent of this region, and the rest of Idaho. A detailed analysis is presented in Chapter 4.

### 3.8.3 Ecosystems

Washington County is a diverse ecosystem with a complex array of vegetation, wildlife, and fisheries that have developed with, and adapted to fire as a natural disturbance process. A century of wildland fire suppression coupled with past land-use practices (primarily timber harvesting and livestock grazing) has altered plant community succession and has resulted in changes in historical fire regimes and species composition (USDA 1999). As a result, there is a possibility, in a few instances, of forests and rangelands in Washington County to be more susceptible to large-scale, high intensity fires posing a threat to life, property, and natural resources including wildlife and special status plant populations and habitats. High-intensity, stand-replacing fires have the potential to seriously damage soils and native vegetation. In addition, an increase in the number of large high intensity fires throughout the nation's forests, has resulted in significant safety risks to firefighters and higher costs for fire suppression (House of Representatives, Committee on Agriculture, Washington, DC, 1997).

Changes in plant community composition and structure are most pronounced in the dry and semi-Mesic forest types. A shift in plant species composition, due to invasion and spread of invasive herbaceous species (including cheatgrass), has also influenced fire regime and frequency. Logging and livestock grazing can be used as an effective tool for managing these natural resources when implemented in a planned and goal targeted manner.

## *3.9 Soils*

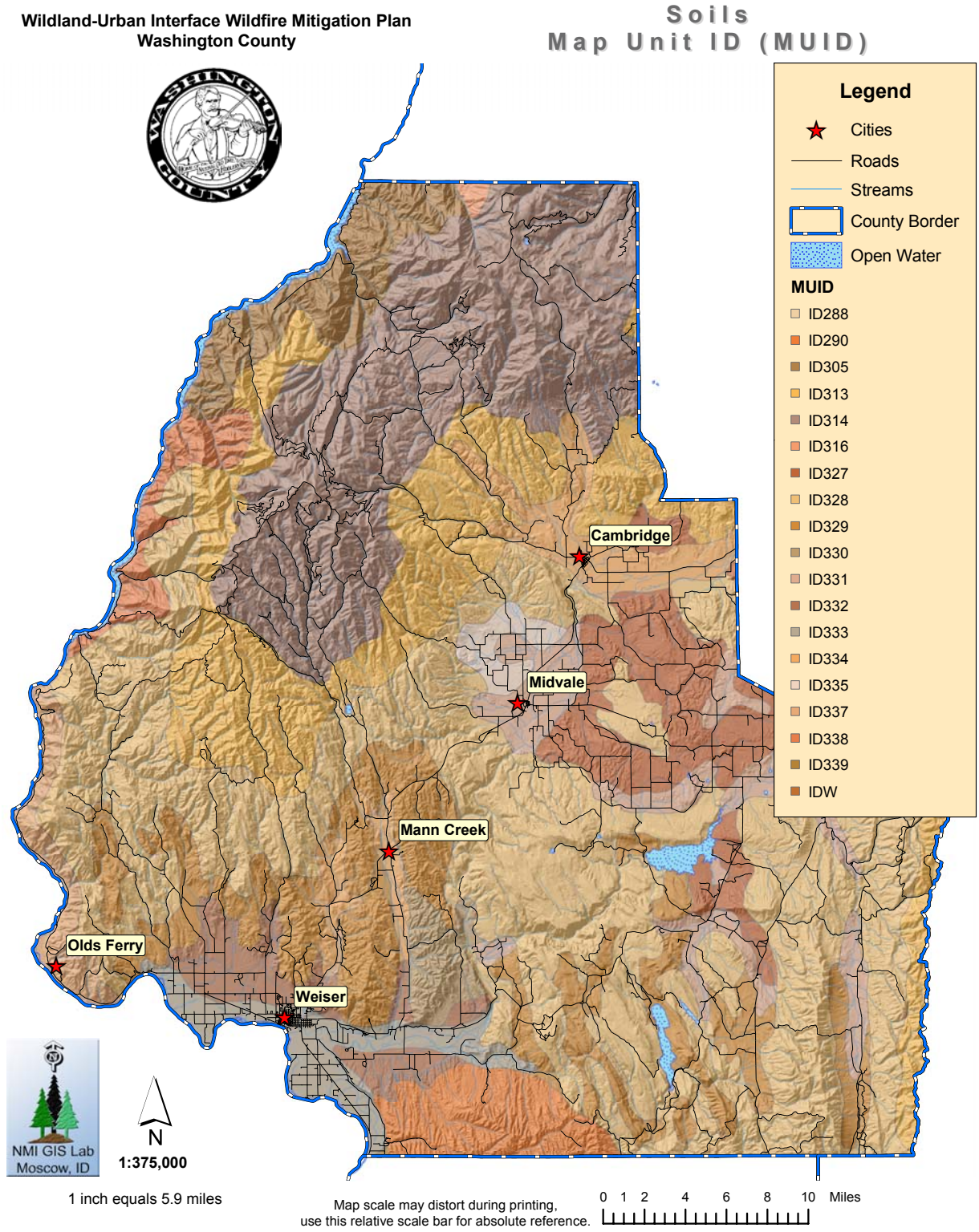
Detailed soil information has been provided by the USDA Natural Resources Conservation Service (NRCS) in the "Soil Survey of Adams-Washington Area, Idaho, Parts of Adams and Washington Counties". The following information is summarized from that document. For more detailed discussions on specific soil characteristics the Soil Survey should be consulted.

### 3.9.1 Physiography

The soil survey area conducted by the NRCS includes nearly level flood plains and very gently sloping to moderately sloping terraces along the rivers and larger streams. Adjacent to the flood plains are high terraces, some of which have been dissected to form rolling hills. A large part of the area consists of gently sloping to very steep basalt foothills and mountains. In the northern part are steep granitic mountains. The Snake River flows north along the western edge of the area. The main drainageway is the Weiser River and its tributaries, which flow southwest into the Snake River at Weiser.

### 3.9.2 Soil Map Unit Descriptions

These Soil Map Unit Descriptions are mapped in the following figure. Specific soil descriptions are included in the County's Soil Survey.




## 3.9.3 Hydrophobic Characteristics

The soil resource is an extremely important resource for maintaining a healthy ecosystem. Fire can play an intricate role in this process, if it occurs under normal conditions of light fuels associated with low intensity underburns. However, the buildup of fuels and consequent high

severity fires can cause soils to become water repellent (hydrophobic), and thus greatly increases the potential for overland flow during intense rains. Soil in degraded conditions does not function normally, and will not be able to sustain water quality, water yield, or plant communities that have normal structure, composition, and function. Fire is also strongly correlated with the carbon-nutrient cycles and the hydrologic cycle. Fire frequency, extent, and severity are controlled to a large degree by the availability of carbon, as well as the moisture regime (Quigley & Arbelbide 1997).

Soils were evaluated for their propensity to become hydrophobic during and after a fire as evidenced by the presence of clay and clay derivatives (e.g., clay loam, cobbly clay) in the upper soil layers. In addition, their permeability and tendency to allow runoff to infiltrate the soil rapidly was evaluated. In general, with notable exceptions, the majority of the area within Washington County has a clay content in the Bt horizon from 7 to 55 percent. Much of the area has little to no reported clay content in the A horizon with a medial silt loam to a gravelly medial silt loam present. On average these soils are well drained with moderate permeability.

Low to moderate intensity fires would be not be expected to damage soil characteristics in the region, especially if the hotter fires in this range were limited to small extents associated with jackpots of cured fuels. Hot fires providing heat to the Bt horizon substrate depth would have the potential to create hydrophobic characteristics in that layer. Rocky and gravelly characteristics in the A horizon layer would not be expected to be displaced greatly, however, the silty and loamy fines in these soils will have an erosion and displacement potential. These soils will experience the greatest potential impacts resulting from hot fires that burn for prolonged periods.

### 3.9.4 Fire Mitigation Practices to Maintain Soil Processes

Firelines constructed by hand or with the use of machinery will have varying impacts, depending upon construction techniques. If only the surface litter is removed in the fireline construction, minor increases to soil erosion may occur. If trenches are dug which channelize runoff down steep slopes, heavy rilling or gullying could occur depending upon rock content of surface layers exposed. Loss of soil carbon, nitrogen, sulphur, phosphorus, potassium, and soil organisms may be high in the soil surface layer. Soil physical structure could be altered thereby creating hydrophobic soils.

Indirect effects of burning to slope stability are comparatively minor in the soil types found in Washington County. Vegetative structure, including root strength after surface fires, is maintained from three to fifteen years following the burn and therefore soil saturation potential is not greatly altered (Thompson *et al.* 1973).

Cumulative effects on the soil resource include past effects from timber harvest, grazing, mining, and fire. Timber harvest has the potential to cause substantial soil damage due to the use of heavy equipment for harvesting, yarding, and site preparation. The damage mostly includes soil compaction and displacement of the organic rich surface soil layers. Where heavy grazing has occurred in the past, there is also a potential that soil productivity has been reduced. This is especially true in riparian areas where animal concentrations have historically been the greatest. Mining also has significant effects on soil quality through soil compaction and mass displacement.

Severe fires in the past have consumed surface organics and volatilized nitrogen into the air. On some sites, however, these severe burns are a natural process, and therefore the inherent soil productivity may not be reduced. On other sites, however, where low intensity underburns typically occurred, high intensity wildland fires have consumed amounts of soil organics in excess of the historic patterns. Furthermore, excessive soil heating in these intense fires likely resulted in creation of water repellent soils, and therefore increased overland flow and soil

erosion. The slow recovery from soil damages make cumulative effects to soil productivity and soil hydrologic function a major concern.

To avoid potential impacts, wherever possible, firelines should be located outside of highly erosive areas, steep slopes, intermittent streams, and riparian and other sensitive areas. Following prescribed fire or fire suppression activities, firelines should be rehabilitated.

Prescribed fire (low to moderate intensity) should release nutrients into the soil and the fertilization effects of ash would provide an important source of nutrition for vegetation in the area. In addition to increasing nitrification of the soils and increasing minerals and salt amounts in the soil, the ash and charcoal residue resulting from incomplete combustion would aid in soil buildup and soil enrichment by being added as organic matter to the soil profile. The added material works in combination with dead and dying root systems to make the soil more porous, better able to retain water, and less compact while increasing needed sites and surface areas for essential microorganisms, mycorrhiza, and roots (Vogl 1979, Wright and Bailey 1980, Wright and Bailey 1982).

## *3.10 Hydrology*

The Idaho Water Resource Board is charged with the development of the Idaho Comprehensive State Water Plan. Included in the State Water Plan are the statewide water policy plan, and component basin and water body plans which cover specific geographic areas of the state (IDEQ 2003). The Idaho Department of Water Resources has prepared General Lithologies of the Major Ground Water Flow Systems in Idaho. The majority of Washington County has not been designated by the IWRB as a ground water system (Grahm and Campbell 1995).

The state may assign or designate beneficial uses for particular Idaho water bodies to support. These beneficial uses are identified in sections 3.35 and 100.01 - .05 of the Idaho water quality standards (WQS). These uses include:

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

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

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

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The

greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

Riparian function and channel characteristics have been altered by ranch and residential areas in Washington County. The current conditions of wetlands and floodplains are variable. Some wetlands and floodplains have been impacted by past management activities.

### 3.10.1 Fire Mitigation Practices to Maintain Hydrologic Processes

The effects of wildland fire and prescribed burning on water quality are variable. The removal of the vegetative canopy will tend to reduce transpiration and increase water yield, especially during the growing season and immediately afterwards (MacDonald *et al.* 1991). Prescribed burning is used to maintain a healthy, dynamic ecosystem while meeting land management objectives. Prescribed burning objectives include reduction of natural fuels, assuring current and future habitat conditions for native plants and animals, improvement of forest health, and enhancement, protection, and maintenance of old growth and riparian areas. The majority of the burned areas are expected to receive a low intensity ground fire with some areas of moderate intensity. This may include occasional torching of single trees or larger clumps or trees and consumption of some patches of regeneration. Impacts to soil and large woody debris are expected to be minimal.

A large, stand-replacing fire could have negative effects on watershed conditions, thus affecting both fish and habitat in streams. Treatment with low to moderate intensity fire would result in a mosaic pattern of burned and unburned areas of ground level vegetation. Some patches of shade-tolerant, fire intolerant species may also be consumed. Each treatment may leave a mosaic of burned and unburned areas.

The effects on sediment yield vary according to the intensity of fire; degree of soil disturbance; steepness of the slope and drainage network; the size of the area burned; and the extent to which the vegetation controls the movement and storage of sediment. Fire also has the potential to increase surface erosion and sediment delivery rates by removing the litter layer and organic debris that traps sediment both on slopes and in the stream channel (MacDonald *et al.* 1991). The magnitude of these effects will depend on the geomorphic sensitivity of the landscape, which is largely a function of slope steepness and parent material (Swanson 1978).

Fire may increase surface erosion by temporarily creating a hydrophobic soil layer. Some soils within the project area are generally at moderate risk for hydrophobic conditions due to their fine-grained textures and clay content. In addition, the relatively low burn intensity of the prescribed fires will also help prevent the formation of hydrophobic soils.

The effects of wildland fire or prescribed fire are generally considered in terms of potential short-term, negative effects and long-term benefits of fuels reduction, which will result in a decreased risk of high intensity, stand-replacing fire. Potential short-term effects to streams and fish include increased risk of landslides, mass movement and debris torrents, increases in surface sediment erosion, possible reduction in streamside vegetation resulting in changes within management areas, and possible increases in water yield depending on the amount and severity of the vegetation burned. Long-term effects include increases in nutrient delivery, possible increases in woody debris in streams, and possible increases in stream temperature if shading is significantly reduced.

Riparian buffer strips should be maintained, thereby preserving canopy cover for shading, sediment filtering, and streambank and floodplain stability. Areas not burned will provide significant protection from adverse water quality impacts associated with wildland fire and prescribed burning. Therefore, effects to fish and habitat in these streams from increased water

yield and sediment yield are unlikely. Forest practices in the area will be conducted to meet the standards of the Idaho Forest Practices Act and the Boise NF Forest Plan. These rules are designed to use best management practices that are adapted to and take account of the specific factors influencing water quality, water quality objectives, on-site conditions, and other factors applicable to the site where a forest practice occurs.

## *3.11 Air Quality*

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

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

Washington County is in the North Idaho Airshed Unit 14: Montana/Idaho Airshed Group Operating Guide (Levinson 2002). An airshed is a geographical area which is characterized by similar topography and weather patterns (or in which atmospheric characteristics are similar, e.g., mixing height and transport winds). The USDA Forest Service, Bureau of Land Management, and the Idaho Department of Lands are all members of the Montana/Idaho State Airshed Group, which is responsible for coordinating burning activities to minimize or prevent impacts from smoke emissions. Prescribed burning must be coordinated through the Missoula Monitoring Unit, which coordinates burn information, provides smoke forecasting, and establishes air quality restrictions for the Montana/Idaho Airshed Group. The Monitoring Unit issues daily decisions which may restrict burning when atmospheric conditions are not conducive to good smoke dispersion. Burning restrictions are issued for airsheds, impact zones, and specific projects. The monitoring unit is active March through November. Each Airshed Group member is also responsible for smoke management all year.

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The act established a process for designation of Class I and Class II areas for air quality management. Class I areas receive the highest level of protection and numerical thresholds for pollutants are most restrictive for this Class.

Some of the Class I airsheds in the immediate area include:

- **Hell's Canyon Wilderness Area:** A sensitive Class I airshed is the Hell's Canyon Wilderness Area (86,116 acres), which is managed for high scenic and recreation values. Located approximately 22 miles north of Washington County.
- **Sawtooth:** Class I Airshed located approximately 55 miles east of Washington County.
- **Selway-Bitterroot Wilderness:** Another Class I Airshed nearby is the Selway-Bitterroot Wilderness (1.1 million acres). The Selway-Bitterroot Wilderness is directly in the path of the prevailing winds crossing over Washington County, approximately 100 miles northeast of Washington County.

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

The Clean Air Act provides the principal framework for national, state, and local efforts to protect air quality. Under the Clean Air Act, OAQPS (Organization for Air Quality Protection Standards) is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).

Air quality measurement stations juxtaposed near Washington County include McCall, Grangeville, Sawtooth Wilderness Station, Garden Valley, and Salmon.

### 3.11.1 Fire Mitigation Practices to Maintain Air Quality

Vehicle use associated with management operations can increase fugitive dust levels on the access roads. To mitigate for any potential increase in dust a variety of recommendations may be implemented including limiting vehicle speed on dirt and gravel roads, watering travel surfaces, or other methods deemed adequate and appropriate on a case-by-case basis.

Smoke consists of dispersed airborne solids and liquid particles, called particulates, which can remain suspended in the atmosphere for a few days to several months. Particulates can reduce visibility and contribute to respiratory problems. Very small particulates can travel great distances and add to regional haze problems. Regional haze can sometimes result from multiple burn days and/or multiple owners burning within an airshed over too short a period of time to allow for dispersion.

For prescribed fires, there are three principle strategies to manage smoke and reduce air quality effects. They include:

**Avoidance -** This strategy relies on monitoring meteorological conditions when scheduling prescribed fires to prevent smoke from drifting into sensitive receptors, or suspending burning until favorable weather (wind) conditions exist. Sensitive receptors can be human-related (e.g. campgrounds, schools, churches, and retirement homes) or wildlife-related (threatened and endangered species and their critical habitats);

**Dilution –** This strategy ensures proper smoke dispersion in smoke sensitive areas by controlling the rate of smoke emissions or scheduling prescribed fires when weather systems are unstable, not under conditions when a stable high-pressure area is forming with an associated subsidence inversion. An inversion would trap smoke near the ground; and

**Emission Reduction –** This strategy utilizes techniques to minimize the smoke output per unit area treated. Smoke emission is affected by the number of acres burned at one time, pre-burn fuel loadings, fuel consumption, and the emission factor. Reducing the number of acres burned at one time would reduce the amount of emissions generated by that burn. Reducing the fuel beforehand reduces the amount of fuel available. Prescribed burning when fuel moistures are high can reduce fuel consumption. Emission

factors can be reduced by pile burning or by using certain firing techniques such as mass ignition.

If weather conditions changed unexpectedly during a prescribed burn, and there was a potential for violating air quality standards or for adverse smoke impacts on sensitive receptors (schools, churches, hospitals, retirement homes, campgrounds, wilderness areas, and species of threatened or endangered wildlife), the management organization may implement a contingency plan, including the option for immediate suppression. Considering 1) the proposed action would result in prescribed fire on a relatively small number of acres, 2) burning as part of this mitigation plan's implementation in the County will most likely occur over a 5-year or 10-year period at a minimum, and 3) the County will adhere to Montana/Idaho Airshed Group advisories and management strategies to minimize smoke emissions, prescribed fire activities would not violate national or state emission standards and would cause very minor and temporary air quality impacts. The greatest threat to air quality would be smoke impacts on sensitive receptors, however, the scarcity of sensitive receptors within the County minimizes this potential air quality impact.

In studies conducted through the Interior Columbia Basin Management Project, smoke emissions were simulated across the Basin to assess relative differences among historical, current, and future management scenarios. In assessing the whole Upper Columbia Basin, there was a 43 percent reduction in smoke emissions between the historical and current periods (Quigley and Arbelbide 1997). The projected smoke emissions varied substantially with the vastly different management scenarios. The consumptive demand and passive management scenarios were projected to substantially increase smoke emissions above current levels. The active management scenarios were projected to result in a decrease of current levels.

Although prescribed fire smoke may occur more frequently than wildland fire smoke, since prescribed fires are scheduled during the year, the effects of wildland fire smoke on visibility are more acute. Prescribed fires produce less smoke than wildland fires for comparatively shorter periods, because they are conducted under weather conditions that provide for better smoke dispersion. In a study conducted by Holsapple and Snell (1996), wildland fire and prescribed fire scenarios for the Columbia Basin were modeled. In conclusion, the prescribed fire scenarios did not exceed the EPA particulate matter (PM 10) standard in a 24-hour period. Similar projections were observed for a PM 2.5 threshold. Conversely, all wildland fire scenarios exceeded air quality standards. Similar responses were reported by Huff *et al.* (1995) and Ottmar *et al.* (1996) when they compared the effects of wildland fire to prescribed fire on air quality. The impacts of wildland fire and management ignited prescribed fire on air quality vary because of the differences in distribution of acres burned, the amount of fuel consumed per acre (due to fuel moisture differences), and the weather conditions in which typical spring and fall prescribed burns occur. This analysis reveals wildland fire impacts on air quality may be significantly greater in magnitude than emissions from prescribed burns. This may be attributable, in part, to the fact that several states within the project area have smoke management plans requiring favorable weather conditions for smoke dispersion prior to igniting wildland fires (Quigley and Arbelbide 1997).

# Chapter 4: Summaries of Risk and Preparedness

# 4 Overview

## *4.1 Wildland Fire Characteristics*

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, 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; the fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to determine how fires burn.

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

### 4.1.1 Weather

Weather conditions contribute significantly to determining fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant affect 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.

### 4.1.2 Topography

Fires burning in similar fuel conditions burn dramatically different under different topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. The combination of light fuels and dry sites lead to fires that typically display the highest rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. These slopes also tend to be on the windward side of mountains. Thus these slopes tend to be “available to burn” a greater portion of the year.

Slope also plays a significant roll 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.

### 4.1.3 Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and home sites are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content and continuity and arrangement all have an affect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease, as surface to volume ratio decreases. Fires in large fuels generally burn at a slower rate, but release much more energy, 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 potentially development of crown fire. That is, they release much more energy. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determine how fires will burn.

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

## *4.2 Washington County Conditions*

Washington County is characterized by a persistently warm and arid environment, that limits non-cultivated vegetative communities to grass and brush rangelands. Xeric vegetation and hot, dry and windy conditions has resulted in a rich fire history, with relatively frequent fires. The last decade has seen the proliferation of Cheatgrass, 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, and in recently burned areas. Over time, vegetative species composition in unmanaged or non-irrigated land has shifted toward fire prone species, particularly in high use areas where disturbance is common.

Irrigation within the valley bottom creates a patchwork of green, lush vegetation and cured rangeland. This patchwork helps to break the continuity of fuels that are available to burn. However, dry fuels become continuous above the irrigated zone, providing a consistent fuel bed for fire spread.

Like many areas throughout the west, Washington County has been experiencing some growth in recent years. At the same time, the number and value of resources at risk is on the increase, as more and more homes are built in the midst of cured, fire-ready fuels. Human use is strongly correlated with fire frequency, with increasing numbers of fires with increasing use. The combination of frequent ignitions and flammable vegetation has greatly increased the probability that incendiary devices will find a receptive fuel bed, resulting in an increase in fire frequency. Discarded cigarettes, tire fires, and hot catalytic converters have increased the number of fires experienced along roadways. Careless and unsupervised use of fireworks also contributes their

fair share to unwanted and unexpected wildland fires. Further contributing to ignition sources are the debris burners who use fire to rid ditches of weeds and other burnable materials.

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

## *4.3 County Wide Mitigation Activities*

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

- Prevention
- Education/ Mitigation
- Readiness
- Building Codes

### 4.3.1 Prevention

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to prevent human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective. Prevention campaigns can take many forms. Traditional "Smokey Bear" type campaigns that spread the message passively through signage can be quite effective. Signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can be quite effective. It's impossible to say just how effective such efforts actually are, however the low costs associated with posting of a few signs is inconsequential compared to the potential cost of fighting a fire.

#### 4.3.1.1 Prevention Ideas:

Slightly more active prevention techniques may involve mass media, such as radio or the local newspaper. Fire districts in other counties have contributed the reduction in human-caused ignitions by running a weekly "run blotter," similar to a police blotter, each week in the paper. The blotter briefly describes the runs of the week and is followed by a weekly "tip of the week" to reduce the threat from wildland and structure fires. The federal government has been a champion of prevention, and could provide ideas for such tips. When fire conditions become high, brief public service messages could warn of the hazards of misuse of fire or any other incendiary devise. Such a campaign would require coordination and cooperation with local media outlets. However, the effort is likely to be worth the efforts, costs and risks associated with fighting unwanted fires.

**Fire Reporting:** Fires cannot be suppressed until they are detected and reported. As the number and popularity of cellular phones has increased, expansion of the #FIRE program throughout Idaho may provide an effective means for turning the passing motorist into a detection resource.

**Burn Permits:** The issues associated with debris burning during certain times of the year are difficult to negotiate and enforce. However, there are significant risks associated with the use of fire adjacent to expanses of flammable vegetation under certain scenarios. Fire departments typically observe the State of Idaho Closed fire season between May 10 to October 20. During this time, an individual seeking to conduct an open or any type shall obtain a permit to prescribed the conditions under which the burn can be conducted and the resources that need to be on hand to suppress the fire, from a State of Idaho fire warden. Although this is a state-wide regulation, compliance and enforcement has been variable between fire districts. Tackling this issue is difficult. Typically, the duty falls to the chief of which ever fire protection district the burning is planned for. However, this leads to an increased burden on the fire chiefs, who are already juggling other department obligations with obligations to work and to home. There is also considerable confusion on the part of the public as to when a permit is necessary and the procedure for which to obtain the permit. The best intentioned citizen may unknowingly break this law for a lack of understanding. Clearly, there is a need to coordinate this process and educate the public as when a permit is needed and the necessary channels to obtain a permit.

### 4.3.2 Education

Once a fire has started and is moving toward home or other valuable resource, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home as to whether the home will survive the passing fire front. Also of vital importance is the accessibility of the home to emergency apparatus. If the home cannot be protected safely, firefighting resources will not jeopardize lives to protect a structure. Thus, the fate of the home will largely be determined by homeowner actions prior to the event.

The majority of the uncultivated vegetation in Washington County is comprised if grass and brush rangeland. Although these fuels are very flammable and can support very fast moving fires, fires in these fuel types tend to be of relatively low intensity. In many cases, homes can be easily be protected by following a few simple guidelines that reduce the ignitability of the home. There are multiple programs such as FIREWISE that detail precautions that should be taken in order to reduce the threat to homes, such as clearing cured grass and weeds away from structures and establishing a green zone around the home.

However, knowledge is no good unless acted upon. Education needs to be followed up by action. Any education programs should include an implementation plan. Ideally, funds would be made available to financially assist the landowner making the necessary changes to the home.

### 4.3.3 Readiness

Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, rural fire departments are the first to respond and have the best opportunity to halt the spread of a wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of departments through funding and equipment acquisition can improve response times and subsequently reduce the potential for resource loss.

In order to assure a quick and efficient response to an event, emergency responders need to know specifically where emergency services are needed. Continued improvement and updating of the rural addressing system is necessary to maximize the effectiveness of a response.

In many areas of Washington County, water availability outside the municipal system is a constant issue. Some fire districts within the county have adopted building standards that have improved water supplies by requiring dry hydrants be established in developing areas. However,

there are many areas that do not have any reliable water supply, increasing the probability of losing structures to homes to structure fires and increasing the chance that wildland fire suppression efforts would not be supported with adequate water supplies for suppression activities.

### 4.3.4 Building Codes

The most effective, all be it contentious, solution to some fire problems is the adoption of building codes in order to assure emergency vehicle access and defendable home construction. Codes that establish minimum road construction standards and access standards for emergency vehicles are an effective means of assuring public and firefighter safety, as well as increasing the potential for home survivability. County building inspectors should look to the fire departments in order to assure adequate minimum standards. Fire districts may want to consider apparatus that may be available during mutual aid events in order the adopted standards meet the access requirements of the majority of suppression resources. In Washington County, such standards may be drafted in consultation with the Snake River Valley Fire Chiefs Association in order to assure accessibility is possible for all responding resources.

## *4.4 Washington County's Wildland-Urban Interface*

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

Weiser[1]
Midvale[1]
Cambridge[1]
Mann Creek[2]
Brownlee Reservoir[2]
Olds Ferry

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

[2]Communities with a "[2]" following the name were also evaluated for this plan in subsequent sections.

### 4.4.1 Weiser

#### 4.4.1.1 Fuels Assessment

Many of the residents of the Weiser area own small farms and ranches concentrated along the perimeter of the city limits. Larger landowners are scattered across the flat bottoms of the Weiser and Snake River valleys. These rivers in conjunction with several smaller streams provide an ample water resource for irrigation. The Snake River, which runs directly south of the city center, acts as the dividing line between Oregon and Idaho. This limits development in Weiser to the north and east of the river in areas with a low fire risk rating. The greater part of the area is heavily utilized for agricultural purposes and pastureland due to the well established irrigational access. This significantly reduces the risk of wildfire by controlling the herbaceous vegetation.

The community of Weiser is located in the Weiser and Snake River valleys along U.S. Highway 95. There is a mild slope rising to the northeast of town. This southwest-facing slope is dominated by low-growing grasses with intermittent patches of sagebrush. The valley is almost entirely checkered with various agricultural fields and pastureland. Fuel model 1 is most common, but fuel model 2 occurs along the outer edges of the northeast boundary of the 3-mile zone. These fuel types tend to support lower intensity surface fires. There are very few structures or agricultural activities beyond the reaches of the valley bottom, so the greatest risk for rapid rate of fire spread is associated with the hot, dry slopes. Small grass fires occur fairly frequently; thus, fire suppression response is rapid and generally efficient.

The primary access into the area is from U.S. Highway 95, a paved two-lane highway that extends to the north and south. There is a multitude of additional escape routes using roads leading away from the community in all directions. Most of these roads are located in areas with little risk due to the agricultural land use. Some signing of these roads as alternate escape routes would help visitors in the area.

#### 4.4.1.2 Community Risk Assessment

The Weiser and the surrounding area is protected by the City of Weiser Fire Department and the Weiser Area Rural Protection District #1. Although the range to the northeast of town presents a moderate risk of wildfire, a secondary risk to the community is from the potential for annual burning of agricultural fields to escape (although this has not occurred to a great extent in the past). In addition, an active Union-Pacific railroad traveling directly through town and an Idaho Timber Corporation mill south of town increase the likelihood of ignition. In the event of wildfire, the prevailing winds from the southwest (during the fire season) would likely drive fires out of the valley and upslope; away from most structures. The fire protection available in combination with the vast water resources places this community at a low risk of uncontrolled wildfire.

#### 4.4.1.3 Potential Mitigation Activities

Many of the homes in this area were constructed with building materials and landscaping techniques favorable for protecting them against wildfire. However, individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Current management of the vegetation surrounding homes provides good protection; however, maintaining a lean, clean, green zone within 100 feet of structures to reduce the potential loss of life and property is recommended, especially for the outer perimeter of homes adjacent to the wildland fuels. Assessing individual homes in the outlying areas can address the issue of escape routes and home defensibility characteristics. Educating the homeowners in techniques for protecting their homes is critical in these hot, dry environments. A moderate number of homes near the highest risk areas would be recommended for fuels treatments (rangeland type WUI treatments).

| **Weiser** | |
|---|---|
| **Item** | **Score** |
| FEMA: Overall wildfire hazard rating score | Low Hazard |
| FEMA: Potential fire hazard severity | Moderate Hazard |
| Fire Prone Landscapes: average score | 43 |
| Average slope of community and surrounding area: | 38% |
| Land cover type: | Rangeland |

*This information is summarized in Appendix II*

## 4.4.2 Midvale

### 4.4.2.1 Fuels Assessment

Many of the homes in this area are scattered across the Shoe Peg and Middle Valleys formed by the Weiser River. This creates a mosaic of privately owned ranches. The river enters the city center from the north and exits to the south, paralleling U.S. Highway 95. Several tributaries, including Keithly Creek, empty into the main Weiser River drainage near this community providing access to irrigation. Development is occurring both east and west of the highway in areas with a low-risk rating. Most of the area is fairly flat with gentle slopes rising at the outer edges, particularly to the east and west. Fuel model 1 is most common in the basin, but fuel model 2 is prevalent on the slopes. These fuel types tend to support lower intensity surface fires. The greater part of the area is heavily utilized for agricultural purposes, particularly hay, wheat, and pastureland. This significantly reduces the risk of wildfire by controlling the herbaceous vegetation.

Midvale is bordered almost entirely by low ridges. The vegetation on these hillsides consists primarily of low growing grasses. Sagebrush becomes more common along the western boundary with interspersed rock outcroppings. There are very few homeowners on these slopes, most preferring to remain in the more fertile valley bottom. The vegetation within the valley is dominated by both irrigated and dry agricultural fields and pastureland. The greatest risk for rapid rate of fire spread in Midvale is associated with the hot, dry slopes and the annual burning of agricultural fields.

The primary access into the area is via U.S. Highway 95, a paved two-lane highway that runs both north and south. There are multiple potential escape routes using roads leading away from the community to the east and west. Most of these roads are located in areas with little risk due to the agricultural land use. Some signing of these roads as alternate escape routes would help visitors in the area.

### 4.4.2.2 Community Risk Assessment

The Midvale community is defended by the Midvale Fire Protection District, which has a large fire station and equipment garage within the city center. There is little risk associated with the outlying slopes. There are also several abandoned farmhouses and lone hay barns along the outskirts of town that could be a potential source of fuel. However, the fire protection available in combination with the water resources and topography places this community at a low risk of uncontrolled wildfire.

### 4.4.2.3 Potential Mitigation Activities

Many of the homes in this area were constructed with building materials and landscaping techniques favorable for protecting them against wildfire. However, individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Current management of the vegetation surrounding homes provides good protection; however, maintaining a lean, clean, green zone within 100 feet of structures to reduce the potential loss of life and property is recommended. Assessing individual homes in the outlying areas can address the issue of escape routes and home defensibility characteristics. Educating homeowners in techniques for protecting their homes is critical in these hot, dry environments. Comparatively few homes will require fuels modification treatments (less than 50), but many homes will benefit from a long-term commitment of converting their structure risk-factors (roofing, siding, decks, and out-buildings) to non-flamable materials.

Crane Creek area is approximately 336 sq. miles. It is a part of the Midvale Fire District. Crane Creek is serviced by a 1,000 gal pumper and a Dodge brush truck, these are housed in a two bay satellite station. The area is remote, sparsely populated, and made up of mostly sage brush and grass. It accounts for over 50% of our wild land fires.

| **Midvale** | |
|---|---|
| **Item** | **Score** |
| FEMA: Overall wildfire hazard rating score | Low Hazard |
| FEMA: Potential fire hazard severity | Moderate Hazard |
| Fire Prone Landscapes: average score | 41 |
| Average slope of community and surrounding area: | 23% |
| Land cover type: | Rangeland |

*This information is summarized in Appendix II*

## 4.4.3 Cambridge

### 4.4.3.1 Fuels Assessment

Many of the residents own small ranchettes north of town. Larger landowners are scattered across the basin formed by the Weiser River and the many smaller tributaries that empty into the main drainage just south of Cambridge. Specifically, Pine Creek Estates and the Brownlee Estates are concentrations of homes that continue to grow. The river in conjunction with several smaller streams, such as the Little Weiser River and Pine Creek provide an ample water resource for irrigation. The Weiser River flows into town from the north and exits the valley paralleling U.S. Highway 95 to the south. The greater part of the area is heavily utilized for agricultural purposes and pastureland due to the well established irrigational access. This significantly reduces the risk of wildfire by controlling the herbaceous vegetation.

The community of Cambridge is located in the Weiser River valley along U.S. Highway 95. The region north of town is characterized by gently rolling hills that are dry and rocky. There are several hay fields, but much of the area is vegetated by pasture, low-growing grasses, and patches of sagebrush. Irrigated hay fields and pasture extend across the basin to the east for a number of miles. The southern boundary of the valley is well defined by a low, but steep rim carved by the Little Weiser River. The face of the ridge is mostly rock, while grasses and sagebrush grow along the top.

State Highway 71 to the Brownlee Reservoir travels west from town through a steep canyon created by Pine Creek. This region is predominantly a high risk area vegetated by cured grasses and heavier patches of sagebrush. Ponderosa pine, Douglas-fir, and various species of shrubs become more frequent further west, especially on the ridge tops and in draws. The fire risk increases as the amount of timber and other fuels accumulate. Fuel model 2 is most common within a 3-mile zone around the community, but fuel model 1 also occurs. These fuel types tend to support lower intensity surface fires. There are few structures or agricultural activities beyond the reaches of the valley bottom, so the greatest risk for rapid rate of fire spread is associated with the hot, dry slopes, especially in the narrow canyons to the west.

The primary access into the area is from U.S. Highway 95, a paved two-lane highway that extends to the north and south. State Highway 71 could also serve as an escape route; however, it is more likely that a wildfire would occur along this corridor than to the east of the community. There is a multitude of additional escape routes using roads leading away from the community to the north and east. Most of these roads are located in areas with little risk due to

the agricultural land use. Some signing of these roads as alternate escape routes would help visitors in the area.

#### 4.4.3.2 Community Risk Assessment

The Cambridge community is protected by the Cambridge Fire District. The primary threat to the community is the higher risk ranges to the west. Annual burning of crop fields increases the risk of an escaping agricultural fire spreading into the mountains. Prevailing winds would most likely drive a fire from the valley and up the canyons to the west. The relatively flat slopes in combination with the vegetation results in a low wildfire risk for this community. The exception is the increased ignition potential from US Highway 95.

#### 4.4.3.3 Potential Mitigation Activities

Many of the homes in this area were constructed with building materials and landscaping techniques favorable for protecting them against wildfire. However, individual home site evaluations can increase homeowners' awareness and improve the survivability of structures in the event of a wildfire. Current management of the vegetation surrounding most homes provides good protection; however, maintaining a lean, clean, green zone within 100 feet of structures to reduce the potential loss of life and property is recommended. Assessing individual homes in the outlying areas can address the issue of escape routes and home defensibility characteristics. Educating the homeowners in techniques for protecting their homes is critical in these hot, dry environments.

| **Cambridge** | |
|---|---|
| **Item** | **Score** |
| FEMA: Overall wildfire hazard rating score | Low Hazard |
| FEMA: Potential fire hazard severity | Moderate Hazard |
| Fire Prone Landscapes: average score | 36 |
| Average slope of community and surrounding area: | 18% |
| Land cover type: | Rangeland |

*This information is summarized in Appendix II*

## 4.4.4 Mann Creek

### 4.4.4.1 Fuels Assessment

The Mann Creek community is located approximately 10 miles northeast of Weiser. The waterway also known as Mann Creek runs through a small open valley averaging two to three miles in width. The valley runs in a north south direction. Mann Creek runs along the west side of the valley bottom. The Mann Creek Road runs along the east side of the valley bottom, 2,000 to 4,000 feet from the creek. The majority of the structures and irrigated farmland lay between the road and the creek.

The land in the bottom of the valley is irrigated farmland. On the sides and upper end of the valley the irrigated farm land turns into a sage, fescue, and wheatgrass rangeland. Much of the range land has been grazed, reducing the fuels in the valley. Grazing this type of rangeland reduces the grass that carries the fire in the sagebrush vegetation communities. Continued grazing of these slopes would maintain the overall low fire hazard in the valley.

Most older residences are located adjacent to the Mann Creek Road. There are a few clustered houses around the Mann Creek Store at the junction of Mann Creek Road and Hwy 95. Newer structures are being built on the east side of Hwy 95. Many of these newer homes are being built in previously open range land where the water availability is limited. Many structures were built with fire resistant materials; metal roofs and nonflammable siding.

The Mann Creek Road ties in with the Weiser-River-Road to the south and hwy 95 to the north. The road has a narrow blacktop surface with restricted shoulders. Car traffic can pass on the road. Passing larger emergency vehicles on this road may present a challenge in some areas. Most of the roads in the local area are located in areas with very little risk due to the gentle slopes and agricultural land uses.

### 4.4.4.2 Community Risk Assessment

Most of the structures in the Mann Creek area are protected by the Weiser Rural Fire District #1. The Midvale Fire District coverage abuts the Weiser Rural Fire District boundary on the east side of the community. Some of the outlying homes of Mann Creek (to the northeast) are protected by the Midvale Fire District.

Human caused ignitions are the primary source of wildfire in the valley. Random car/driver ignited fires along the highway and other roads have started a number of fires over the years, but they are generally contained before causing a major threat to home and infrastructure. The prevailing winds from the southwest (during the fire season) are likely to drive wildfire across the valley and into the dry slopes to the east (and to an almost equal extent to the west). Escaped agricultural burning is also a potential source of ignitions. These tend to happen during lower fire risk periods, spring/fall, and on site and/or local fire protection services have been adequate in preventing the spread of these fires.

Ample fire protection services are available and its highly accessible location places this community at a low risk of uncontrolled wildfire.

### 4.4.4.3 Potential Mitigation Activities

Many of the homes along the Mann creek Road were constructed with building materials and landscaping techniques favorable for protecting them against wildfire. Individual home site evaluations can increase homeowner's awareness and improve the survivability of structures in

the event of a wildfire. Current irrigated agricultural use in the valley provides good protection to may homes. Additional coverage could be provided through maintaining a lean, clean (trimmed), green zone within 100 feet of structures. Assessing individual homes in the outlying areas can address the issues of maintaining current defensible space, expanding the defensible zone where needed, and improving escape routes. Educating homeowners in techniques for protecting their homes is critical in these hot, dry environments.

Local fire districts may want to explore the possibility of taping into the local irrigation pipes for additional water sources. Mann Creek Road is located hundreds to thousands of feet away from the creek. The irrigation canal is not easily accessible in many places. Taping into the irrigation lines may provide an important water sources for fighting structure and wildfire west of Mann Creek Road.

Education in the form of road signs could help to reduce driver/car ignitions. Cigarettes and parking in tall dry grass are actions that can be modified with education. Widening of the Mann Creek Road and graveling of the shoulders would help reduce the driver/car ignitions.

## 4.4.5 Brownlee Reservoir

### 4.4.5.1 Fuels Assessment

The Brownlee area is a high use recreation area in the northwest part of the county. The paved road leading into and out of the area has a number of new developments. Fuel models 1 and 2 are common near the reservoir and fuel models 8 & 9 are common along the access road. Fires in the fuel types near Brownlee reservoir tend to be fast moving short duration fire while fuel model 10 tends to difficult to control with torching and spotting common.

While the density of structures in this area is not as great as other areas of the county, the potential for ignition is high due the high recreational use of the area. Thus, the area was evaluated for this Fire Mitigation Plan. The vegetation is primarily shrub and grasses near the reservoir and ponderosa pine with mallow ninebark and some Douglas-fir with mallow ninebark along the ridges and access roads. Due to the nature of the vegetation and the potential for ignition, the overall risk to the area is moderate.

Brownlee Reservior is located 30 miles west of Cambridge, Idaho. Access to and from the community is on a paved road. The road gets narrow and steeper as you approach the reservoir. There is one possible escape route into Oregon which can be threatened during a wildfire. The reservoir provides several good safety zones for residences and visitors in the area. There are scattered homes located along this road from Cambridge to Brownlee and throughout the surrounding areas. Many of these homes are at risk due to the vegetation and topography surrounding them.

### 4.4.5.2 Community Risk Assessment

Brownlee and the surrounding areas do not have structural fire protection. This can result in the potential of a structural fire spreading into the wildlands. The closest wildland fire protection is stationed in Cambridge, Idaho. There are several new developments going in along the road to Brownlee. Some of these areas are at risk due to a combination of factors including slope, aspect, vegetation surrounding the structure and ingress and egress issues.

For areas of new development a strict building code will reduce the potential for casualty loss

#### 4.4.5.3 Potential Mitigation Activities

While awareness is high in the Brownlee area itself, surrounding areas show signs that awareness levels maybe lower. The choice of building materials and landscaping in and around new developments could improve to provide for a more firesafe environment. Due to the nature of these characteristics the homes and vegetation surrounding the homes they can not be considered defensible. Much work is necessary to create defensible space in and around these homes. Educating homeowners about the risk associated with these types of building materials would be beneficial in the area. Individual home assessments can provide the necessary information for the homeowners. Aggressive management of the vegetation around these homes will improve the survivability of the homes. There are many areas where homeowners could increase their safety by following a program of developing and maintaining defensible space through limbing, pruning, creating a healthy forest environment by treating insect and disease problems and disposing of ladder fuels.

## *4.5 Infrastructure*

Infrastructure concerns in Washington County are centered around the following items:

- Powerlines
- Highways
- Access Roads

Additional concerns that were evaluated include bridges and cattle guards on many roads in the region. For the most part, these two factors were not deemed to be major concerns at this time because most of the public roads with bridges were adequate to support fire trucks. Cattle guards were sufficient and most provide for a pass-around. However, few bridges in the county were accompanied by signs showing maximum weight restrictions.

**Domestic Water Supplies:** Domestic water supplies are collected primarily from wells in the region. The Idaho Water Resources Board (IWRB) collects information on all publicly used water systems in the state. The IWRB has information on 29 groundwater wells in Washington County, 2 spring-groundwater collection points, and 1 surface water collection point (operated by the City of Weiser, taking water from the Weiser River). Individual home sites may collect spring water in some of the remote home sites of the county.

**Powerlines:** High tension power lines cut across Washington County in a number of locale (Appendix I). These lines supply power to many communities inside of and outside of the County. While the greatest majority of these lines cross rangeland, some cross over forestlands as well. In all cases, these lines should be evaluated for the adequacy of fuels management to insure that fires will not cause arcing and heat to be put into the lines. This resource should be evaluated further to insure a sustainable power line infrastructure.

**Highways:** US Highway 95 is a major transportation corridor between South and North Idaho. Tens-of-thousands vehicles cross this corridor each week. Vehicle ignited fires in this corridor have been well documented. Most of these fires have been ignited from a combination of cigarette littering and direct vehicle ignition (tires, exhaust, accidents). In order to curb ignitions along this corridor it is recommended to increase public service signs (billboards and displays) reminding people of the dangers of starting fires (e.g., FireWise signs, "*How fast can your house run?*" billboards). However, to decrease the impact of these ignitions, fuels along the highway will need to be treated.

We recommend that rangeland and forestland fuels along the highway be mowed annually for a distance of 20-25 feet from the edge of the roadway. In addition, we recommend that the State increase the width of this road to accommodate a full shoulder on each side of the roadway to allow vehicles the ability to pull off the travel surface without driving into the grasses and shrubs (where exhaust and engine heat can ignite fuels). Current road construction along Highway 95 (2004) near Mann Creek is a positive change in reference to wildfire mitigation efforts. A few ranchers and farmers in this areas have already implemented a plowing program to "brown-till" a swath of ground parallel to the highway, just inside of the fence line. While this brown-till area will not prevent a fire jumping into rangeland in high wind events, it will prevent it in low wind events and will delay its jump in most conditions. They work and are suggested for much more area along this highway. In addition, we recommend the increased use of cattle in this zone, inside of the fence lines. Domestic livestock feed on the fine fuels and keep much of the large shrubs trimmed as well. The removal of these fuels decreases the intensity of a potential fire. They should be considered a valued resource in fuels management in this region.

State Highway 71 provides access between Cambridge and Brownlee Reservoir. At approximately 30 miles total length, this access route traverses hilly topography and canyons,

possesses early-cured fuels, and has narrow travel surfaces. In addition, three high tension power lines are routed near this state highway. As was already discussed, Brownlee Reservoir is a destination recreation point for thousands of visitors each year. Approximately half of the distance from Cambridge to Brownlee Reservoir is protected by the Cambridge Fire Department (structure protection). Fuels treatments along this travel corridor is justified and needed, in addition to road-side maintenance including vegetation mowing and shoulder widening to allow vehicles to park on blacktop instead of in road-side grasses. This travel corridor is very important to the county's residents and visitors.

**Access Roads:** Moderate and low volume surface roads in this region are used mainly by the local traffic in Washington County. Most roads face the same challenges as found on the Highway, but receive lower attention because of the lower volumes and characteristics of use (local use and local respect). We recommend widening of roads through grass cutting and trimming, increased shoulder widths, or wide-area-turnouts to facilitate vehicle temporary parking. A few of the rural roads in the region would benefit from widening to two lanes, especially when these roads access rural areas where firefighters may find themselves when battling a wildfire.

## *4.6 Fire Fighting Resources and Capabilities*

The Fire Fighting Resources and Capabilities information provided in this section is a summary of information provided by the Rural Fire Chiefs or Representatives of the Wildland Fire Fighting Agencies listed. Each organization completed a survey with written responses. Their answers to a variety of questions are summarized here. ***In an effort to correctly portray their observations, little editing to their responses has occurred.*** These summaries indicate their perceptions and information summaries.

### 4.6.1 Wildland Fire Districts

#### 4.6.1.1 Bureau of Land Management, Lower Snake River District

Boise BLM Fire Office, 3948 Development Ave., Boise, 83705; 208-394-3400
Hammett Guard Station, north of Exit 112 on Interstate 84, 208-366-7722
Bruneau Guard Station, Hot Creek Road, Bruneau, 208-845-2011
Wild West Guard Station, Exit 13 off I-84, 208-454-0613

The Lower Snake River District BLM does not have any equipment stationed in Washington County but does provide protection for a small area of the county south of Indian Valley and into Washington County. Resources and capabilities of the Lower Snake River District BLM have been included in this document, but it should be noted that this equipment is only available as back-up resources in Washington County to augment the US Forest Service, SITPA, and rural fire district resources. However, the BLM has been involved in Washington County through assistance to rural fire districts and national fire prevention programs. The Department of Interior, BLM, provided funding for this Wildland-Urban Interface Wildfire Mitigation Plan.

The district's primary station is located in Boise, where 3 crews, with 3 engines per crew are based, along with both helicopter and fixed-wing aircraft resources. One of the three Boise crews is stationed during the day at Boise Fire Station #2 at the base of the foothills. Additional day-use stations are available in Kuna, Hidden Springs, Eagle, and at Juniper Butte.

Additionally, the district has out stations at Bruneau, Hammett, and Wild West (at Exit 13 on Interstate 84). Each facility is staffed by one crew, with three engines, on a 24-hour, 7-day per week basis from mid June to mid September. A dozer also is typically based at Hammett.

BLM crews are neither trained nor equipped for structure suppression. Primary protection responsibilities are on public land throughout southwest Idaho. The BLM responds to fires originating on public lands and those on private land that threaten public land. Additionally, through mutual aid agreements with local fire departments, they will provide assistance when requested on wildland fires.

The BLM does not provide formal EMT services. The crews are trained in first-aid, and some staff members have EMT and first-responder training, but this is not a service we provide as part of our organization.

**Personnel:** The fire program staff totals 135 individuals, including 20 permanent employees, 40 career-seasonal employees who work up to nine months each year, and 75 seasonal employees on staff from roughly June to September. These are all paid staff members trained in wildland fire, but not in structure protection.

**Mutual Aid Agreements:** The BLM has an interagency working relationship with the US Forest Service (Boise National Forest and Payette National Forest) and the Idaho Department of Lands and the crews are dispatched on a closest-forces concept to public lands. Additionally, the BLM has mutual aid agreements with approximately 42 community fire departments.

**Top Resource Priorities:**

**Training:** Increasing the amount and level of training for and with partner community fire departments .

**Communications:** Using the Rural Fire Assistance Program to allow departments to purchase radios for partner community departments to facilitate communication, coordination, and safety at the fire scene.

The district encompasses a broad spectrum of resources at risk, including recreation sites, power lines, wildlife habitat, wilderness study areas, wild horse management areas, historic districts, cultural and archaeological sites, and a range of vegetation types, from rare plant species to sagebrush and timber resources. Table 4.1 summarizes available equipment.

**Table 4.1. BLM Equipment List for Wildland Fire Protection**

| Truck # | Assigned Station | Make/ Model | Capacity (gallons) | Pump capacity (GPM) | Type |
|---|---|---|---|---|---|
| 7158 | Duck Valley | Internat'l | Heavy 800 – 1000 | 120 GPM | Wildland |
| 7130 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7131 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7132 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7133 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7134 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7135 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7136 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7137 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7138 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7154 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7155 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7143 | Hammett | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7144 | Hammett | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7145 | Hammett | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7146 | Bruneau | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7147 | Bruneau | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7148 | Bruneau | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7140 | Wild West | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |

**Table 4.1. BLM Equipment List for Wildland Fire Protection**

| Truck # | Assigned Station | Make/ Model | Capacity (gallons) | Pump capacity (GPM) | Type |
|---|---|---|---|---|---|
| | (exit 13, I-84) | | | | |
| 7141 | Wild West (exit 13, I-84) | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7142 | Wild West (exit 13, I-84) | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7150 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7151 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7156 | Boise | Internat'l | Heavy 800 – 1,000 | 120 GPM | Wildland |
| 7161 | Boise | Ford | Light 300 | 120 GPM | Wildland |

- The LSRD has 3 dozers, one of which is stationed in Hammett; and two in Boise
- The LSRD also has 3, 3500 gallon water tenders.
- There are 4 Fire Lookouts, one on Squaw Butte, north of Emmett; and three more scattered across the LSRD in locale away from Washington County.

**Additionally, suppression resources include:**

**Helicopter:** The district has an Aerospatiale helicopter on contract from June to October and an 11 member helitack crew. U.S. Forest Service helitack crews stationed at Lucky Peak and Garden Valley are available for assistance if needed and if they are not assigned elsewhere. Additionally, there are other helicopter resources equipped for fire missions that are available on a call-when-needed (CWN) basis.

**Fixed-Wing:** The district has a contract AeroCommander 500S fixed-wing aircraft, staffed by a pilot and the air attack supervisor. The air attack supervisor coordinates aerial firefighting resources and serves as an observation and communications platform for firefighters on the ground.

**Air Tankers:** There are typically two air tankers (fire retardant planes) on contract in Boise during the fire season. However, these aircraft are considered national resources and are assigned where they're needed at any particular time. Other, nearby, air tankers are located in McCall and various locations in Nevada and Oregon. There are also contract single-engine air tankers (SEATS) located in Vale, Oregon, and Twin Falls, Idaho.

**The primary operational challenges facing the district include:**

- Continued development of wildland-urban interface areas across the district.
- Communications and coordination with current, new, and developing community fire departments and working with them to stay abreast of communication and technological developments so that we can continue and improve working together effectively at the fire scene.
- Internally, an operational challenge is to have sufficient and appropriate staff available throughout the year to foster partnerships with local departments and facilitate continued and improved coordination, training, communications, and other joint efforts with our partners across the district.
- Our effectiveness in addressing these challenges will largely hinge on funding available for the fire program and its various elements.

#### 4.6.1.2 USDA Forest Service, Weiser Ranger District.

Weiser Ranger District.
851 East 9th Street
Weiser ID, 83672

The Payette National Forest protection area includes all of the Weiser Ranger District, to include around the District boundary an additional 1 mile of protection to mitigate threat of wildland fire crossing from other ownership to National Forest Lands. Also, all other Federal (BLM) and State Lands in Washington county west of Highway 95 to the Adams County line and from the northern boundary all BLM and State lands South of Wild Horse creek to the Snake river.

**Personnel:**

During a period of time normally June 1- September 30, our personnel include approximately 21 Fire Employees. Normal hours are 9:30 a.m. – 6:00 p.m., 7 days a week during fire season. Including:

1. District Fire Management Officer (full time)
2. District Assistant Fire Management Officer (full time)
3. Fire Operations Specialist (full time)
4. A District Prevention Officer
5. One Lookout (Sturgill Lookout), others that assist are Indian Lookout, Horse Mtn. Lookout , Lookout Mtn. (Vale BLM), and Squaw Lookout (Boise BLM).
6. One Type 4 (750 gal) Wildland Fire Engine with a 5 person crew stationed a Weiser and a Type 6 Wildland Fire Engine with a 5 person crew stationed at Brownlee Guard station.

**AVAILABLE EQUIPMENT**

- E - 2-1 INTERNATIONAL (03) GVW of 33,000, GPM on pump is 90gpm. 750 gal Wildland Fire Engine.
- E - 2-2 Ford 550 (2000) , GPM on pump is 90gpm. 300 gal Wildland Fire Engine.

We have good working relationships with all of our cooperators and agreements with Weiser RFD, Midvale RFD, Cambridge RFD and the Lower Snake River BLM.

#### 4.6.1.3 USDA Forest Service, Council Ranger District

PO Box 567
500 East Whitely
Council, Idaho 83612
(208) 253-0100

The Payette National Forest protection area includes all of the Council Ranger District, (Appendix I) to include around the District boundary an additional 1 mile of protection to mitigate threat of wildland fire crossing from other ownership to National Forest Lands. Also, all other Federal (BLM) and State Lands in Adams County north of the Indian Valley / Little Weiser Road and south of and west of the New Meadows Ranger District Boundary with an additional 1 mile of protection around these lands to mitigate the threat of wildland fire crossing from other ownership on to the State or BLM lands.

**Personnel:**

During a period of time normally June 1 – September 30, out personnel include approximately 21 Fire Employees. Normal hours are 9am – 6pm, 7 days a week during fire season.

* Indicates Permanent Full Time Position, all others are seasonal

1 District Fire Management Officer*,

2 District Assistant Fire Mgmt Officers*,

A District Fire Prevention Officer,

2 Fire Lookouts, (Indian Mountain and Horse Mountain)

5-person Initial Attack Handcrew stationed at Bear Work Center,

1 Type 4 (700 gal) Wildland Fire Engine with a 5-person crew and a Type 6 (300 gal ) Wildland Engine with a 5-person crew both stationed at the Council District Office.

**Working relationship with other agencies, and mutual aid agreements:**

We have good working relationships with all of our cooperators and agreements with Council Valley RFD, Adams County Sheriff, Idaho Department of Lands, Indian Valley RFD and the BLM (Lower Snake River District ).

**AVAILABLE EQUIPMENT**

| | | | | | | |
|---|---|---|---|---|---|---|
| • | E 1-1 | 02 | Ford 550 | 90gpm | 300 gal | Wildland |
| • | E 1-2 | 01 | Int. 33,000 gvw | 90 gpm | 700 gal | Wildland |
| • | P 1-1 | 97 | Chevrolet | 20 gpm | 95 gal | Wildland |

District wide on any given season, there are usually 35 people trained and qualified to fight a wildland fire available on the District.

#### 4.6.1.4 USDA Forest Service, New Meadows District Ranger Office

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

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

The New Meadows Ranger District protection responsibilities include 285,839 acres of National Forest System land and about 80,000 acres of non-National Forest System land (BLM, State of Idaho, private). The area is from the Salmon River at French Creek south to State Hwy 55, east to US Hwy 95 to Fruitvale, north to boundary with Nez Perce NF and east to French Creek (Appendix I).

The Station operates daily 0900-1800 from during the period of July 1, through October 15 annually. The Station operates other times as available and required by the District office in New Meadows, housing the engine, water tender, prevention and management equipment; 2 type II heli-rappel copters and a 24 person crew at the Price Valley Guard Station.

**Personnel:**

- 24 Heli-rapellers,
- 6-person Type 4 wildland engine,
- 1 person Type 2 Tactical water tender,
- 1 fire prevention technician.

**Mutual Aid Agreements:**

Mutual aid agreements are in place with the Salmon River Rural Fire Department (responsible agency for structure protection in non-Forest Service wildland jurisdiction) and Southern Idaho Timber Protective Association (responsible agency for wildland fire on some FS system land).

**Top Resource Priorities:**

More consistent funding and less cumbersome processes to make resource management decisions.

**Resources most at risk of loss from wildland fire:**

Homes, other improvements and some power lines.

**Highest risk "problem area":**

Homes and other improvements upslope and downwind from a major transportation corridor susceptible to random ignitions from a variety of potential sources.

**Equipment Description:**

- E3-1, 1994 Ford F-600 700 gallon engine
- Prevention 3, 2000 Dodge ¾ ton 50 gallon engine
- Water Tender 3, 1978 GMC JE77013 2600 gallon water tender
- T2 Copter, Bell 205++ 300 gallon with Heli-rappel crew (12)
- T2 Copter, Bell 205++ 300 gallon with Heli-rappel crew (12)

**Operational Challenges:**

Our ability to retain adequate suppression resources when budgets vary so dramatically from year to year. Secondly, the extreme difficulty the Forest Service faces in funding and implementing legitimate hazardous fuels reduction projects when critics/appellants can so easily derail the project.

Also at McCall, ID there are approximately 70 smoke jumpers that can be used for rapid deployment in the region and in Washington County.

## 4.6.2 Rural & City Fire Districts

### 4.6.2.1 Weiser Rural Fire District #1

Nate Marvin, Chief
167 West Commercial
PO Box 631
Weiser, Idaho 83672
208-414-2379

*District Summary:* Weiser RFD is a volunteer department of 28 people, with one full-time station manager. The department maintains two stations within the district. All members of the staff are cross-trained in structural and wildland fire suppression. The district also has two EMT's and two First Responders who assist with the Weiser Ambulance District. The district has protection on 150 square miles. The district currently provides protection for 1,077 homes as of August of 2003.

Like many rural communities in the west, Weiser has been experiencing moderate urban growth over the last couple years. Growth is seen as an issue that will continue to develop into the future. Housing development with little consideration of the volatility of the surrounding fuels is leading to the emergence of an interface problem. Although the district has not lost any homes in the recent past, it is expected that it is only a matter of time before a home is lost to a grass and range fire.

***Current Resources:***

**Station #1**, 167 West Commercial, Weiser.

- 1995 Chevrolet Tahoe Command Vehicle.
- 1982 FMC/GMC 1,000 gal, 1250 gpm. Structural pumper.
- 1987 IHC 500 gal, 125 gpm. Wildland/structure engine.
- 1968 Jeep GI Truck. 1,200 gal, 125 gpm. Wildland engine.
- 1995 Chevrolet Crew Carrier.
- 2000 Freightliner 3,000 gal, 500 gpm. Water tender.
- Dodge 300 gal, 125 gpm. Wildland engine.

**Station #2**, 1780 Jackson Road, North of Weiser.

- 1975 IHC 500 gal, 250 gpm. Wildland/structure engine.
- 1977 Peterbuilt 3,000 gal, 400gpm. Water Tender.

*Additional Equipment:*

- Haz-mat response trailer
- 100 foot Aerial Truck through SRV Mutual Aid.
- Ladder Truck through City of Weiser Mutual Aid.
- Two floating pumps
- Pro/Pak Portable foam unit.
- Honda 4-wheeler with 15 gallon spray tank.

*Greatest Resource Needs:*

- Four-wheel drive wildland, crew cab, interface engine.
- Large capacity wildland tender-pumper.
- Advanced wildland training for current personnel.
- Materials for homeowner education through programs such as FIREWISE.

*Priority Areas:* Recent housing developments are seen as being at the greatest risk for loss to wildland fire. The development along Highway 95 is also seen to be at risk.

*Effective Mitigation Strategy:* Homeowner education would likely ameliorate much of the risk to homes. Simple measures that reduce home ignitability and create defensible space would increase the probability of home survival in the event of a wildland fire.

Adoption of building codes that are compatible with wildland fire would also be of benefit. The district has recently implemented Emergency Access Vehicle Permits for all new construction.

These measures will certainly improve home accessibility into the future. Emergency water supplies are also mandated for structure over a certain size that is not on the municipal water supply.

*Cooperative Agreements:* Weiser RFP is a member of the Snake River Valley Fire Chiefs association. There are 24 different departments within the association from which resources can be drawn. In addition to mutual aid responses, the department is able to take advantage of training from the SRV Fire Chiefs Association, as well as with the State of Oregon, and the Idaho Department of Lands. There are also cooperative agreements with the US Forest Service and the BLM.

*Other Resources at Risk:* There are also powerlines and telecommunication lines that run through the district, as well as cell tower sites within the district.

#### 4.6.2.2 Weiser City Fire Department

Shane Garner, Chief
55 West Court Street
Weiser, Idaho 83672
(208) 414-1483
(208) 414-1816 Fax

Responsible for the corporate City limits of Weiser, Idaho.

**Station description:**

- 60’ x 80’ two (2) bay stations with training and office area.
- The building is staffed Monday, Wednesday, Friday each week, and Tuesdays and Thursdays on alternating weeks.

**Protection responsibilities including structure, wildland, agricultural:**

The fire department covers all commercial, industrial and residential structure protection, and some undeveloped property. The City annexed property in the northern part of the City that adjoins the Wildland Interface.

**Personnel:**

- One (1) paid chief
- Thirty (30) paid by call personnel
- All are structural and wildland qualified.

**Summary:**

The City of Weiser is a member of the Snake River Fire Chiefs Association, which covers twenty four (24) towns and fire districts. These include from Jordan Valley to the south, Council to the north, Gem County to the east, and Vale to the west.

The City has a M.O.U. with the Lower Snake River District BLM. The City has just signed the Regional Mutual Assistance Agreement, a copy of which can be provided on request. The City has an auto aid agreement with the Weiser Rural Fire District for major incidents.

**Top Resource Priorities:**

- To build a training ground to be used by the City and Rural Fire Departments.

- Possible consolidation of the City Fire Department, Weiser Rural Fire Departments, and E.M.S., if done correctly.
- Continued training of all aspects of structural and wildland fires.

**Resources most at risk of loss from wildland fire:**

Currently the exposure problem is minor, but as development occur, in the northern part of town, it will need to be addressed.

**Highest risk "problem area":**

The northern portion of the City, north of Indianhead Road.

**Table 4. 2. Available Equipment:**

| Truck # | Year | Make / Model | Capacity (gallons) | Pump Capacity (GPM) | Structure, Wildland, Haz. Mat., Amb., Other |
|---|---|---|---|---|---|
| 700 | 1990 | Chevy | n/a | n/a | Command |
| 701 | 1984 | Westates | 500 | 1500 | Structural |
| 702 | 1971 | Chevy ALF | 500 | 750 | Structural Wildland |
| 703 | 1996 | Central States | 4000 | 1500 | Structural |
| 704 | 1959 | Seagraves | n/a | 750 | Aerial 75' |
| 705 | 2003 | Pierce | 750 | 1000 | Structural, Wildland, C.A.F.S. |
| 708 | 2000 | | n/a | n/a | Trailer, Cascade, Equipment |
| 709 | 2002 | | n/a | n/a | Hazmat, Trailer |

**Biggest Operational Challenges:**

- Funding of the fire department without undue burden on the taxpayers.
- Firefighter retention.
- Continuation of FEMA money.
- Incentives to stay on the fire department such as, insurance, tax relief, etc.

#### 4.6.2.3 Cambridge Rural Fire Department

Dean Page, Chief
P.O. Box 206
Cambridge ID
208-257-3811

*Department Summary:* Cambridge RFD is an all-volunteer district of 17 firefighters, trained for both wildland and structural fire suppression. The department has not lost any homes to wildland fires in recent memory. Although the growth rate of this portion of Washington County has been somewhat slower than in other locals in south western Idaho, the district has been growing. Many existing homes that have not had fire protection are now in need of fire protection, as insurers are not willing to cover homes without fire protection. And there has been some development in the fringes of the district, which is likely to increase as migration continues from metropolitan to rural areas.

*Current Resources:*

- 1968 Chevy C-50. 1,000 gal, 350 gpm. Structural and wildland engine.

- 1966 Ford 1,000 gal, 1,000 gpm. Structural/wildland pumper.
- 1971 Military Surplus 6x6. 900 gal, 350 gpm. Wildland/agricultural/interface.
- 1958 International 650 gal, 750 gpm. Structural/drafting pumper.
- 1982 Ford Quick Response Unit for transport of SCBA, personnel and equipment.

*Greatest Resource Need:* Cambridge RFD has maximized the capacity of its current station. The lack of space for additional apparatus has caused the department to turn down equipment in the past. The district has been attempting to secure a building site, however no site has been secured at this time.

Equipment age is also becoming of concern. The wildland equipment is over thirty years old and is in need of replacement. There is also a need for procurement of a large capacity water tender (5,000 gallon) to improve NFPA rating.

*Mutual Aid Agreements:* Cambridge Fire Department is a cooperator in the Snake River Valley Fire Chiefs Association. The district also maintains mutual aid agreements with the Payette National Forest, the Lower Snake River District of the BLM, and with the Idaho Department of Lands.

#### 4.6.2.4 Midvale Fire Protection District

Karson Craig, Assistant Chief
350 School Rd
Midvale ID
208-550-1159

**District Summary**

Midvale Fire Department is a volunteer department of 27 people, 2 fire stations, and 6 trucks. All members are cross trained in structural and wildland fire protection. The district also staffs an ambulance with 10 EMT qualified individuals. We are responsible for over 500 square miles of fire protection.

The Midvale Fire District has experienced significant urban growth over the past many years. Our largest challenge is *distance:* it takes time and resources to cover all of the structures in our district in the case of emergencies. Our prioritization for protection is structures #1, and rangelands #2.

*Current Resources:*

***Station #1***

- 1977 – Ford Pumper, 750 gpm, 750 gal.
- 1981 – 3,800 gal. Tender
- 1980 – Ford Crast Truck, 150 gpm, 500 gal.
- 1997 – Ford Brush Truck, 250 gal.

***Station #2***

- 1961 – Ford Pumper, 750 gpm, 1,000 gal.
- 1978 – Dodge Brush Truck Light, 200 gal.

**Greatest Resource Needs:**

- Tender, 5,000 gal., 400 H.P.
- Water Storage Capacity
- Light Brush Truck

*Mutual Aid Agreements:* Midvale Fire Department is a cooperator in the Snake River Valley Fire Chiefs Association. The district also maintains mutual aid agreements with the Payette National Forest, the Lower Snake River District of the BLM, and with the Idaho Department of Lands.

# Chapter 5: Treatment Recommendations

## 5 Overview

Critical to the implementation of this Wildland-Urban Interface Wildfire Mitigation Plan will be the identification of, and implementation of, an integrated and comprehensive schedule of treatments targeted at achieving an elimination of the lives lost, and reduction in structures destroyed, infrastructure compromised, and unique ecosystems damaged that serve to sustain the way-of-life and economy of Washington County and the region. Since there are many land management agencies and hundreds of private landowners in Washington County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of compliance will be observed across all ownerships.

The Federal land management agencies in Washington County, specifically the USDA Forest Service and the Bureau of Land Management, are participants in this planning process and have contributed to its development. Where available, their schedule of WUI treatments has been summarized in this section to better facilitate a correlation between their identified planning efforts and the efforts of Washington County.

This chapter of the plan will be separated into a few, logical sections grouping like activities together. Section 5.2 details policy and safety proposals, section 5.3 explores activities related to people and structure protection, section 5.4 looks at infrastructure improvements, section 5.5 explores fire fighting resources and capabilities, while 5.6 makes recommendations linked to land management and what the USFS has proposed their lands in Washington County. These five sections of this chapter are intended to address, together, the interrelated components making up the WUI issues for Washington County with recommendations. Proposals in this chapter have been generated from the preceding chapters where the detailed risk assessments were made.

All risk assessments were made based on the conditions existing during 2003-2004, thus, the recommendations in this section have been made in light of those conditions. However, the components of wildfire risk and the preparedness of the county's resources are not static. It will be necessary to fine-tune this plan's recommendations annually to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

As part of the Policy of Washington County in relation to this planning document, this entire **Wildland-Urban Interface Wildfire Mitigation Plan** should be reviewed annually at a special meeting of the Washington County Commissioners, open to the public, where action items, priorities, budgets, and modifications can be made or confirmed. A written review of the plan should be prepared (or arranged) by the Chairman of the County Commissioners, detailing plans for the year's activities, and made available to the general public ahead of the meeting (in accord with the Idaho Open Public Meeting Laws). Amendments to the plan should be detailed at this meeting, documented, and attached to the formal plan as an amendment to the WUI Wildfire Mitigation Plan. Re-evaluation of this plan should be made on the 5$^{th}$ anniversary of its acceptance, and every 5-year period following.

Prioritization of activities recommended in this plan should be made by the Washington County Commissioners. During the annual review of this plan, reprioritization can be justified in response to changing conditions and funding opportunities.

## 5.1 Possible Fire Mitigation Activities

As part of the implementation of fire mitigation activities in Washington County, a variety of management tools may be used. Management tools include but are not limited to the following:

- Homeowner and landowner education
- Building code changes for structures and infrastructure in the WUI
- Home site defensible zone through fuels modification
- Community defensible zone fuels alteration
- Access improvements
- Access creation
- Emergency response enhancements (training, equipment, locating new fire stations, new fire districts)
- Regional land management recommendations for private, state, and federal landowners

Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gains to the public benefit will be an important component of decisions.

## 5.2 WUI Safety & Policy

Wildfire mitigation efforts should be supported by a set of policies and regulations at the county level that maintain a solid foundation for safety and consistency. The recommendations enumerated here serve that purpose. Because these items are regulatory in nature, they will not necessarily be accompanied by cost estimates. These recommendations are policy related in nature and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

**Table 5.1. WUI Action Items in Safety and Policy.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items & Planning Horizon |
|---|---|---|---|
| **5.1.a: Engage in discussions and debate in County Commissioner's meeting to talk about potential need for amending existing building codes to require a site plan be approved by Fire District Chiefs prior to issuance of Building Permits.** | **Protection of people and structures** by determining if applying a standard of road widths, access, and building regulations suitable to insure new homes can be protected while minimizing risks to firefighters is needed and justified in the county. (defensible space, roads and access management, water systems, building codes, signage, and maintenance of private forest and range lands) | **County Commissioners** in cooperation with Rural Fire Districts and Planning and Zoning. | Year 1 debate and potential adoption of revised code, if needed (2004).<br>Review adequacy of changes annually, make changes as needed. |

**Table 5.1. WUI Action Items in Safety and Policy.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items & Planning Horizon |
|---|---|---|---|
| **5.1.b: Consider updating Rural Addressing** to lead to a enhanced 911 service for county. | **Protection of people and structures** by improving database of structures in the county which will link to fire fighting efforts and improved response times. Also linked to developing an enhanced 911 system. | **County Assessor**'s office in cooperation with the County Commissioners Office | To be implemented during first year (2004), pending funding and adoption (if needed) by elected officials. May take most of a year to complete.<br>Estimate cost at around $55,000 to complete entire county |
| **5.1.c: Enact an enhanced 911 Service with emphasis on cellular phone locators.** | **Protection of people and structures** by improving the ability of emergency response personnel to respond to an emergency. | **County Commissioners** in combination with County Sheriff's Office, County Assessor's Office and Fire Departments. | Can be completed only after the Rural Addressing project is in place. Target implementation during year 2 (2005) of this project. |
| **5.1.d: Rural Road Sign Improvements across the county,** link local names to USFS road numbers when possible, use standardized signs 9' signs with 6" letters. | **Protection of people, structures, and infrastructure** by improving the ability of emergency services personnel, residents, and visitors to navigate roads. | **County Roads Department** in cooperation with County Commissioners, and Assessor | Can be completed during year 1 (2004) pending funding to implement the project. Estimate $8,000 for signs and posting. |
| **5.1.e: Rural Fire District Boundary Signs Improvements across the county** (entering and exiting signs). | **Protection of people, structures, and infrastructure** by improving the familiarity of residents and visitors to understand boundaries and protection zones. | **City and Rural Fire Districts** in cooperation with County Commissioners | Can be completed during year 1 (2004) pending funding to implement the project. Estimate $6,000 for signs and posting. |
| **5.1.f: Engage in discussions and debate in County Commissioner's meeting to talk about potential need to develop County policy concerning building materials used in high-risk WUI areas on existing structures and new construction, emphasis on water supplies and building materials in high-risk areas.** | **Protection of people and structures** by evaluating and if needed, improving the ability of emergency response personnel to respond to threatened homes in high-risk areas. | **County Commissioners Office** in cooperation with Rural Fire Departments, Planning and Zoning, and Building Inspectors. | **Year 1 (2004) activity:** Consider and develop policy to address construction materials for homes and businesses located in high wildfire risk areas. Specifically, a County policy concerning wooden roofing materials and flammable siding, especially where juxtaposed near wildland fuels. |
| **5.1.g: Engage in discussions and debate in County Commissioner's meeting to talk about potential need for Development and Enforcement of a more restrictive burn permit system in conjunction with a more restrictive burning** | **Protection of people and structures** by reducing wildfire ignition through debris burning where resources or conditions are not adequate to support burning (approx. 4% of ignitions in Washington County were ignited from debris burning). | **Idaho Department of Lands, Rural Fire Departments and local Landowners** | Consider and develop policy to address this issue in cooperation with rural fire chiefs and the IDL to better coordinate on timing and location of allowable debris burning. |

**Table 5.1. WUI Action Items in Safety and Policy.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items & Planning Horizon |
|---|---|---|---|
| **season.** Consider notifying a central clearing house of the issuance of all burning permits in Washington County. | | | |
| **5.1.h: Development of a "camp fire" use policy for recreation related camp fires in camp grounds and rural areas.** Include posted warnings during periods of high or extreme fire danger. | **Protection of people and structures** by reducing wildfire ignition through camp fire escape where resources or conditions are not adequate to contain fires. | **US Forest Service, Idaho Department of Lands, Rural Fire Departments and local Landowners** | Consider and develop policy to address this issue in cooperation with the US Forest Service (camp ground management), rural fire chiefs and the IDL to better coordinate on timing and location of allowable camp fires. |
| **5.1.i: Engage in discussions and debate in County Commissioner's meeting to talk about potential need to develop a formal WUI Advisory Committee to advise County Commissioners on WUI Issues and Treatments** | **Protection of people and structures** by improving the ability of decision makers to make informed decisions about wildfire issues. | **County Commissioners Office** | **Year 1 (2004) activity:** Formalize a committee, its membership and service decided on by the County Commissioners, to collaborate on WUI issues within Washington County. Members potentially to include land management organizations and companies, private landowners, and fire protection personnel. |
| **5.1.j: Develop a county-wide GIS database which can be used for rapid response during wildfire events assisting fire suppression efforts.** | **Protection of people and structures** by utilizing a GIS system to facilitate rapid dispatch of people to fire incidents. | **County Commissioners Office, Rural Fire Departments, US Forest Service, Bureau of Land Management.** | **Year 1 (2004) activity:** Develop a needs assessment to determine GIS needs and follow-up to implement within the next 2 years.<br>Use the database created during the preparation of this plan as initial data for this effort. |

## *5.3 People and Structures*

The protection of people and structures will be tied together closely as the loss of life in the event of a wildland fire is generally linked to a person who could not, or did not, flee a structure threatened by a wildfire. The other incident is a fire fighter who suffers the loss of life during the combating of a fire. Many of the recommendations in this section will define a set of criteria for implementation while others will be rather specific in extent and application.

Many of the recommendations in this section involve education and increasing awareness of the residents of Washington County. These recommendations stem from a variety of factors including items that became obvious during the analysis of the public surveys, discussions during public meetings, and observations about choices made by residents living in the Wildland-Urban Interface. Over and over, the a common theme was present that pointed to a situation of landowners not recognizing risk factors:

- Homeowners in the public mail survey ranked their home site wildfire risk factors significantly lower than a random sample of home rankings completed by fire mitigation specialists.
- Fire District personnel pointed to numerous examples of inadequate access to homes of people who believe they have adequate ingress.
- Discussions with the general public indicated an awareness of wildland fire risk, but they could not specifically identify risk factors.
- Almost half of the respondents to the public mail survey indicated (46%) that they want to participate in educational opportunities focused on the WUI and what they can do to increase their home's chances of surviving a wildfire.

In addition to those items enumerated in Table 5.1, residents and policy makers of Washington County should recognize certain factors that exist today, that in their absence would lead to an increase in the risk factors associated with wildland fires in the WUI of Washington County. These items listed below should be encouraged, acknowledged, and recognized for their contributions to the reduction of wildland fire risks:

**Livestock Grazing** in and around the communities of Washington County can reduce fine fuels to various levels and have done so in recent times. Domestic livestock graze on grasses, forbs, and certain shrubs in the area. During grazing related activities, some trampling effects may occur at various levels on certain fine fuels in the area. Ranchers tending their herds, or other resource professional in the field may observe ignition or potentially risk-related activities in and around the communities of the county. Livestock grazing in this region should be considered into the future as a low-cost, positive tool of wildfire mitigation for the wildland-urban interface in this area.

**Agriculture** is a significant component of Washington County's economy. Much of the valley bottomlands and rangeland interface is dotted and intermixed with agricultural crops. The original conversion of these lands to agriculture from valley bottom and rangeland, was targeted at the most productive soils and juxtaposition to water. Many of these productive 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 that much of the valley bottom and rangeland 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 Washington County is integral to the continued management of wildfire risk in this region.

**Table 5.2. WUI Action Items for People and Structures.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items, Planning Horizon and Estimated Costs |
|---|---|---|---|
| **5.2.a: Youth and Adult Wildfire Educational Programs** | **Protect people and structures** by increasing awareness of WUI risks, how to recognize risk factors, and how to modify those factors to reduce risk | Cooperative effort including:<br>University of Idaho Cooperative Extension<br>Idaho Department of Lands<br>USFS Boise National Forest and State and Private Forestry Office<br>Bureau of Land Management<br>Local School Districts | To start immediately using existing educational program materials and staffing. Formal needs assessment should be responsibility of University of Idaho Cooperative Extension faculty and include the development of an integrated WUI educational series by year 3 (2006). Costs initially to be funded through existing budgets for these activities to be followed with grant monies to continue the programs as identified in the formal needs assessment. |
| **5.2.b: Wildfire risk assessments of homes in identified communities** | **Protect people and structures** by increasing awareness of specific risk factors of individual home sites in the at-risk landscapes. Only after these are completed can home site treatments follow. | To be implemented by **County Commissioners Office** in cooperation with the **Rural Fire Departments**. Actual work may be completed by Wildfire Mitigation Consultants. | **Cost:** Approximately $100 per home site for inspection, written report, and discussions with the homeowners.<br>There are approximately 4,000 housing units in Washington County, roughly 300 (7.5%) of these structures would benefit from a home site inspection and budget determination for a total cost estimate of $40,000.<br>**Action Item:** Secure funding and contract to complete the inspections during years 1 & 2 (2004-05)<br>Home site inspection reports and estimated budget for each home site's treatments will be a requirement to receive funding for treatments through grants. |
| **5.2.c: Home Site WUI Treatments** | **Protect people, structures, and increase fire fighter safety** by reducing the risk factors surrounding homes in the WUI of Washington County | **County Commissioners** in cooperation with Fire Mitigation Consulting company and Rural Fire Districts<br>*Complete concurrently with 5.4.b.* | Actual funding level will be based on the outcomes of the home site assessments and cost estimates<br>**Estimate** that treatments in rangelands will cost approximately $1,000 per home site for a defensible space of roughly 150'. Approximately 300 homes in this category for an estimated cost of $30,000. Median home and business assessed value (land and structures) in County is $55,800 **B/C Ratio of this treatment is approximately** 1:56.<br>Home site treatments can begin after the securing of funding for the treatments and immediate implementation in 2004 and will continue from year 1 through 5 (2008). |

**Table 5.2. WUI Action Items for People and Structures.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items, Planning Horizon and Estimated Costs |
|---|---|---|---|
| **5.2.d: Community Defensible Zone WUI Treatments** | **Protect people, structures, and increase fire fighter safety** by reducing the risk factors surrounding high risk communities in the WUI of Washington County | **County Commissioners** in cooperation with Fire Mitigation Consulting company and Rural Fire Districts | Actual funding level will be based on the outcomes of the home site assessments and cost estimates.<br>**Years 2-5 (2004-08):** Treat high risk wildland fuels from home site defensible space treatments (4.4.c) to an area extending 400 feet to 750 feet beyond home defensible spaces, where steep slopes and high accumulations of risky fuels exist. Should link together home treatment areas. Treatments target high risk concentrations of fuels and not 100% of the area identified. To be completed only after or during the creation of home defensible spaces have been implemented.<br>**Communities to target:** Weiser (slopes north and northwest of the city in rangelands), Cambridge, Midvale, Brownlee Reservoir home developments, and Mann Creek Areas.<br>Approximate average cost on a per structure basis is $1,000. Couple this cost with the home defensibility space costs of $1,000. The number of structures to benefit from these treatments include the 300 structures receiving home site treatments plus an estimated 1,500 more structures. The average B/C Ratio for these treatments combined in Washington County is 1:28. |
| **5.2.e: Maintenance of Home Site WUI Treatments** | **Protect people, structures, and increase fire fighter safety** by reducing the risk factors surrounding homes in the WUI of Washington County | **County Commissioners Office** in cooperation with Rural Fire Departments and local home owners | Home site defensibility treatments must be maintained periodically to sustain benefits of the initial treatments.<br>Each site should be assessed 5 years following initial treatment<br>Estimated re-inspection cost will be $50 per home site on all sites initially treated or recommended for future inspections ($15,000)<br>Follow-up inspection reports with treatments as recommended years 5 through 10. |
| **5.2.f: Re-entry of Home Site WUI Treatments** | **Protect people, structures, and increase fire fighter safety** by reducing the risk factors surrounding homes in the WUI of Washington County | **County Commissioners Office** in cooperation with Rural Fire Departments and local home owners | Re-entry treatments will be needed periodically to maintain the benefits of the initial WUI home treatments. Each re-entry schedule should be based on the initial inspection report recommendations, observations, and changes in local conditions. Generally occurs every 5-10 years. |

**Table 5.2. WUI Action Items for People and Structures.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items, Planning Horizon and Estimated Costs |
|---|---|---|---|
| **5.2.g: Survey and Rate bridges, cattle guards, and limiting road surfaces in the county on all private property.** | **Protection of people, structures, infrastructure, and economy** by improving access for residents and fire fighting personnel in the event of a wildfire. Reduces the risk of a road failure that leads to the isolation of people or the limitation of emergency vehicle and personnel access during an emergency. | **County Roads and Bridges Department** in cooperation with US Forest Service, BLM, State of Idaho (Lands and Transportation), industrial forestland owners, ranchers, and private landowners. | **Year 1 (2004):** Update existing assessment of travel surfaces, bridges, and cattle guards in Washington County as to location. Secure funding for implementation of this project (grants)<br>**Year 2 (2005):** Conduct engineering assessment of limiting weight restrictions for all surfaces (e.g., bridge weight load maximums). Estimate cost of $47,500 which might be shared between County, USFS, BLM, State, and private based on landownership associated with road locations.<br>**Year 2 (2005):** Post weight restriction signs on all crossings, copy information to rural fire districts and wildland fire protection agencies in affected areas. Estimate cost at roughly $15-$20,000 for signs and posting.<br>**Year 3 (2006):** Identify limiting road surfaces in need of improvements to support wildland fire fighting vehicles and other emergency equipment. Develop plan for improving limiting surfaces including budgets, timing, and resources to be protected for prioritization of projects (benefit/cost ratio analysis). Create budget based on full assessment. |
| **5.2.h: Access Improvements for private property with one-way-in and one-way-out.** Identify key private roads that access larger areas. | **Protection of people, structures, infrastructure, and economy** by improving access for residents and fire fighting personnel in the event of a wildfire. Allows for alternative escape routes when a primary access is compromised. | **County Roads and Bridges Department** in cooperation with US Forest Service, BLM, State of Idaho (Lands and Transportation), and rangeland or forestland owners. | **Year 1 (2004):** Update existing assessment of roads in Washington County as to location. Secure funding for implementation of this project (grants).<br>**Year 2 (2005):** Specifically address access issues identified in assessment. Develop alternatives for improving access limitations. Landowners and agencies to play significant role in alternative development.<br>**Year 3 (2006):** Secure funding and implement projects to improve limiting access. No way to estimate costs until priorities are set and options identified. |
| **5.2.i: Access Improvements through road-side fuels management** | **Protection of people, structures, infrastructure, and economy** by improving access for residents and fire fighting personnel in the event of a wildfire. Allows for a road based defensible area that can be | **County Roads and Bridges Department** in cooperation with US Forest Service, BLM, State of Idaho (Lands and Transportation), and rangeland or forestland owners. | **Year 1 (2004):** Update existing assessment of roads in Washington County as to location. Secure funding for implementation of this project (grants).<br>**Year 2 (2005):** Specifically address access issues to communities and recreation areas in the County, and others identified in assessment. Target 100' on downhill side of roads and 75' on uphill side for estimated cost of $15,000 per mile of road treated. If 10 miles of roadway are prioritized for treatment (est.) B/C Ratio of 1:15 is achieved. This B/C ratio |

**Table 5.2. WUI Action Items for People and Structures.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items, Planning Horizon and Estimated Costs |
|---|---|---|---|
| | linked to a terrain based defensible areas. | | may be maintained in many rural treatment areas of the county.<br>**Year 3 (2006):** Secure funding and implement projects to treat road-side fuels. |

## *5.4 Infrastructure*

Significant infrastructure refers to the communications, transportation (road and rail networks), energy transport supply systems (gas and power lines), and water supply that service a region or a surrounding area. All of these components are important to the West Central Highlands, and to Washington 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 on-the-ground activities.

**Communication Infrastructure:** This component of the WUI seems to be diversified across the county with multiple source and destination points, and a spread-out support network. Although site specific treatments will impact directly local networks, little needs done to insure the system's viability.

Some recommendations from the WUI Wildfire Mitigation Planning committee include:

- Possible repeater funding for Snake River area (Sturgill Peak.), currently three in the area.
- Weiser area has several repeaters, not a problem
- Cuddy Mountain Repeater has eliminated many black spots
- Satellite phone in Midvale area would be helpful or a new cell phone tower
- Upgrade all Rural Fire Districts and the City Fire Departments to a compliment of narrowband radios (digital)

**Transportation Infrastructure (road and rail networks):** A few roads in the county have limiting characteristics, such as steep grades, narrow travel surfaces, sharp turning radii, low load limit bridges and cattle guards, and heavy accumulations of fuels adjacent to, and overtopping some roads. Some of these road surfaces access remote forestland and rangeland areas. Specifically Highways 95 and 71 are targeted and identified as priority treatment roads. While their improvements will facilitate access in the case of a wildfire, they are not necessarily the priority for treatments in the county.

Roads that have these inferior characteristics and access homes and businesses are the priority for improvements in the county. Specific recommendations for these roads are enumerated in Table 5.2.

Primary and secondary evacuation routes have been identified in this planning process to serve as primary evacuation routes in the case of emergencies, including wildfires (Appendix I). These routes should be maintained for emergency use and posted with "FEMA Evacuation Route" signs. Law enforcement in cooperation with emergency services will determine when these emergencies exist. It is the goal of this planning process to identify them and increase their priority in receiving wildfire mitigation treatments to insure their emergency use.

**Energy Transport Supply Systems (gas and power lines):** During the Hall Fire in nearby Adams County, the high tension power lines maintained by Idaho Power that cross the region from the Snake River to McCall and then to Riggins were threatened by heat, smoke and particulate matter in the smoke. The power lines were at risk to arcing and potentially failure. Fortunately, power was not lost to the communities of Adams and Valley counties as a result of the fire, but it did point to the need for an increased focus on fuels management under and immediately adjacent to the high tension power lines in this region (Appendix I).

A number of power lines crisscross Washington County from Hydroelectric Dams located along the Snake River. Because of the location, Washington County's land surfaces provide access to power supplies and population centers in Idaho and parts of Oregon. Most of these power lines cross over rangeland ecosystems. When fires ignite in these vegetation types, the fires tend to be fast moving and burn at lower intensities than those in forestland fires. However, when these sagebrush communities become very mature and thick, there is a potential for high temperatures and low humidity with high winds to produce enough heat and smoke to threaten power line stability. Observations across the county of these high tension power lines lead to the conclusion that current agricultural uses coupled with livestock grazing and urban developments have mitigated this potential substantially. It is the recommendation of this Wildfire Mitigation Plan that this situation be evaluated annually and monitored and treatments be targeted where the need is the greatest. Local ranchers and land managers will be the greatest resource for identifying these opportunities.

**Water Supply:** In many of Idaho's communities, water is derived from surface flow that is treated and piped to homes and businesses. When wildfires burn a region, they threaten these watersheds by the removal of vegetation, creation of ash and sediment. As such, watersheds should be afforded the highest level of protection from catastrophic wildfire impacts. In Washington County, water is supplied to the majority of homes from single home or multiple home wells.

Agricultural water supply from the region's rivers and lakes is an important component of the viability of the regional economy (agriculture and ranching). These resources are at-risk to wildland fires. Their protection comes from the limiting of the extent and frequency of wildfires in any given watershed. Based on the analysis of past fires in Washington County and the current status of wildland fire protection in the region, this component of the economy seems to be stable and reasonably protected. Changes to the status quo are not recommended at this time, in light of the other recommendations in this plan.

## *5.5 Resource and Capability Enhancements*

There are a number of resource and capability enhancements identified by the rural and wildland fire fighting districts in Washington County. For specific details on these comments, refer to sections 4.4.1 and 4.4.2. All of the needs identified by the districts are in line with increasing the ability to respond to emergencies in the WUI and are fully supported by the planning committee.

Specific reoccurring themes of needed resources and capabilities include:

- More water tenders for Rural Fire Districts
- Improved radio capabilities within each district and for mutual aid operations (including digital capability and improved coverage)
- Retention and recruitment of volunteers
- Training and development of rural firefighters in structure and wildland fire

The implementation of each issue will rely on either the isolated efforts of the 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 county wide equity. However, the West Central Highlands Resource Conservation and Development Council may be an organization uniquely suited to work with all of the districts in Washington County and adjacent counties to assist in the prioritization of needs across district and even county lines. Once prioritized, the

WCH RC&D is in a position to assist these districts with identifying, competing for, and obtaining grants and equipment to meet these needs. The BLM and the US Forest Service will be integral partners in this process.

**Table 5.3. WUI Action Items in Fire Fighting Resources and Capabilities.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items & Planning Horizon |
|---|---|---|---|
| **5.3.a: Obtain 3 additional 3,000-5,000 gal water tenders for rural fire districts.** | **Protection of people and structures** by direct fire fighting capability enhancements. | **West Central Highlands Resource Conservation and Development Council** in cooperation with rural and wildland fire districts and the County Commissioners. | **Year 1 (2004):** Verify stated need still exists, develop budget, and locate funding or equipment (surplus) sources.<br>**Year 1 or 2 (2004-05):** Acquire and deliver needed equipment to districts based on prioritization by need and funding awards. |
| **5.3.b: Enhance radio availability in each district, link in to existing dispatch, improve coverage and range within the region. Upgrade to digital capability if federal agencies are making that transition first. Emphasize the addition of a radio repeaters.** | **Protection of people and structures** by direct fire fighting capability enhancements. | **BLM and the West Central Highlands Resource Conservation and Development Council** in cooperation with rural and wildland fire districts | **Year 1 (2004):** Summarize existing two-way radio capabilities and limitations. Identify costs to upgrade existing equipment and locate funding opportunities.<br>**Year 2-3 (2005-06):** Identify opportunities for radio repeater towers located in the region for multi-county benefits.<br>**Year 2 (2005):** Acquire and install upgrades as needed. |
| **5.3.c: Retention of Volunteer Fire Fighters** | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with broad base of county citizenry to identify options, determine plan of action, and implement it. | 5 Year Planning Horizon, extended planning time frame<br>Target an increased recruitment (+10%) and retention (+20% longevity) of volunteers<br>**Year 1 (2004):** Develop incentives program and implement it. |

**Table 5.3. WUI Action Items in Fire Fighting Resources and Capabilities.**

| Action Item | Goals and Objectives | Responsible Organization | Action Items & Planning Horizon |
|---|---|---|---|
| **5.3.d: Increased training and capabilities of fire fighters for individual districts and as annual or periodic, countywide training opportunities to facilitate standardized level of training and cross district familiarization of people and resources.** | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with the **BLM and USFS** for wildland training opportunities and with the **State Fire Marshall's Office** for structural fire fighting training. | **Year 1 (2004):** Develop a multi-county training schedule that extends 2 or 3 years in advance (continuously).<br>Identify funding and resources needed to carry out training opportunities and sources of each to acquire.<br>Year 1 (2004): Begin implementing training opportunities for volunteers. |
| **5.3.e. Build training ground for city and rural fire fighters to use in qualifications and skill development.** | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with the **BLM and USFS** for wildland training opportunities and with the **State Fire Marshall's Office** for structural fire fighting training. | **Year 1** locate and acquire land for facility. Develop layout and design, seek funding.<br>**Year 2** build facility and begin multi-county training schedules. Include wildfire and rural firefighter training. |
| **5.3.f. Determine best method of expanding the capacity of the Cambridge RFD to provide storage of equipment.** Options include expansion of current facilities or construction of new facility as a "sub-station" in the district. | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with the **State Fire Marshall's Office and the County Commissioners**. | **Year 1** involve interested parties and identify potential options and costs. Seek grants and other funding sources to implement project.<br>**Year 2** implement the expansion or construction of new facility. |
| **5.3.g. Seek funding to acquire additional equipment to replace aging equipment in the Cambridge RFD.** | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with the **State Fire Marshall's Office and the County Commissioners**. | **Year 1** involve interested parties and identify potential options and costs. Seek grants and other funding sources to implement project.<br>**Year 2** implement the acquisition of needed equipment. |
| **5.3.h. Seek funding to acquire additional equipment to acquire equipment in the Midvale RFD.**<br>• Acquire 5,000 gal Tender<br>• Increase water storage capacity<br>• Acquire Light Brush Truck | **Protection of people and structures** by direct fire fighting capability enhancements. | **Rural and Wildland Fire Districts** working with the **State Fire Marshall's Office and the County Commissioners**. | **Year 1** involve interested parties and identify potential options and costs. Seek grants and other funding sources to implement project.<br>**Year 2** implement the acquisition of needed equipment. |

## *5.6 Regional Land Management Activities*

In section 5.3 of this plan, reference was given to the role that forestry, grazing and agriculture have in promoting wildfire mitigation services through active management. Washington County is both a rural county and an urban center (Weiser). It is dominated by wide expanses of rangelands intermixed with communities and rural houses.

Wildfires will continue to ignite and burn fuels and homes depending on the weather conditions and other factors enumerated earlier. However, active land management that modifies fuels, promotes healthy range and forestland conditions, and promotes the use of these natural resources (consumptive and non-consumptive) will insure that these lands have value to society and the local region. We encourage the US Forest Service, the Bureau of Land Management, the Idaho Department of Lands, Industrial forestland owners, private forestland owners, and all other landowners in the region to actively manage their Wildland-Urban Interface lands in a manner consistent with the management of reducing fuels and risks in this zone.

The Payette National Forest manages much of the highest risk lands in the region. As shown on the area maps, Appendix I, the USFS manages a significant area of Washington County. Their staff of resource and fire professionals has conducted analysis and developed management projects in the WUI, that are designed to reduce the risk of wildfire and the risk of WUI losses from those fires.

Table 5.6 lists seven WUI treatment projects in Washington County, developed by the Payette National Forest. All of these projects are aligned with the County's WUI Wildland Fire Mitigation Plan's Mission, Vision, and Goals as enumerated in this document. Additional treatments in the County are justified, and will be targeted at amplifying these efforts. For instance, a community defensibility project may augment treatment areas immediately adjacent to one of the Forest Service's treatment areas so that the two projects compliment each other.

**Table 5.4. Fuel Treatment Projects Proposed by the Payette National Forest in Washington County.**

| Project | Summary (Purpose and need) (what risk & mitigation) | Benefit to the Community | Location | Description | Acres | Planning Timeframe * | Implemen-tation Timeframe* |
|---|---|---|---|---|---|---|---|
| Sturgill/ Benton | Reduce hazardous fuels and improve forest health by changing Condition Class along Forest Boundary, adjacent to private lands(Soulen Ranch) | Decrease the risk of a wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical treatment. | National Forest System Lands adjacent to the Soulen Ranch, approximately 30 miles northwest of Weiser and 20 miles west of Cambridge. | Treat approximately 2,300 acres of National Forest System Lands with prescribed fire to reduce the risk of large wildfires, improve firefighter and public safety, and improve Condition Class/forest health | 2,300 acres | CE signed in 2001. | Begin implementation in Fall of 2003. Finish implementation in Fall 2003 or 2004. |
| East Fork Brownlee Natural Fuels | Reduce hazardous fuels and improve forest health by changing Condition Class along Forest Boundary, adjacent to Wildland Urban Interface | Decrease the risk of a wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical treatment. | National Forest System Lands adjacent to the private homes and lands in the vicinity of East Fork Brownlee Cr. and Seid Cr. | Treat approximately 2,000 acres of National Forest System Lands with prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health | 2,000 acres | CE complete and signed 2002. | Begin implementation in Fall of 2004. Finish implementation in 2006 |
| No Business Natural Fuels | Reduce hazardous fuels, improve forest health by changing Condition Classes on Forest land adjacent to OX ranch property. | Decrease the risk of a wildland fire destroying the No Business watershed. Decrease the risk of a wildland fire burning structures or forest resources | National Forest System Lands within the No Business Creek Drainage on the Payette National Forest. | Treat approximately 2,000 acres of National Forest System Lands with prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health. | 2,000 acres | Complete CE by Fall 2004 | Begin implementation 2005. Finish implementation in 2006 |
| Cottonwood/ Westfork Natural Fuels | Reduce hazardous fuels and improve forest health by changing Condition Class along Forest Boundary. | Decrease the risk of a wildland fire burning structures or forest resources. | National Forest System Lands adjacent to the private property and other federally/state owned land south | Treat approximately 2,700 acres of National Forest System Lands with prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health | 2,700 acres | FEIS signed in 2000. | Begin implementation in Fall of 2004. Finish implementation in Spring/Summ |

**Table 5.4. Fuel Treatment Projects Proposed by the Payette National Forest in Washington County.**

| Project | Summary (Purpose and need) (what risk & mitigation) | Benefit to the Community | Location | Description | Acres | Planning Timeframe * | Implemen-tation Timeframe* |
|---|---|---|---|---|---|---|---|
| | | | of the Cecil Andrus Wildlife Management Area. | | | | er of 2006 |
| Mann Creek Natural Fuels | Reduce hazardous fuels and improve forest health by changing Condition Class in the Mann Creek drainage. | Decrease the risk of a wildland fire destroying the Mann Creek watershed. Decrease the risk of a wildland fire burning structures or forest resources | National Forest System Lands in the Mann Creek drainage which includes Fourth of July Creek, and Porcupine Creek, | Treat approximately 1500 acres of National Forest System Lands with thinning and prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health | 1500 acres | EA completed 2003 | Begin implementation in Fall 2004. Finish implementation in Fall 2007. |
| Pole/ Mill Creek Natural Fuels | Reduce hazardous fuels and improve forest health by changing Condition Class along Forest Boundary, adjacent to Wildland Urban Interface. Protect transmission lines providing power to southern Idaho. | Decrease the risk of a wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical treatment. | National Forest System Lands adjacent to the private property and other federally/state owned land north of Starkey and Fruitvale. | Treat approximately 2300 acres of National Forest System Lands with mechanical harvest/thinning and prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health | 3000 acres | Complete CE/EA by Fall 2006 | Begin implementation in Fall 2007. |
| West Pine Restoration | Reduce hazardous fuels and improve forest health by changing Condition Class along Forest Boundary, adjacent to Wildland Urban Interface | Decrease the risk of a wildland fire burning structures or forest resources. Provide economic opportunities through timber sale/mechanical treatment. | National Forest System Lands adjacent to the private property and other federally/state owned land north of Starkey and Fruitvale. | Treat approximately 500 acres of National Forest System Lands with mechanical harvest/thinning and prescribed fire to reduce the risk of crown fire, improve firefighter and public safety, and improve Condition Class/forest health | 500 acres | Complete CE/EA by Fall 2006 | Begin implementation in Fall 2007. |

# Chapter 6: Supporting Information

# 6

## *6.1 List of Tables*

## 6.2 List of Preparers

The following personnel participated in the formulation, compilation, editing, and analysis of alternatives for this assessment.

**Table 6.1. List of Preparers**

| Name | Affiliation | Role |
|---|---|---|
| William E. Schlosser, Ph.D. | Northwest Management, Inc. | **Lead Author,** Project Manager, GIS Analyst, Natural Resource Economist, Hazard Mitigation Specialist |
| Vincent P. Corrao, B.S. | Northwest Management, Inc. | Resource Management Specialist, Deputy Project Manager |
| Tera Duman, B.S. | Northwest Management, Inc. | Natural Resource Manager, Fire Control Technician |
| Carl Crabtree | Northwest Management, Inc. | Fire Use Specialist, Washington County Native |
| John A. Erixson, M.S. | Northwest Management, Inc. | Range Management, Fire Specialist |
| Dennis S. Thomas | Northwest Management, Inc. | Fire & Fuels Specialist, Prescribed Burning Manager |
| Ken Homik, M.S. | Northwest Management, Inc. | Fire Use & Air Quality Specialist |
| Craig Scott, B.S. | Northwest Management, Inc. | Natural Resource Manager, Fire Control Technician |
| Vaiden E. Bloch, M.S. | Northwest Management, Inc. | GIS Analyst |
| Greg Bassler, M.S. | Northwest Management, Inc. | Roads Engineer, Timber Sale Layout & Harvest Manager |
| John T. McGee, B.S. | Northwest Management, Inc. | Local Coordinator |

## *6.3 Signature Pages*

This **Washington County Wildland-Urban Interface Wildfire Mitigation Plan** has been developed in cooperation and collaboration with the representatives of the following organizations, agencies, and individuals.

| | |
|---|---|
| By: Diana Thomas, Chairman<br>Washington County Commissioner | Date |
| By: Rick Michael<br>Washington County Commissioner | Date |
| By: Roy Mink<br>Washington County Commissioner | Date |
| By: Steve Patterson– Mayor<br>City of Weiser | Date |
| By: John Baglien, District Ranger<br>USDA Forest Service Weiser Ranger District | Date |
| By: Rosemary Thomas, Acting Field Manager<br>Four Rivers Field Office, USDI BLM | Date |
| By: Nate Marvin, Chief<br>Weiser Rural Fire District #1 | Date |
| By: Dick Smith, Chair<br>Weiser Rural Fire District #1 | Date |

| | |
|---|---|
| By: Shane Garner, Chief<br>Weiser City Fire Department | Date |
| By: Dean Page, Chief<br>Cambridge Rural Fire Department | Date |
| By: _____, Chair<br>Cambridge Rural Fire Department | Date |
| By: Gaylen Lewis, Chief<br>Midvale Rural Fire Department | Date |
| By: _____, Chair<br>Midvale Rural Fire Department | Date |
| By: Sheldon Keafer, Area Supervisor<br>Idaho Department of Lands – Payette Lakes | Date |
| By: Ken Roberts – President<br>West Central Highlands RC&D | Date |
| By: William E. Schlosser, Ph.D.<br>Project Manager–Washington County WUI Wildfire Mitigation Plan, Lead Author<br>Forester–Northwest Management, Inc. | Date |

## *6.4 Glossary of Terms*

**Anadromous -** Fish species that hatch in fresh water, migrate to the ocean, mature there, and return to fresh water to reproduce (Salmon & Steelhead).

**Appropriate Management Response -** Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

**Biological Assessment -** Information document prepared by or under the direction of the Federal agency in compliance with U.S. Fish and Wildlife standards. The document analyzes potential effects of the proposed action on listed and proposed threatened and endangered species and proposed critical habitat that may be present in the action area.

**Backfiring -** When attack is indirect, intentionally setting fire to fuels inside the control line to contain a rapidly spreading fire. Backfiring provides a wide defense perimeter, and may be further employed to change the force of the convection column.

**Blackline -** Denotes a condition where the fireline has been established by removal of vegetation by burning.

**Burning Out -** When attack is direct, intentionally setting fire to fuels inside the control line to strengthen the line. Burning out is almost always done by the crew boss as a part of line construction; the control line is considered incomplete unless there is no fuel between the fire and the line.

**Canyon Grassland -** Ecological community in which the prevailing or characteristic plants are grasses and similar plants extending from the canyon rim to the rivers edge.

**Confine -** Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.

**Contingency Plans:** Provides for the timely recognition of approaching critical fire situations and for timely decisions establishing priorities to resolve those situations.

**Control Line -** An inclusive term for all constructed or natural fire barriers and treated fire edge used to control a fire.

**Crew -** An organized group of firefighters under the leadership of a crew boss or other designated official.

**Crown Fire -** A fire that advances from top to top of trees or shrubs more or less independently of the surface fire. Sometimes crown fires are classed as either running or dependent, to distinguish the degree of independence from the surface fire.

**Disturbance -** An event which affects the successional development of a plant community (examples: fire, insects, windthrow, timber harvest).

**Disturbed Grassland -** Grassland dominated by noxious weeds and other exotic species. Greater than 30% exotic cover.

**Diversity -** The relative distribution and abundance of different plant and animal communities and species within an area.

**Drainage Order -** Systematic ordering of the net work of stream branches, ( e.g., each non-branching channel segment is designated a first order stream, streams which only receive first order segments are termed second order streams).

**Duff -** The partially decomposed organic material of the forest floor beneath the litter of freshly fallen twigs, needles, and leaves.

**Ecosystem -** An interacting system of interdependent organisms and the physical set of conditions upon which they are dependent and by which they are influenced.

**Ecosystem Stability -** The ability of the ecosystem to maintain or return to its steady state after an external interference.

**Ecotone -** The area influenced by the transition between plant communities or between successional stages or vegetative conditions within a plant community.

**Energy Release Component -** The Energy Release Component is defined as the potential available energy per square foot of flaming fire at the head of the fire and is expressed in units of BTUs per square foot.

**Equivalent Clearcut Area (ECA) -** An indicator of watershed condition, which is calculated from the total amount of crown removal that has occurred from harvesting, road building, and other activities based on the current state of vegetative recovery.

**Exotic Plant Species -** Plant species that are introduced and not native to the area.

**Fire Adapted Ecosystem -** An arrangement of populations that have made long-term genetic changes in response to the presence of fire in the environment.

**Fire Behavior -** The manner in which a fire reacts to the influences of fuel, weather, and topography.

**Fire Behavior Forecast -** Fire behavior predictions prepared for each shift by a fire behavior analysis to meet planning needs of fire overhead organization. The forecast interprets fire calculations made, describes expected fire behavior by areas of the fire, with special emphasis on personnel safety, and identifies hazards due to fire for ground and aircraft activities.

**Fire Behavior Prediction Model -** A set of mathematical equations that can be used to predict certain aspects of fire behavior when provided with an assessment of fuel and environmental conditions.

**Fire Danger -** A general term used to express an assessment of fixed and variable factors such as fire risk, fuels, weather, and topography which influence whether fires will start, spread, and do damage; also the degree of control difficulty to be expected.

**Fire Ecology -** The scientific study of fire's effects on the environment, the interrelationships of plants, and the animals that live in such habitats.

**Fire Exclusion -** The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

**Fire Intensity Level -** The rate of heat release (BTU/second) per unit of fire front. Four foot flame lengths or less are generally associated with low intensity burns and four to six foot flame lengths generally correspond to "moderate" intensity fire effects. High intensity flame lengths are usually greater than eight feet and pose multiple control problems.

**Fire Prone Landscapes –** The expression of an area's propensity to burn in a wildfire based on common denominators such as plant cover type, canopy closure, aspect, slope, road density, stream density, wind patterns, position on the hillside, and other factors.

**Fireline -** A loose term for any cleared strip used in control of a fire. That portion of a control line from which flammable materials have been removed by scraping or digging down to the mineral soil.

**Fire Management -** The integration of fire protection, prescribed fire and fire ecology into land use planning, administration, decision making, and other land management activities.

**Fire Management Plan (FMP) -** A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. This plan is supplemented by operational procedures such as preparedness, preplanned dispatch, burn plans, and prevention. The fire implementation schedule that documents the fire management program in the approved forest plan alternative.

**Fire Management Unit (FMU) -** Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent unit. FMU's are delineated in FMP's. These units may have dominant management objectives and preselected strategies assigned to accomplish these objectives.

**Fire Occurrence -** The number of wildland fires started in a given area over a given period of time. (Usually expressed as number per million acres.)

**Fire Prevention -** An active program in conjunction with other agencies to protect human life, prevent modification, of the ecosystem by human-caused wildfires, and prevent damage to cultural resources or physical facilities. Activities directed at reducing fire occurrence, including public education, law enforcement, personal contact, and reduction of fire risks and hazards.

**Fire Regime -** The fire pattern across the landscape, characterized by occurrence interval and relative intensity. Fire regimes result from a unique combination of climate and vegetation. Fire regimes exist on a continuum from short-interval, low-intensity (stand maintenance) fires to long-interval, high-intensity (stand replacement) fires.

**Fire Retardant -** Any substance that by chemical or physical action reduces flareability of combustibles.

**Fire Return Interval -** The number of years between two successive fires documented in a designated area.

**Fire Risk -** The potential that a wildfire will start and spread rapidly as determined by the presence and activities of causative agents.

**Fire Severity -** The effects of fire on resources displayed in terms of benefit or loss.

**Foothills Grassland -** Grass and forb co-dominated dry meadows and ridges. Principle habitat type series: bluebunch wheatgrass and Idaho fescue.

**Fuel -** The materials which are burned in a fire; duff, litter, grass, dead branchwood, snags, logs, etc.

**Fuel Break -** A natural or manmade change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled.

**Fuel Loading -** Amount of dead fuel present on a particular site at a given time; the percentage of it available for combustion changes with the season.

**Fuel Model -** Characterization of the different types of wildland fuels (trees, brush, grass, etc.) and their arrangement, used to predict fire behavior.

**Fuel Type -** An identifiable association of fuel elements of distinctive species; form, size, arrangement, or other characteristics, that will cause a predictable rate of fire spread or difficulty of control, under specified weather conditions.

**Fuels Management -** Manipulation or reduction of fuels to meet protection and management objectives, while preserving and enhancing environmental quality.

**Gap Analysis Program (GAP) -** Regional assessments of the conservation status of native vertebrate species and natural land cover types and to facilitate the application of this information to land management activities. This is accomplished through the following five objectives:

- Map the land cover of the United States
- Map predicted distributions of vertebrate species for the U.S.
- Document the representation of vertebrate species and land cover types in areas managed for the long-term maintenance of biodiversity
- Provide this information to the public and those entities charged with land use research, policy, planning, and management
- Build institutional cooperation in the application of this information to state and regional management activities

**Habitat -** A place that provides seasonal or year-round food, water, shelter, and other environmental conditions for an organism, community, or population of plants or animals.

**Heavy Fuels -** Fuels of a large diameter, such as snags, logs, and large limbwood, which ignite and are consumed more slowly than flash fuels.

**Hydrologic Unit Code -** A coding system developed by the U. S. Geological Service to identify geographic boundaries of watersheds of various sizes.

**Hydrophobic -** Resistance to wetting exhibited by some soils, also called water repellency. The phenomena may occur naturally or may be fire-induced. It may be determined by water drop penetration time, equilibrium liquid-contact angles, solid-air surface tension indices, or the characterization of dynamic wetting angles during infiltration.

**Human-Caused Fires -** Refers to fires ignited accidentally (from campfires or smoking) and by arsonists; does not include fires ignited intentionally by fire management personnel to fulfill approved, documented management objectives (prescribed fires).

**Intensity -** The rate of heat energy released during combustion per unit length of fire edge.

**Inversion -** Atmospheric condition in which temperature increases with altitude.

**Ladder Fuels -** Fuels which provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

**Landsat Imagery -** Land remote sensing, the collection of data which can be processed into imagery of surface features of the Earth from an unclassified satellite or satellites.

**Landscape -** All the natural features such as grasslands, hills, forest, and water, which distinguish one part of the earth's surface from another part; usually that portion of land which the eye can comprehend in a single view, including all its natural characteristics.

**Lethal -** Relating to or causing death; extremely harmful.

**Lethal Fires -** A descriptor of fire response and effect in forested ecosystems of high-severity or severe fire that burns through the overstory and understory. These fires typically consume large woody surface fuels and may consume the entire duff layer, essentially destroying the stand.

**Litter -** The top layer of the forest floor composed of loose debris, including dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

**Maximum Manageable Area -** The boundary beyond which fire spread is completely unacceptable.

**Metavolcanic -** Volcanic rock that has undergone changes due to pressure and temperature.

**Minimum Impact Suppression Strategy (MIST) -** "Light on the Land." Use of minimum amount of forces necessary to effectively achieve the fire management protection objectives consistent with land and resource management objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects when determining how to implement an appropriate suppression response.

**Mitigation -** Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

**Monitoring Team -** Two or more individuals sent to a fire to observe, measure, and report its behavior, its effect on resources, and its adherence to or deviation from its prescription.

**National Environmental Policy Act (NEPA) -** This act declared a national policy to encourage productive and enjoyable harmony between humans and their environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and will stimulate the health and welfare of humankind; to enrich the understanding of important ecological systems and natural resources; and to establish a Council on Environmental Quality.

**National Fire Management Analysis System (NFMAS) -** The fire management analysis process, which provides input to forest planning and forest and regional fire program development and budgeting.

**Native -** Indigenous; living naturally within a given area.

**Natural Ignition -** A wildland fire ignited by a natural event such as lightning or volcanoes.

**Noncommercial Thinning -** Thinning by fire or mechanical methods of precommercial or commercial size timber, without recovering value, to meet MFP standards relating to the protection/enhancement of adjacent forest or other resource values.

**Notice of Availability -** A notice of Availability published in the Federal Register stating that an EIS has been prepared and is available for review and comment (for draft) and identifying where copies are available.

**Notice of Intent -** A notice of Intent published in the Federal Register stating that an EIS will be prepared and considered. This notice will describe the proposed action and possible alternatives, the proposed scoping process, and the name and address of whom to contact concerning questions about the proposed action and EIS.

**Noxious Weeds -** Rapidly spreading plants that have been designated "noxious" by law which can cause a variety of major ecological impacts to both agricultural and wild lands.

**Planned Ignition -** A wildland fire ignited by management actions to meet specific objectives.

**Prescribed Fire -** Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

**Prescription -** A set of measurable criteria that guides the selection of appropriate management strategies and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

**Programmatic Biological Assessment -** Assesses the effects of the fire management programs on Federally listed species, not the individual projects that are implemented under these programs. A determination of effect on listed species is made for the programs, which is a valid assessment of the potential effects of the projects completed under these programs, if the projects are consistent with the design criteria and monitoring and reporting requirement contained in the project description and summaries.

**Reburn -** Subsequent burning of an area in which fire has previously burned but has left flareable light that ignites when burning conditions are more favorable.

**Riparian Habitat Conservation Areas (RHCA) -** Portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCAs include traditional riparian corridors, wetlands, intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris, and nutrient delivery systems.

**Riparian Management Objectives (RMO) -** Quantifiable measures of stream and streamside conditions that define good fish habitat and serve as indicators against which attainment or progress toward attainment of goals will be measured.

**Road Density -** The volume of roads in a given area (mile/square mile).

**Scoping -** Identifying at an early stage the significant environmental issues deserving of study and de-emphasizing insignificant issues, narrowing the scope of the environmental analysis accordingly.

**Seral -** Refers to the stages that plant communities go through during succession. Developmental stages have characteristic structure and plant species composition.

**Serotinous -** Storage of coniferous seeds in closed cones in the canopy of the tree. Serotinous cones of lodgepole pine do not open until subjected to temperatures of 113 to 122 degrees Fahrenheit causing the melting of the resin bond that seals the cone scales.

**Stand Replacing Fire -** A fire that kills most or all of a stand.

**Sub-basin -** A drainage area of approximately 800,000 to 1,000,000 acres, equivalent to a 4th - field Hydrologic Unit Code.

**Surface Fire -** Fire which moves through duff, litter, woody dead and down, and standing shrubs, as opposed to a crown fire.

**Watershed -** The region draining into a river, river system, or body of water.

**Wetline -** Denotes a condition where the fireline has been established by wetting down the vegetation.

**Wildland Fire -** Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

**Wildland Fire Implementation Plan (WFIP) -** A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire being managed for resource benefits. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires managed for resource benefits will have two-three stages of the WFIP completed while some fires that receive a suppression response may only have a portion of Stage I completed).

**Wildland Fire Situation Analysis (WFSA) -** A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

**Wildland Fire Use -** The management of naturally ignited wildland fires to accomplish specific prestated resource management objectives in predefined geographic areas outlined in FMP's. Operational management is described in the WFIP. Wildland fire use is not to be confused with "fire use", which is a broader term encompassing more than just wildland fires.

**Wildland Fire Use for Resource Benefit (WFURB) -** A wildland fire ignited by a natural process (lightning), under specific conditions, relating to an acceptable range of fire behavior and managed to achieve specific resource objectives.

## 6.5 Literature Cited


Agee, J.K. 1993. Fire ecology of the Pacific Northwest forests. Washington: Island Press.

Agee, J.K. 1998. The Landscape Ecology of western Forest Fire Regimes. Northwest Science, Vol. 72, Special Issue 1998.

Anderson, H. 1982. Aids to Determining Fuel Models for Estimating Fire Behavior. USDA Forest Service, Intermountain Forest and Range Experiment Station. INT-GTR-122. 22 pp.

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.

Brown, J.K. 1995. Fire regimes and their relevance to ecosystem management. Pages 171-178 *In* Proceedings of Society of American Foresters National Convention, Sept. 18-22, 1994, Anchorage, AK. Society of American Foresters, Wash. DC.

Beukema, S.J., D.C. Greenough, C.E. Robinson, W.A. Kurtz, E.D. Reinhardt, N.L. Crookston, J.K. Brown, C.C. Hardy, and A.R. Stage. 1997. An Introduction to the Fire and Fuels Extension to FVS. In: Teck, R., Moeur, and Adams. Proceedings of the Forest Vegetation Simulator Conference, 1997 February 3-7, Fort Collins, Co. Gen. Tech. Rep. INT-373. Ogden UT:USDA Forest Service , Intermountain Research Station.

Dillman, D.A. 1978. Mail and Telephone Surveys: The Total Design Method. Hoboken: John Wiley & Sons, Incorporated. 344 p.

Fiedler, Carl E., Charles E. Keegan III, Chris W. Woodall, Todd A. Morgan, Steve H. Robertson, John T. Chmelik. 2001. A STRATEGIC ASSESSMENT OF FIRE HAZARD IN MONTANA. Report submitted to the Joint Fire Sciences Program, September 29, 2001. Pp. 39.

Final Environmental Impact Statement North-Kennedy Cottonwood stewardship Project Emmett Ranger District, Boise National Forest March 2003.

Graham, W.G. and L.J. Campbell. 1995. Groundwater Resources of Idaho. Idaho Department of Water Resources, Boise, ID. GIS Data.

Hammond, C.; Hall, D.; Miller, S.; Swetik, P. 1992. Level 1 stability analysis (LISA) documentation for version 2.0 USDA, Forest Service. General Technical Report INT-285. Intermountain Research Station, Ogden, UT.

Hann, W.J., Bunnell, D.L. 2001. Fire and land management planning and implementation across multiple scales. Int. J. Wildland Fire. 10:389-403.

Hardy, C.C., Schmidt, K.M., Menakis, J.M., Samson, N.R. 2001. Spatial data for national fire planning and fuel management. International Journal of Wildland Fire 10:353-372.

Harris, C., P.S. Cook, and J. O'Laughlin. 2003. Forest Resource-Based Economic Development in Idaho: Analysis of Concepts, Resource Management Policies, and Community Effects. Policy Analysis Group, University of Idaho, College of Natural Resources, Report № 22. Pp 82.

Holsapple, L.J., Snell, K. 1996. Wildfire and prescribed fire scenarios in the Columbia River Basin: relationship to particulate matter and visibility. In: Keane, R.E., Jones, J.L., Riley, L.S., Hann, W.J., tech. eds. Compilation of administrative reports: multi-scale landscape dynamics in the Basin and portions of the Klammath and Great basins. On file with: U. S. Department of Agriculture, Forest Service, Department of Interior, Bureau of Land

Management; Interior Columbia Basin Ecosystem Management Project, 112 E. Poplar, Walla Walla, WA 99362.

Homer, C.G. 1998. Idaho/western Wyoming landcover classification report and metadata. Department of Geography and Earth Resources. Utah State University. Logan, UT 84322-9635. chomer@gis.usu.edu

Huff, M.H., Ottmar, R.D., Alvarado, E., et al. 1995. Historical and current forest landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production. Gen. Tech. Rep. PNW-GTR-355. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 43p. (Everett, Richard L., team leader; Eastside forest health assessment; Hessburg, Paul F., science team leader and tech. ed., Volume III: assessment.).

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, ID.

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.

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

Levinson, D.H. 2002. Montana/Idaho Airshed Group; Operating Guide. Montana / Idaho Airshed Group, Missoula, MT 59808

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, Id.

McCoy, L., K. Close, J. Dunchrack, S. Husari, and B. Jackson. 2001. May 6 –24, 2001. Cerro Grande Fire Behavior Narrative.

MacDonald, L. H.; Smart, A.W.; and Wissmar, R.C. 1991. Monitoring guidelines to evaluate effects of forestry activities on streams in the Pacific Northwest and Alaska. USEPA Region 10 Report No. 910/9-91-001.

Mill Creek Watershed Assessment Emmett Ranger Districts, Boise National Forest May 2003

National Interagency Fire Center. 2003. Information posted on the Agency's Internet web site at http://www.nifc.gov/

National Register of Historic Places. 2003. Internet web site listings for Washington County, Idaho. On the Internet at www.nationalregisterofhistoricalplaces.com

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

Ottmar, Roger D.; Alvarado, E.; Hessburg, P.F.; [and others]. 1996. Historical and current forest and range landscapes in the interior Columbia River basin and portions of the Klammath and Great basins. Part III: Linking vegetation patterns to potential smoke production and fire behavior. Draft report. On file with: U.S. Department of Agriculture, Forest Service;

U.S. Department of interior, Bureau of Land management; Interior Columbia Basin Ecosystem Management project, 112 E. Poplar, Walla Walla, WA.

Quigley, T. and S. Arbelbide (Tech. Editors). 1997. An assessment of Ecosystem Components in the Interior Columbia Basin. Pacific Northwest Research Station, Walla Walla, WA. GTR-405. pp. 372, 460, 462, 480-486, 855-869.

Quigley, T.M., R.A. Gravenmier, R.T. Graham, tech. eds. 2001. Interior Columbia Basin Ecosystem Management Project: project data. Station Misc. Portland, OR. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Redmond, R.L. 1997. Mapping existing vegetation and land cover across western Montana and Northern Idaho. Wildlife Spatial Analysis Lab. Montana Cooperative Fish and Wildlife Research Unit. University of Montana, Missoula, MT 59812.

Schlosser, W.E., V.P. Corrao, D. Thomas. 2002. Shoshone County Wildland Urban Interface Fire Mitigation Plan, Final Report. Northwest Management, Inc., Moscow, ID.

Schmidt, K.M., Menakis, J.P. Hardy, C.C., Hann, W.J., Bunnell, D.L. 2002. 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, CO.

Scott, H.S. 1998. Fuel reduction in residential and scenic forests: a comparison of three treatments in western Montana ponderosa pine stand. Res. Pap. RMRS-RP-5. Ogden, UT. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 19 p.

Steele, R.; Arno, S.F.; and Geier-Hayes, K. 1986. Wildfire patterns change in Central Idaho's ponderosa pine-Douglas-fir forest.

Swanson, F.J. 1978. Fire and geomorphic processes; in Fire Regimes and Ecosystem Properties. USDA Forest Service Gen. Tech. Rep. WO. 26 pp.

Thompson, R.A., P.H. Skabelund, N.C. Kulesza, E.N. Dean. 1973. Soil - Hydrologic Reconnaissance. New Meadows Ranger District, Payette National Forest. 242 pp.

USDA. 1999. Salmon River Canyon Project Draft Environmental Statement. USDA Forest Service. Nez Perce National Forest.

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

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

Vogl, R.J. 1979. Some basic principles of grassland fire management. Environmental Management 3(1):51-57, 1979.

Wright, H.A. and A.W. Bailey. 1980. Fire ecology and prescribed burning in the Great Plains – A research review. United States Department of Agriculture, Forest Service, Intermountain Forest Range Experiment Station, Ogden, Utah. General Technical Report. INT-77.

Wright, H. A. and Bailey, A.W. 1982. Fire ecology: United States and Southern Canada. John Wiley and Sons, Inc. 501 pp.

This plan was developed by Northwest Management, Inc., under contract with the Washington County Commissioners and the West Central Highlands RC&D, with funding provided by the USDI Bureau of Land Management and Washington County.

**Citation of this work:**

Schlosser, W.E. *Lead Auth.* 2004. Washington County, Idaho, Wildland-Urban Interface Wildfire Mitigation Plan – Main Document. Northwest Management, Inc., Moscow, Idaho. June 2004. Pp. 139.

Schlosser, W.E. *Lead Auth.* 2003. Washington County, Idaho, Wildland-Urban Interface Wildfire Mitigation Plan – Appendices. Northwest Management, Inc., Moscow, Idaho. June 2004. Pp. 55.

Last Page of Document

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 e-Mail
http://www.Consulting-Foresters.com/ Internet

(Remainder Intentionally Blank)