



# Little White Salmon Drainage Community Wildfire Protection Plan

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# Little White Salmon Drainage(LWSD) Community Wildfire Protection Plan (CWPP)

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**Figure 1. (Appendix H1) Planning Area Location**

**Acknowledgements:**

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## **INTRODUCTION:**

A Community Wildfire Protection Plan (CWPP) allows a community in the Wildland Urban Interface (WUI) to take action to reduce its vulnerability to wildfire. Skamania County and Washington State University Skamania County Extension facilitate CWPPs through a Title III grant from the Secure Rural Schools and Community Self-Determination Act of 2000 (PUBLIC LAW 106-393). This plan will serve as a standalone document and as a chapter to Skamania County, WA Emergency Management Plan, and provide a framework to emergency responders, property owners, and interested parties within the planning area to increase the communities' capacity to be better prepared for a wildfire. The plan identifies communities at risk (CAR) and values that would be vulnerable during a wildfire.

For the purpose of this project, the entire planning area is considered to be WUI.

Residents of the Little White Salmon Drainage in Washington are concerned about the effects of wildfire on their community. The 2007 Broughton fire burned over 250 acres and destroyed six homes in one afternoon. This prompted local residents, government officials, and fire department personnel to join together to proactively plan and implement actions to reduce the impact of wildfire on the community.

### **Mission**

The Little White Salmon Drainage (LWSD) CWPP mission is "Protection of Life, Property, (both private and public), and Natural Resources from fire, through education and planning."

Through this CWPP, residents of the LWSD intend to protect their community from the effects of wildfire through outreach, education, strategic planning, and action. They wish to face each fire season confident that they have done everything possible to prepare for and mitigate the effects of a potential forest fire in their area.

### **Goal**

The primary goal of the LWSD CWPP is to protect life, property, essential infrastructure, and resources through the implementation of fire prevention projects that work to increase public awareness, provide escape routes, provide shelter "in place", improve forest health, sustain local wildlife, and preserve the natural beauty of the area.

To achieve this goal, the LWSD Steering Committee developed specific projects which support the following three objectives:

1. Improve the chance of survival for people, animals, homes, and the environment during wildfires
2. Promote wildfire awareness and education for citizens located in 'risk areas'
3. Engage in community-developed fuels treatment projects that reduce wildfire vulnerability of communities at risk.

In an effort to minimize waste, all options for the utilization of biomass produced from fuels reduction projects will be evaluated.

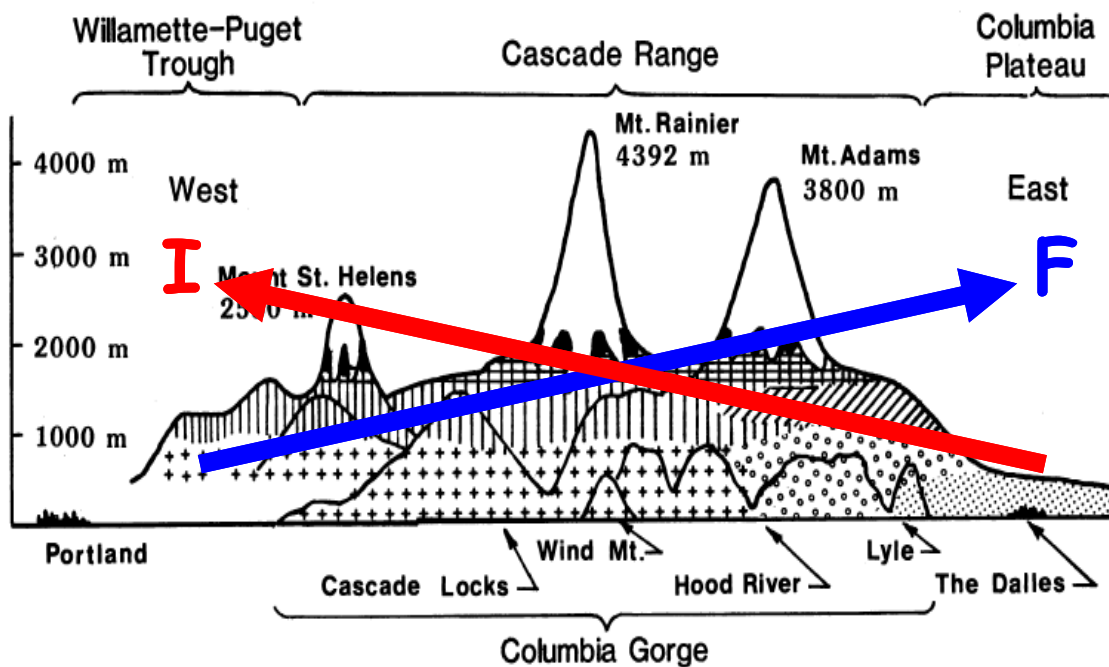
### **Community Awareness**

Residents of LWSD are very aware of the need to develop a comprehensive wildfire prevention and protection plan. LWSD is located at the interface of the drier eastern Washington forests and the wetter western forests. The drier forests experience frequent low intensity fire, while the wetter forests experience infrequent but catastrophic fires (Figure 2). The potential for a fire from the east to spread into the west and become catastrophic is enormous. Years of fire suppression have led to large accumulations of woody fuels.

SR 14 and railroad tracks run along the southern boundary of the planning area and are a source of frequent fire ignition. Steep slopes parallel the tracks to the north. The Columbia Gorge forms a wind tunnel providing high velocity wind to drive the fire. All the ingredients to create catastrophic fire are present here. This danger was demonstrated in 2007 when a fire started near the railroad tracks at Broughton's Mill. Strong winds from the Columbia Gorge pushed the fire up the bluff and into a residential area. The Broughton fire consumed 250 acres in one afternoon, destroyed six homes, and caused evacuation of 400 residents from 100 immediately threatened homes.

Concerned residents began organizing in May 2008. Their energy, input, and guidance have played an essential role in the creation of this CWPP. In addition to regular planning meetings, they have created a Steering Committee and developed an action plan. The LWSD CWPP action plan includes education of planning area residents on the importance of defensible space and a conviction to see defensible space created, creating a shaded fuel breaks for defensible fuel profiles along Cook Underwood road and other evacuation routes, and collaborating with the Underwood CWPP steering committee to create and place signage identifying evacuation routes. The LWSD community is committed to taking action on this plan.





I = Fire intensity (how fast and hot a fire burns)

F = Fire frequency (how often fire occurs)



Forests of Douglas-fir with western hemlock and western red-cedar



Forests of ponderosa pine and Oregon oak



Bunchgrass steppe of bluebunch wheatgrass



Forests of Silver fir, noble fir, western white pine, western hemlock and Alaska yellow cedar



Forests of grand fir, western white pine, lodgepole pine, ponderosa pine, western larch and Douglas-fir



Sub-alpine forest of mountain hemlock, sub-alpine fir



Alpine communities



Snowfield and glaciers

Figure 2. Vegetation profile and generalized historic fire frequency and fire intensity in the Columbia River Gorge (adapted from Troll (1955) in Topik et al. (1986) and James K. Agee, University of Washington).

## Values

LWSD residents value their homes, businesses, utilities, wildlife habitat, and beauty of the surrounding forest. They want to improve the safety of their community and play an active role in land management decisions affecting both public and private lands.

## BACKGROUND

Wildfire has always been a part of the forest ecosystems of the western United States. What has changed is the risk to public safety, private property and the quality of life; risks have compounded due to more homes in and around forests and to the deterioration of forest health. In the state of Washington, there is a sense that the risks will only increase unless there are fundamental changes, changes that must involve many people. (A Wildland Fire Protection Program for Washington)

There is no such thing as a forest free of fire. Over the past decade, Americans have come to realize the paradox inherent in our fire suppression efforts. The more intensely western forests have been protected from fire—as well as from insects and disease—the worse many of these problems have become. Western U.S. fire statistics show an alarming trend in wildfire severity and area burned, primarily attributable to fuel buildups in western forests. We have been sitting on a time bomb with little idea of how long the fuse is. (Agee 2002)

To compound the problem more people are moving into the forests and building homes. Nine percent of the land area of the United States, and 31 percent of U.S. homes are in the WUI. Growth rates within the WUI are triple the rates elsewhere. (A Wildland Fire Protection Program for Washington) Increase in the number of humans and homes in and around forests has increased the risk of ignition along with the need for suppression in the WUI. The WUI is commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses tremendous risks to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face. (Preparing a Community Wildfire Protection Plan)

## Legislation (NFP, HFI & HFRA)

Nationally, the 2000 wildfire season was the worst wildland fire year since 1910. A total of 122,827 wildfires and over 8.4 million acres burned illustrating how dangerous the situation was. (Jensen 2008) On August 8, 2000, President Clinton asked Secretaries Babbitt and Glickman to prepare a report recommending how best to respond to the year's severe fires, reduce the impacts of these wildland fires on rural communities, and ensure sufficient firefighting resources in the future (A Report to the President in Response to the Wildfires of 2000). This report became the basis for the National Fire Plan (NFP). The NFP addresses five key points: Firefighting, Rehabilitation, Hazardous Fuels Reduction, Community Assistance, and Accountability. In 2001 Congress approved funds for federal and state agencies and local communities to better plan and prepare for future wildfire seasons.

During the wildfire season of 2002, over 88,458 fires burned roughly 7 million acres and caused the deaths of 21 firefighters. President Bush proposed the Healthy Forests Initiative (HFI) in August 2002, and directed federal agencies to develop several administrative and legislative tools to restore these ecosystems to healthy, natural conditions and assist in executing core components of the National Fire Plan. HFI led to the enactment of the Healthy Forest Restoration Act (HFRA) in January, 2003. HFRA's intent is to conduct hazardous fuels reduction projects on National Forest System lands, and Bureau of Land Management lands, aimed at protecting communities, watersheds, and certain other at-risk lands from catastrophic wildfire, to enhance efforts to protect watersheds, and address threats to forest and rangeland health, including catastrophic wildfire, across the landscape, and for other purposes. The first purpose mentioned in HFRA is "to reduce wildfire risk to communities, municipal water supplies, and at-risk federal land through a collaborative process of planning, prioritizing, and implementing hazardous fuel reduction projects". (HFRA 2003, Sec. 601) Priority for funding is given to at risk communities that have developed Community Wildfire Protection Plans (HFRA 2003, SEC. 103).  
The Healthy Forests Restoration Act:

- Strengthens public participation in developing high priority forest health projects;
- Encourages collaboration between Federal agencies and local communities when community wildland fire protection plans are prepared;
- Allows communities to define their WUI rather than using the default definition of ½ to 1 mile from the community;
- Directs the United States Bureau of Land Management (BLM), and United States Forest Service (USFS) to give special consideration to project areas and methods of treatment defined in a community wildfire protection plan;
- Requires using at least 50% of the dollars allocated to HFRA projects to protect Communities At Risk (CAR) of wildland fire if identified in CWPPs;
- Encourages biomass energy production through grants and assistance to local communities to create market incentives for removal of otherwise valueless forest material;

- Reduces the complexity of environmental analysis allowing federal land agencies to use the best science available to actively manage land under their protection;
- Encourages courts that consider a request for an injunction on an HFRA-authorized project to balance environmental effects of undertaking the project against the effects of failing to do so;
- Requires performance to be monitored when agencies conduct hazardous-fuel reduction projects and encourages multiparty monitoring that includes communities and other interested parties;
- Provides for administrative review of proposed HFRA projects on National Forest System lands before decisions are issued;
- Contains requirements governing the maintenance and restoration of old-growth forest stands when the USFS and BLM conduct HFRA projects in such stands;
- Requires HFRA projects in the USFS and BLM to maximize retention of larger trees in areas other than old-growth stands, consistent with the objective of restoring fire-resilient stands and protecting at-risk communities and federal lands.

The HFRA is linked to the Rural Schools and Community Self-Determination Act of 2000, PL 106-393, through funding provisions found in two separate Titles of PL 106-393. Title III provides counties with funds for expenditure on projects that fall within certain categories. One of these categories is county planning efforts to increase the protection of people and property from wildfire.

## **CWPP REQUIREMENTS**

**The HFRA requires 3 components in a CWPP** (see Planning, Steps 1, 5, and 6 for specific compliance of this plan)

- 1) Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- 2) Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
- 3) Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

## **COMMUNITY PROFILE**

### **Location**

The LWSD is located in the southeast corner of Skamania County, in the southwestern part of the state of Washington. (Figure 1, Appendix H-1) One of two southern access routes to the Gifford Pinchot National forest passes through the LWSD planning area. (Figure 3, Appendix H2, and Planning Process Step 2)

Skamania County is about forty miles in length from west to east, and extends northward from the Columbia River into the Cascade Mountains and the Gifford Pinchot National Forest for fifty miles. Skamania County has an area of 1,010,080 acres, or 1,672 square miles. The Columbia River flows nearly at sea level through the Cascade Mountains on its way to the Pacific Ocean. This area is nationally recognized for its unique scenic beauty and serves as a major water, highway, and railroad transportation corridor.

### **Climate**

Skamania County's climate is temperate and strongly influenced by topography. It is characterized by cool, dry summers, and mild, moist winters. Along the Columbia River, annual rainfall varies from 50 to 60 inches in the southwestern part of the county to more than 75 inches near the crest of the Cascade Mountain Range. East of this crest, rainfall decreases rapidly to about 35 inches in the southeast corner of the county. Precipitation is higher and temperatures lower with increasing elevation away from the Columbia River. The mountainous valleys in the interior of the county receive annual rainfall of greater than 90 inches.

The Columbia River Gorge functions as a low elevation pass through the Cascade Range. Strong winds are a dominant feature. During the winter, low-pressure systems move through the gorge on westerly winds, bringing heavy rains as a consequence of streamline convergence. Strong high-pressure systems east of the Cascade Range can bring gale-force easterly winds through the gorge, resulting in extremely hot dry weather during the summer and fall and cold continental air during the winter. Summer high temperatures from June through October are generally in the 80's °F. Only 20 percent of annual precipitation occurs during the summer months. August and September are typically extremely dry. Relative humidity is typically high in the winter and spring, but can reach single digits in the summer and fall.



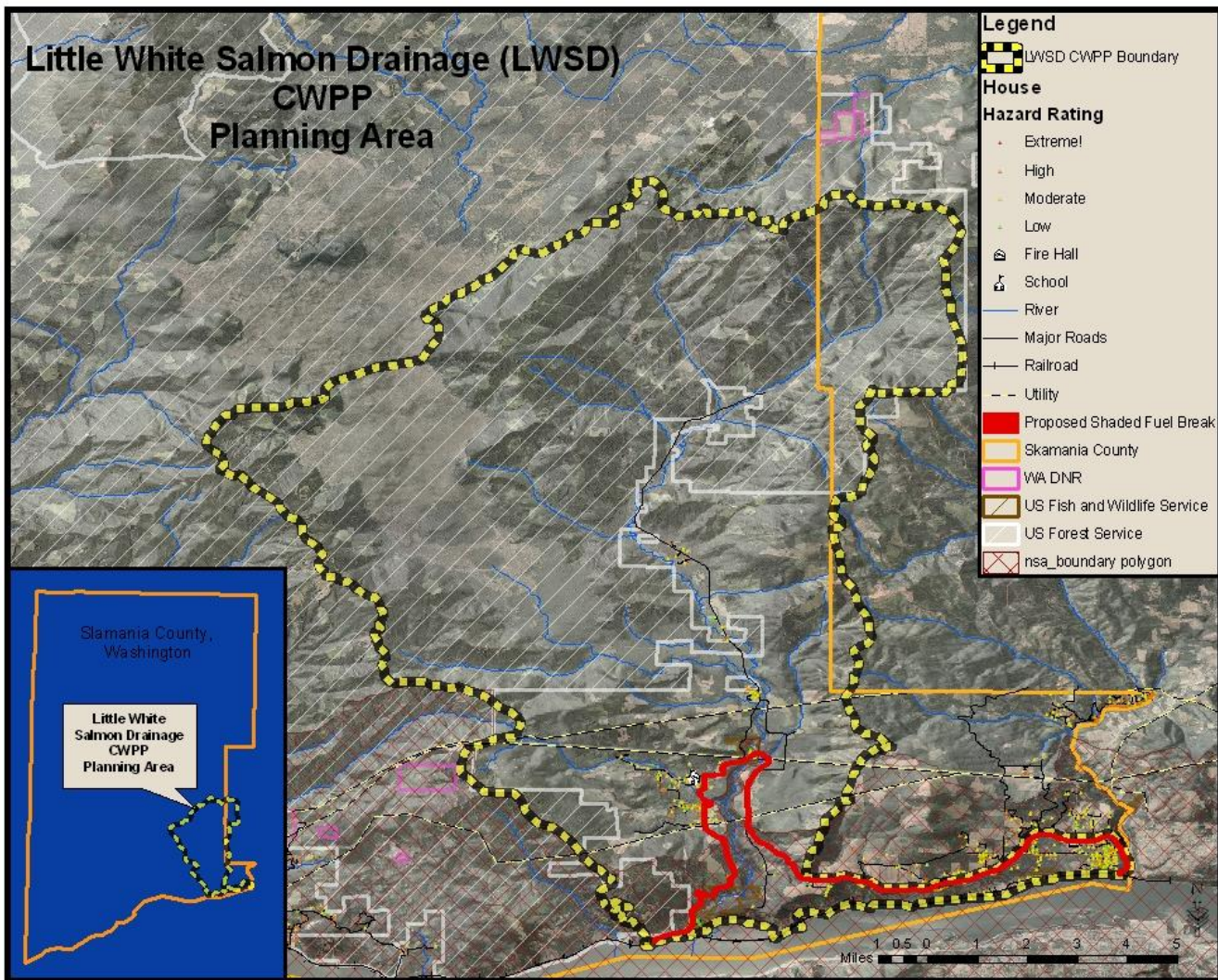


Figure 3, (Appendix H2). LWSD CWPP Planning Area (Map by Gail A. Fullerton)

### Topography and Vegetation

Skamania County has diverse topography, ranging from; gently sloping lands to vertical cliffs along the Columbia River and from level valleys to mountainous uplands with steep cliffs and ravines farther north. Most of the county is heavily forested, with over 90 percent of the 1.1 million acres in public and private forest land. Vegetation cover is primarily coniferous forest but includes some deciduous forest, shrub land, and, grass land. Forests range from mesic: western hemlock (*Tsuga heterophylla*) - western red cedar (*Thuja plicata*) and Douglas-fir (*Pseudotsuga menziesii* subsp. *menziesii*), in the west to more xeric: Douglas fir (*Pseudotsuga menziesii* var. *glauca*) - grand fir (*Abies grandis*) and Oregon white oak (*Quercus garryana*) - ponderosa pine (*Pinus ponderosa*) in the east (Figure 2). Southwestern Skamania County has some upland farmland, and southeastern Skamania County has some orchard lands. The Cascade Mountains traverse Skamania County from north to south.

Elevation in the LWSD planning area ranges from about 100 feet to over 4000 feet above sea level. (Appendix H4) The main vegetation types in the LWSD planning area are: Douglas Fir – Western Hemlock forests, and East Cascade Mesic Conifer and Woodland. The south eastern portion of the planning area has Oregon white oak. At higher elevations primarily along ridges there are Pacific silver fir (*Abies amabilis*), western hemlock, and Douglas Fir forests. Both subspecies of Douglas fir are present in the planning area. There is also a small amount of grass, shrub, and orchard land.

### Fire History

The LWSD CWPP planning area lies with a mixed fire regime including smaller more frequent fires and larger less frequent fires (Figure 1, Figure 3). Historically known large wildfires have usually resulted from strong east winds following periods of summer drought (Topik 1986). The Yacolt Fire stands out as being the greatest fire to move through the area. The fire started near Stabler, WA on Sept. 10, 1902. Driven by strong east winds, it killed at least 38 people and destroyed over 12 billion board feet of lumber on 238,900 acres. It stopped near the town of Yacolt in Clark County when the wind died. (Figure 4) In 2003, the Herman Creek fire across the Columbia River in Cascade Locks, Oregon burned 375 acres in about four hours driven by an east wind. Fire fighting there was hampered by lack of knowledge of the terrain



by the first responders. A structure was lost because it was regarded as too hazardous to protect. In September 2007, the Broughton fire near Underwood, Washington consumed 250 acres, destroyed six homes, and caused evacuation of 400 residents from 100 immediately threatened homes. Numerous small fire starts have been recorded between 1970 and 2007 but most were contained quickly by local fire districts. (Figure 4, Appendix H3)

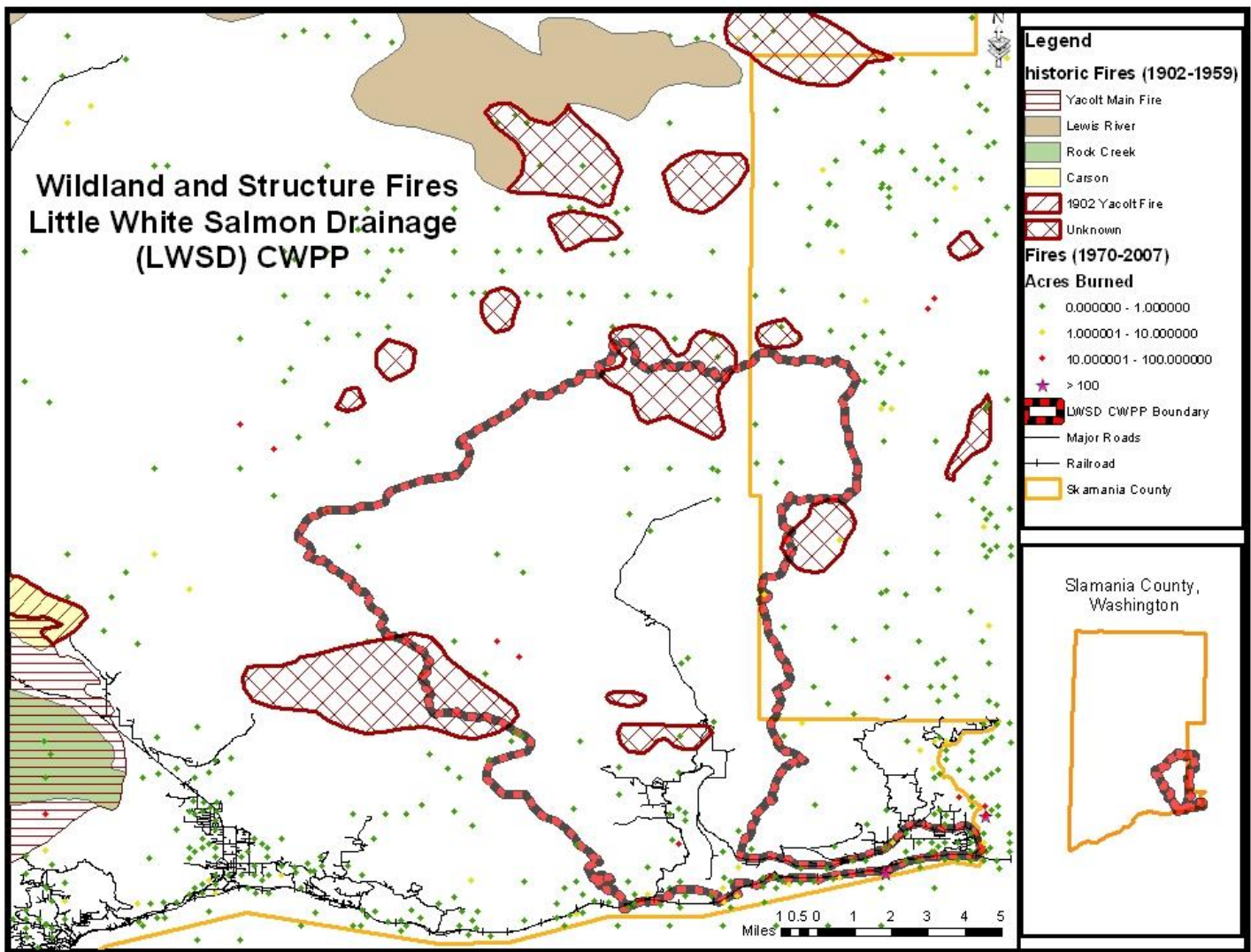


Figure 4, (Appendix H3). Fire history of planning area. Fire statistics are from DNR statistics and may not include all fire starts. (Map by Gail A. Fullerton)

### Population

The population of Skamania County is 10,700<sup>1</sup>. Most of the population is concentrated in the southern quarter of the County, along the Columbia River, and in the Wind River Valley. The county seat is Stevenson. The population of the LWSD CWPP area is about 1,200<sup>2</sup>.

### Transportation

Roads that service the LWSD communities are SR 14, Cook Underwood Road, and Oklahoma Road. SR 14 is the major east - west route, the Cook Underwood Road south from Cook Underwood Road to the Gifford Pinochet National Forest

<sup>1</sup> Based on 2008 census data

<sup>2</sup> Based on 2008 census GIS data from Office of Financial Management, Accessed 10/2008



**Figure 5. The town of Yaacolt following the great fire of 1902 which burned through Clark County and Western Skamania County. Snags at the edge of town mark the western boundary of the “awful conflagration.” Photo: Weyerhaeuser Company.**

### **Critical Infrastructure**

Critical infrastructure in the LWSD CWPP includes:

#### Transportation:

Roads: SR-14, Cook-Underwood Road, Oklahoma Road (main escape routes) , Jessup Road (Mill A. School access)

Tunnels (along SR 14)

Bridges (SR 14 and Cook-Underwood Road)

Railroads

#### Utilities:

Gas

Natural gas lines

Williams pumping station

Propane tanks

Electricity

Power generation

Two sets of BPA lines

PUD power lines

PUD substation

Power poles

Water

Water lines and tanks

#### Communications:

Two communication towers

#### Other Services:

Schools

Community Center

Post Office

#### Government Facilities:

Spring Creek National Fish Hatchery

Willard National Fish Hatchery

Little White Salmon National Fish Hatchery

Two USGS Columbia River Research Laboratories

# PLANNING PROCESS

Planning for the LWSD CWPP followed recommendations found in “Preparing a Community Wildfire Protection Plan: a Handbook for Wildland-Urban Interface Communities” and followed the process developed by Ole Helgerson and Sarah Zeilin for CWPPs completed in Skamania County in 2007. The process consisted of the following steps.

## Step One: Convene Decision Makers, Federal Agencies and Interested Parties (HFRA Requirement 1)

The LWSD CWPP Steering Committee included a core group (made of local government, local fire authority and state representatives), federal agencies, and interested parties/community members. The core group was responsible for the development of a CWPP as described in the HFRA and must mutually agree on the plan’s final contents. The LWSD Steering Committee met three times to establish, review, and critique the planning components (Appendix A- Meeting Agendas, Minutes). The LWSD Steering Committee consists of the following entities:

### **Core group (Decision makers)**

**Neil Sacon** – Mill A Volunteer Fire Department, Fire Chief  
**John Carlson** - Skamania County, Emergency Manager  
**Marlon Morat** - Skamania County Fire Marshal and Building Inspector  
**Joe Weeks** – Washington State Department of Natural Resources (WA DNR)  
Southeast Region Fire Program Specialist

### **Federal Agencies**

**Greg Page** – USFS, Gifford Pinchot National Forest (GPNF) - Mt Adams Ranger  
District Lead Fire Prevention Technician  
**Rod Altig** USFS Columbia River Gorge National Scenic Area (CRGNSA) Fire  
Management Officer  
**Heather Stiles**- USFS Columbia River Gorge National Scenic Area (CRGNSA) Fire  
Prevention Technician

### **Interested Parties/Community Members**

**Kurt Rohrbacher** – Mill A Volunteer Fire Department  
**Pat Cushman** – Mill A Volunteer Fire Department  
**Paul Clavette** – Mill A Volunteer Fire Department  
**Jason Thomas** – LWSD community member  
**Adrienne Zuckerman** – LWSD community member  
**Lynn Bergeron** – LWSD community member  
**Angela Rogers**- LWSD community member  
**Kathleen Carlson** - CERT Representative

### **CWPP Team Facilitators**

**Ole Helgerson** - WSU Extension Director and Area Forester  
**Gail A. Fullerton** - Skamania County Wildfire Prevention Coordinator  
**Sharisse Cordell** – AmeriCorps member, Wildfire Prevention Intern

## Step Two: Establish Planning Area

Participants of the three CWPP meetings held in LWSD communities delineated the planning area. The planning area includes a three chain buffer along the Cook Underwood Road and the area between the Cook Underwood Road and the Columbia River, in addition to the entire Little White Salmon Drainage. The southern boundary of the planning area is the Columbia River. The western and northern boundaries follow ridgelines and roads. (Figure 3, Appendix H1)

## Step Three: Community Outreach

Community members from LWSD served on the LWSD Steering Committee to represent the public throughout the process. (A list of community members appears in Step One above). A questionnaire was created and dispersed within the community in May 2008 (Appendix B – Community Questionnaire). The survey results confirmed risks and values already determined by the committee. This plan was also open for public comment from October 15, 2008 to November 14, 2008.

## Step Four: Community Risk Assessment

The community risk assessment took place two phases. Phase I considered localized risk of ignition, hazards and values to be protected. Phase II consisted of a map workshop and a gap workshop. The map workshop used maps created with GIS to study the location of hazards, values to be protected, infrastructure and escape routes. The gap workshop identified constraints, 'bottle necks', missing links and/or gaps in fire fighting, evacuation, and shelter in place capabilities within the LWSD planning area.

### Risk Assessment Process: Phase I

The LWSD Steering Committee reviewed basic risk factors such as: risk of ignition, hazards, values to be protected, and wildfire protection capabilities. The committee created a list of elements that fell under each risk factor to more specifically define risks within the planning area. The following components of risk were discussed and ranked by ignition risk.

#### 1. **Risk of Ignition**

LWSD's wildfire ignition risks include but are not limited to:

<b>Ignition source</b>	<b>Degree of risk</b>
Man	
Campfire-County/Fed Land	(HIGH)
NG pumping station/ compression station (NG)	(HIGH)
NG pipe lines	(HIGH)
Debris burning (non permitted)	(HIGH)
Transmission lines (BPA)	(HIGH)
Arson (abandoned cars)	(HIGH)
Structural Fires	(HIGH)
Federal research centers	(HIGH)
Fireworks	(MED)
Recreational fires	(MED)
Slash (permitted)	(MED)
Machinery associated fires	(LOW)
Logging associated fires	(LOW)
Slash burning (commercial)	(LOW)
Discarded cigarettes	(LOW)
Motor vehicle accident fires	(LOW)
Nature	
Lightening	(HIGH)

### Description of Ignition Risks

#### **Campfires on public land**

There are many hiking and backpacking destinations within the GPNF and CRGNSA that thousands of people visit every year. Campfires are permitted on public land when optimal conditions exist and are banned during peak fire season. It is difficult to regulate campfires in the backcountry however people have been cited for having fires during a ban that have also been the cause of larger fires. (Also see Debris burning below for campfire regulations on private and public land in Skamania County)

#### **Natural gas pumping and compression station and Natural gas pipe lines**

Williams Northwest Pipeline operates 1,400 miles of pipeline and 13 compressor stations in the state of Washington. Strain gauges continually monitor the pipeline at various locations. The pipeline runs along the southern border of the GWR planning area. On February 26<sup>th</sup>, 1999 a landslide ruptured the 22 inch natural gas pipeline which then ignited in Skamania County North Bonneville, WA. During fire season this could have been cause to a catastrophic wildfire. Williams Northwest has a public safety manual available to the public for disaster situations (Williams 2008).

#### **Debris Burning (non-permitted)**

Illegal burning does occur and is an important risk factor for wildfire ignition. Illegal burning causes more wildfires than permitted burning. This is due to lack of education or forethought on the part of the person during the burning. Non-permitted burning can also involve larger slash piles the more easily get out of control.

Debris burning (of natural vegetation only) is legal in Skamania County, but requires a permit. The debris pile dimensions must be no larger than 10'x10'x5'. The required Small Debris Fire permit is self issued, FREE, and



available at local fire stations and some County offices. This burning is generally allowed only from October 1 thru June 30 but extreme weather may extend or shorten this burn period.

Small recreational fires, 2 ft. x 2 ft. are allowed all year with no permit required. Extreme weather could result in a temporary ban of these fires.

Fire permits. Large fire permits are required for all fires exceeding the small fire dimensions. Permits for large fires including Silvicultural practice fires can be obtained from the Southwest Clean Air Agency, the WA DNR, or the USFS.

### **Transmission lines**

Power transmission lines located throughout the planning area include two major Bonneville Power Administration (BPA) lines and several smaller lines serving the Skamania County Public Utility District (PUD) #1. Branches or trees falling on power lines can ignite a wildfire. The Skamania County PUD #1 does not have a formal wildfire response plan. However, they do monitor fire radio frequencies and will disconnect power to the area as necessary.

### **Arson (including abandoned cars)**

Arson has been a problem in Skamania County in recent years despite efforts by law enforcement agencies including several arrests. Arson caused two fires within the planning area, between 1972 and 2006, one in 2001, and one in 2005, according to WADNR fire statistics GIS data (DNR GIS 2008). The acreage burned is minimal, totaling less than half an acre. The potential for arson to cause a larger fire is present given the fact that an arsonist isn't likely to be concerned with fire weather. One instance of arson involved igniting an abandoned car.

### **Structural fires**

Structural fires have the potential to ignite vegetation around the structure, especially during fire season.

### **Federal research centers**

Drying ovens, lab equipment, and chemicals at the research centers have the potential to start a structure fire and/or a wildfire.

### **Fireworks**

According to the Revised Code of Washington 70.77.395 it is legal in the state of Washington to use fireworks between the dates of June 28th and July 5th (RCW 2008). Fireworks are banned otherwise. However, illegal use of fireworks still occurs for most of the year and can ignite a wildfire. Over the July 4th weekend, 2005, there were numerous firework-ignited wildfires that burned hundreds of acres in the Columbia River Gorge.

### **Recreational Fires**

Recreational fires from hikers, campers and forest product camps are a source of wildfire ignition. There are many hiking and backpacking destinations within the GPNF and CRGNSA that thousands of people visit every year. Recreational campfires are permitted when optimal conditions exist and are banned during peak fire season. It is difficult to regulate campfires in the backcountry however people have been cited for having fires during a ban that have also been the cause of larger fires.

### **Slash (permitted)**

Debris burning (of natural vegetation only) is legal in Skamania County, but requires a permit. The debris pile dimensions must be no larger than 10'x10'x5'. The required Small Debris Fire permit is self issued, FREE, and available at local fire stations and some County offices. This burning is generally allowed only from October 16 thru June 30 but extreme weather may extend or shorten this burn period.

Small recreational fires, 2 ft. x 2 ft. are allowed all year with no permit required. Extreme weather can also cause a temporary ban of recreational fires.

Fire permits. Large fire permits are required for all fires exceeding the small fire dimensions. Permits for large fires including Silvicultural practice fires can be obtained from the Southwest Clean Air Agency, the WA DNR, or the USFS.

### **Machinery associated fires**

Hot exhaust pipes on machinery recreational vehicles, and sparks from a chain saw can ignite a wildfire during times of low fuel moisture.

### **Logging associated fires**

Logging activities including falling, bucking, slash burning, road building, skidding, and hauling have caused wildfire ignitions. Of these, the greatest threat is slash burning. Careless debris burning is the cause of many wildfires and nuisance smoke problems. Outdoor debris burning is subject to state and local fire safety and air quality regulations. (WA DNR) For complete information see:

[http://www.dnr.wa.gov/RecreationEducation/Topics/FireBurningRegulations/Pages/rp\\_burn\\_fireburnfuelmgt.aspx](http://www.dnr.wa.gov/RecreationEducation/Topics/FireBurningRegulations/Pages/rp_burn_fireburnfuelmgt.aspx)

### Discarded Cigarettes

Lit cigarettes tossed from a moving vehicle have long been a source of wildfire ignition. Because of the miles of roads within the planning area, pinpointing exact high risk locations is difficult. In general, the potential is greatest where suitable fuels adjoin roads.

### Motor vehicle accident fires

Fires have been caused by motor vehicle accidents. These fires often involve burning gasoline.

### Lightning

Lightning has historically caused many wildfires in the planning area. With the right weather conditions and fuel characteristics, a major regional lightning storm could spawn many wildfires, potentially overwhelming response capabilities. Although, lightning cannot be controlled, we do have the ability to manage hazardous fuels around structures and properties reducing the chances of ignition.

## 2. Hazards:

There are three hazards that influence ignition and fire's rate of spread: Weather affects both ignition and fire behavior after ignition (Figure 6). Topography and fuels influence fire behavior once the fire ignites.

Fire season is the period or periods of the year during which fires are likely to occur, spread, and do sufficient damage to warrant organized fire control. Fire season in the LWSD area runs from mid-May through October.

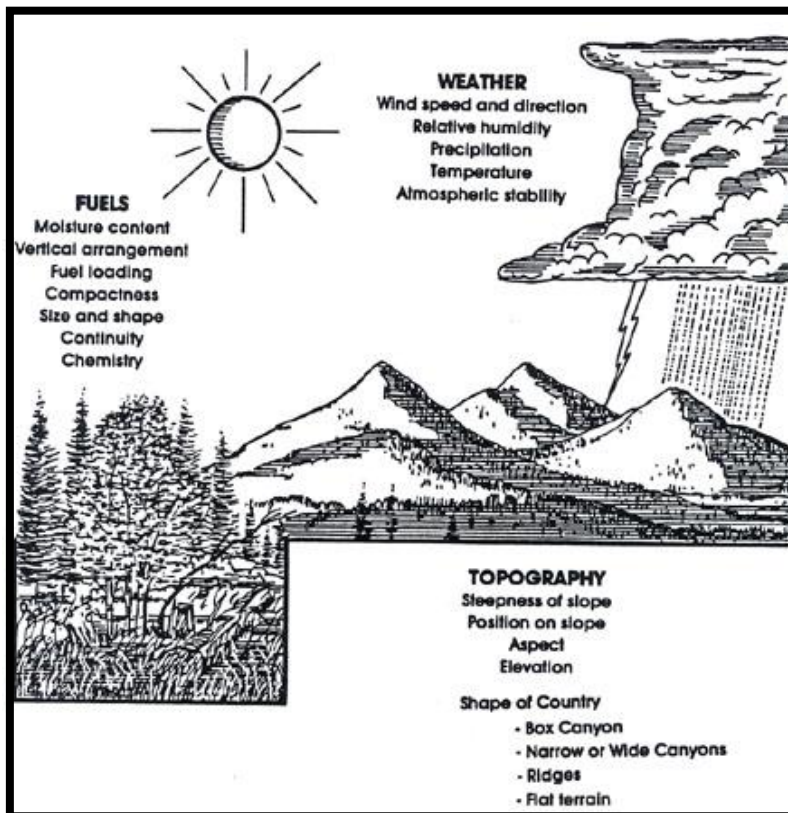


Figure 6: Hazards affecting rate of ignition and spread of wildland fire. (Adapted from [www.pfmt.org/fire](http://www.pfmt.org/fire))

### a. Weather

Key weather factors that influence fire behavior include temperature, humidity, wind speed, wind direction, and atmospheric instability. Weather patterns that promote hot, dry, windy, and unstable conditions encourage wildfire. Wind is an important element of wildfire hazard. The stronger the wind the faster the fire spreads. Wind pre-heats the fuel ahead of the main fire and causes spot fires by blowing sparks and embers ahead into a new source of fuel. When wind flows through a restriction, such as a narrow canyon, it increases in strength. Wind will try to follow the path of least resistance. Ridges, trees, and rocks may alter wind flow and cause turbulence or eddies to form on the windward side of obstructions. Wind movement can be critical in chutes or steep v-drainages such as the Columbia Gorge, White Salmon drainage, and Little White Salmon drainage. These terrain features create a chimney effect, causing a forced draft, as in a stove chimney. Fires in these chutes or drainages spread quickly and are very dangerous.

Fuel moisture is another important weather related factor in fire behavior. Fire spreads faster when fuel moisture is low. Relative humidity and precipitation largely determine fuel moisture. Extended periods of drought increase wildfire ignition risk, as lack of precipitation and snow lead to drier fuels.

**b. Topography**

Topographical components that affect the way fire spreads include slope and aspect.

The steepness or slope of the land affects both the rate and direction of the fire spread (Figure 7). Fires usually move faster uphill than downhill. The steeper the slope, the faster the fire will move. This is because the flames on the uphill side are closer to the fuel. The fuels become drier and ignite more quickly. Wind currents are normally uphill, and this tends to push the fire into new fuels. Convected heat rises along the slope and causes a draft which further increases the rate of spread. Burning embers and chunks of fuel may roll downhill into unburned fuels, increasing spread and starting new fires.

The direction a slope faces (north, south, east or west) is its aspect. The aspect of a slope influences both the amount and moisture of fuels. (Figure 8).

Residents of the Little White Salmon drainage are encouraged to learn the risks present in their location, plan what they will do in the event of a wildfire in their area, and contact Mill A Volunteer Fire Department or Underwood Conservation District (UCD), for assistance in assessing and reducing their risk factor.

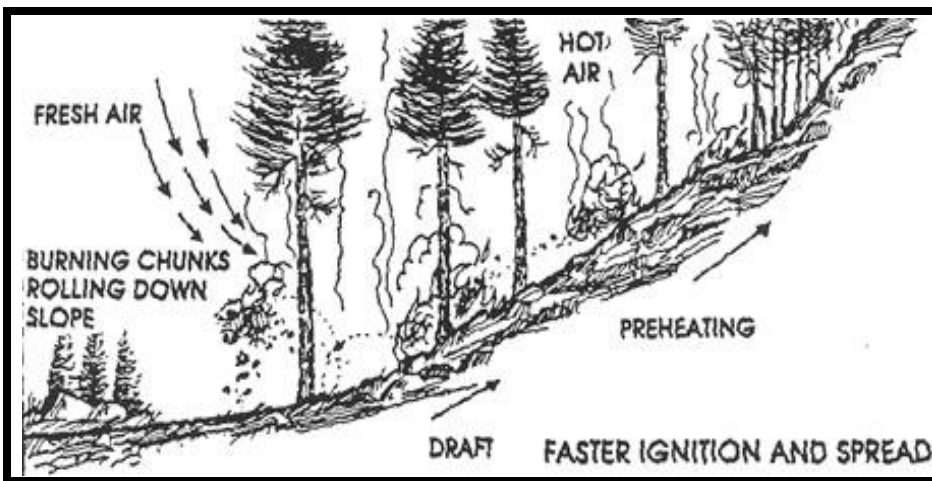


Figure 7. Effect of slope on fire ignition and spread. (Adapted from [www.pfmt.org/fire](http://www.pfmt.org/fire))



Figure 8. Influence of aspect on fire behavior. (from <http://www.meted.ucar.edu/fires591/fire/sci/print.htm#z3>)



### c. Fuels

Of the hazards that affect fire behavior, fuel is the only one we have any control over. Different types of fuels influence fire in different ways. The following fire behavior fuel models, which describe fire behavior for types of fuel found in the CWPP area, are from "Aids to Determining Fuel Models for Estimating Fire Behavior" (Anderson 1982). GIS data from Landfire<sup>3</sup> were used in assessing wildfire hazard (Figure 9).

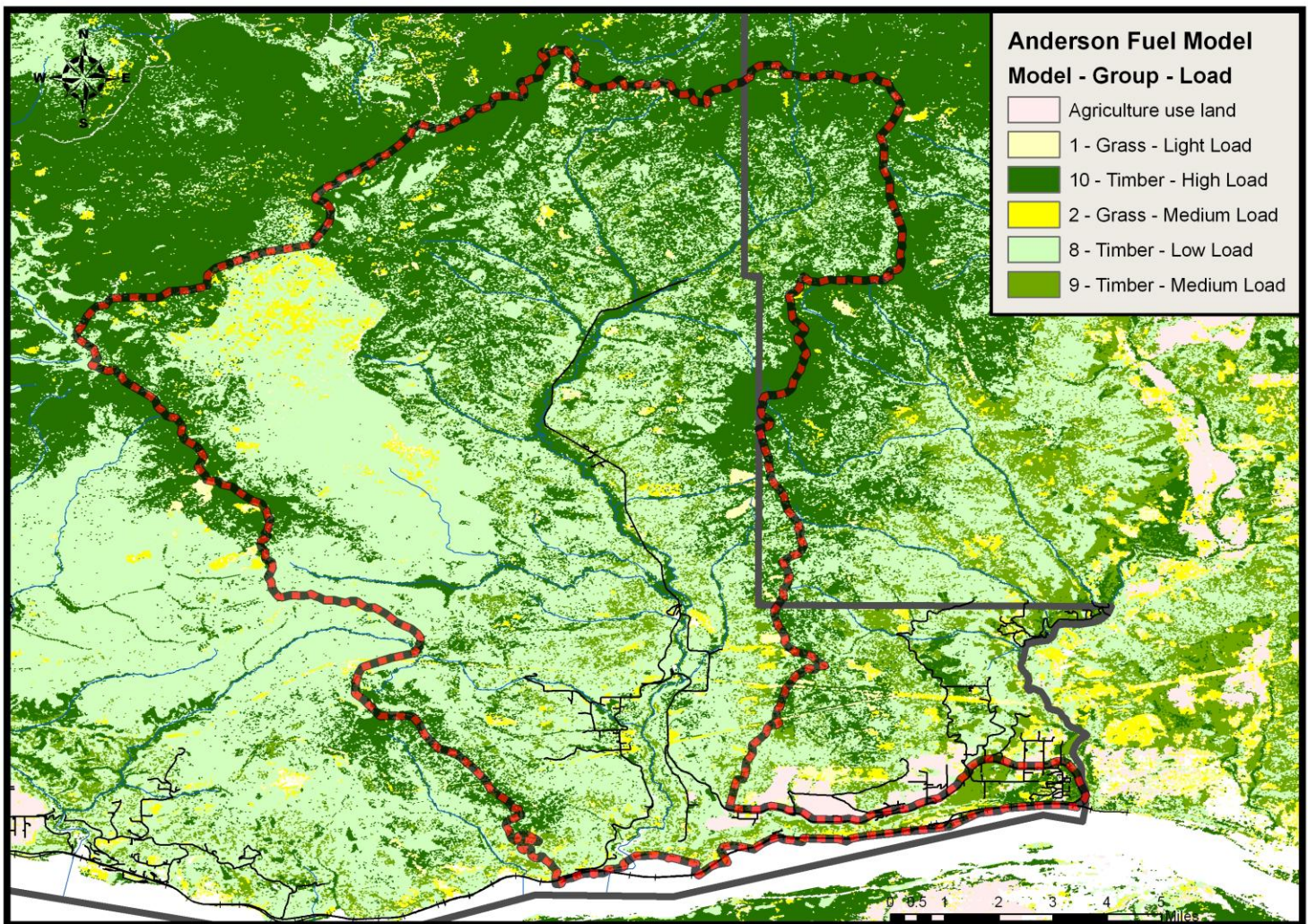


Figure 9, (Appendix H6). Fuel types in LWSD CWPP area. (Map by Gail A. Fullerton)

**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.

**Fire Behavior Fuel Model 2:** Fire spread is 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 stem wood 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 and that may produce firebrands.

<sup>3</sup> LANDFIRE (Landscape Fire and Resource Management Planning Tools Project) is an interagency vegetation, fire, and fuel characteristics mapping project. LANDFIRE produces a comprehensive, consistent, scientifically credible suite of spatial data layers for the entire United States. Principal project partners include the USFS Missoula Fire Sciences Laboratory, the USGS Center for Earth Resources Observation and Science, and The Nature Conservancy. The project is scheduled from FY04 through FY09, with expenses apportioned between the Forest Service (60%) and Department of Interior (40%). Data products are 30-meter spatial resolution raster data sets, which will vary in accuracy by geography, product, and scale of use.



**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 humidity, 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.

**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.

**Fire Behavior Fuel Model 10:** The fires burn in the surface and ground fuels with greater fire intensity than the other timber litter models. Dead-down fuels include greater quantities of 3-inch (7.6-cm) or larger limbwood resulting from over maturity 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, over mature situations with deadfall, and aged light thinning or partial-cut slash.

### 3. **Values Protected**

Values LWSD residents want to protect include but are not limited to:

- School (Mill A)
- Businesses
- Camp Grounds
  - Federal
  - County
- Research Facilities
- Forest
  - Federal
  - State
  - Private
- Public Water supply
- Mill A
- Willard
- Road Infrastructure
- People
- Switch Facilities (phone)
- Individual Homes
- Transmission Lines (BPA)
- Gas Pipelines
- Pets & Livestock

All of the above values were rated as high priority by the LWSD CWPP Steering Committee.

### 4. **Emergency Equipment and Staffing Inventory**

This section includes inventories for all the fire fighting agencies within the LWSD CWPP area as of August 2008 (Appendix D - Wildfire Protection Capabilities).

#### **Mill A Volunteer Fire Department**

- 18 volunteer fire fighters
- 1 “heavy engine” (meets no NFPA standard)
- 1 type 5 engine (requires new transmission)
- 1 1974 pickup truck
- The Mill A Volunteer Fire Department has compiled an inventory list that documents the current status and future needs of equipment (Appendix E - Current Inventory and Future Needs). Wildland fire protection outside of the Fire District boundary is provided by the CRGNSA, GPNF and WADNR under mutual aid agreements.

The following federal and state fire fighting resources are not stationed within the planning area and response time may take from 60 to 90 minutes.

## **Columbia River Gorge National Scenic Area**

The CRGNSA has available the following inventory depending on level and location of wildfire:

- 3 – type 6 wildfire engines
- 1 – fire prevention module
- 2 – command vehicles
- 2 – cooperative engines with WADNR
- 1 – cooperative engine with Oregon Department of Forestry
- 9 – employees staffed 7 days a week from 7/1 – 10/1

## **Mt Adams Ranger District GPNF**

The Mt. Adams Ranger District of the GPNF provides fire protection primarily on federal lands in the LWSD CWPP area, with the following inventory depending on level and location of wildfire:

- 2 – type 6 wildfire engines w/foam 300 gallons
- 1 – type 6 prevention module 320 gallons
- 1 – type 7 prevention module 80 gallons
- 11-14 on duty employees, staffed per day from 7/4 – 10/15
- Estimated 35 employees, line qualified firefighters available as needed from approximately 7/4 – 10/15

## **Washington State Department of Natural Resources**

WADNR provides fire protect primarily on private and state lands and has the following inventory depending on level and location of wildfire:

- 2 – type 6 wildfire engines
- 6 – firefighters

## **Risk Assessment Process: Phase II**

In phase two, the committee further defined risk factors and identified site specific problems by completing two workshops: 1) map workshop and 2) gap establishing workshop. During these workshops 3) Gaps or barriers to safety in the event of a wildfire were identified using 4) GIS data and knowledge of the fire department and community members.

### **1. Map Workshop**

The map workshop used maps created with Geographic Information Systems (GIS) to allow steering committee members to; evaluate aspects of the LWSD planning area such as: location of current population, topography, fire history infrastructure, population, future development and fuel loads; and identify areas of concern and Communities At Risk (CAR).

The following areas of concern were identified: Cook Underwood Road (Main Evacuation Route), FS 66 (Main Evacuation Route), Other evacuation routes: Oklahoma rd to FS 1840 through Trout Lake, Mill A School (community safe zone)

Communities at risk are shown in Figure 10, (Appendix H5).

### **2. Gap Workshop**

During the gap workshop the steering committee answered the following questions:

**1)** What limits our ability to fight wildfire within the planning area? **2)** What do we need but not yet have to survive a wildfire? **3)** How will we get what we need? **4)** Have we thought of everything including communications, safe place (shelter), special needs in the community, evacuation, planning, and practice?

Following the gap workshop the committee made a list of projects designed to close the gaps and divided them into four categories: fuel mitigation, planning, education and equipment, and staffing and exercise projects. The steering committee prioritized projects by importance to risk reduction to life, property and natural resources.

### **3. Gaps Identified:**

The ability to fight wildfire in the planning area is limited by: lack of communications interoperability during a large wildfire due to differences in equipment used by the Skamania County Emergency Responders and the equipment used by WA DNR and the USFS; limited water supply, lack of education of community members on defensible space, escape routes and shelter in place possibility, lack of data on actual fuel loads, and lack of defensible space around homes and other structures.

The creation of defensible area around homes as well as education about evacuation routes, community shelters and defensible space is needed if residents and their homes are going to survive a wildfire.

Shaded fuel breaks or other fuel reduction is needed along escape routes. Planning and supplies are needed to operate the community shelter or safe zone.

**4. Data Available for Decision Making:**

A 2003 NFP project in Skamania, Hood River, Wasco, and Klickitat Counties 1) Located and ranked WUI structures by risk using NFPA-299 protocol (Appendix C - NFPA-299 Hazard Rating Form) and combined the data into a GIS database, 2) worked with rural volunteer fire districts to identify and remedy equipment and training shortfalls, and 3) educated rural dwellers in wildfire survivability and damage prevention.

Three of the four counties (Skamania, Hood River and Wasco) completed the NFPA-299 survey using Title III funding. The survey data were put into a GIS database in each county. The data describes conditions affecting structure flammability. It provides information to emergency planners and responders allowing safer response during wildfire.

In Skamania County the project also collected data on fire hydrants, water sources, and other features. In 2007 the data were released to Skamania County first responders in a interactive geo-database using IncidentView software. GIS analysis for this CWPP also used data from the NFP project, WA DNR (Washington Department of Natural Resources GIS Data Center) and LANDFIRE. (LANDFIRE 2008) Layers used included: 299 risk assessment of Skamania County homes, Digital Elevation Model (DEM), Ortho Photo, Historic fires, CAR, Fire Regimes, Vegetation Types, and Anderson Fuel Model.

## **Step Five: Establish Community Priorities and Recommendations (HFRA Requirement 2 and 3)**

This section describes solutions to problems identified in the map and gap workshops and documents projects supporting the goals and objectives of the LWSD CWPP.

The following projects were identified to reduce the risk of wildfire and protect life, property and natural resources within the LWSD CWPP area based on risks identified in Step Four. Many of the projects treat structural ignitability. The committee discussed and defined each project. These projects are subject to modification due to changes in local priorities. The LWSD CWPP core group (see page 8 for definition) will oversee and approve any project amendments or grant applications that reference the LWSD CWPP.

Projects were sorted into four categories: 1) Fuel Mitigation Projects, 2) Planning Projects, 3) Education Projects, and 4) Equipment, Training and Exercise Projects. Some specific project types, such as landowner fuels mitigation have components in two or more categories. Priority rankings reflect importance among all projects; not just within a category. Priority rankings for projects were determined by the LWSD CWPP Steering Committee during CWPP planning meetings. Project priorities may be adjusted at future meetings of the LWSD CWPP Steering Committee. Other project categories may be developed in the future.

Table 1 – LWSD CWPP Projects

1. LWSD CWPP Projects		
PROJECT TYPE	PROJECT	PRIORITY
<b>Fuel Reduction</b>		
	<ol style="list-style-type: none"> <li>1. Common safe zone</li> <li>2. Reduce fuels around homes (regardless of land ownership)</li> <li>3. Fire (shaded fuel) break along Cook - Underwood Road</li> <li>4. Campsite cleanup (brush and other fuel)</li> <li>5. Reopening access road loops in federal campground</li> <li>6. Fire breaks along Little White Salmon River Canyon</li> <li>7. Thinning along forest road 18 (Oklahoma Road)</li> <li>8. Revise Fuel Estimates</li> <li>9. Shaded Fuel break or other fuel reduction along forest road 66</li> </ol>	<p>HIGH HIGH HIGH HIGH HIGH HIGH HIGH HIGH MEDIUM</p>
<b>Planning</b>		
	<ol style="list-style-type: none"> <li>1. Evacuation Plan (including special needs)</li> <li>2. Water sources                             <ol style="list-style-type: none"> <li>a. Map currently available water sources</li> <li>b. Develop additional water sources</li> </ol> </li> <li>3. Mutual aid agreements</li> <li>4. Continued hazard and resource assessment</li> <li>5. Better mapping to find locations more easily</li> <li>6. Public notification plan</li> </ol>	<p>HIGH HIGH HIGH HIGH HIGH HIGH HIGH</p>
<b>Education</b>		
	<ol style="list-style-type: none"> <li>1. Defensible space around homes / “Firewise” principals</li> <li>2. Smokey the Bear outreach to youth</li> <li>3. Debris burning safe practices and rule</li> <li>4. Residential ignition sources</li> </ol>	<p>HIGH HIGH HIGH HIGH</p>
<b>Equipment, Staffing and Exercise</b>		
	<ol style="list-style-type: none"> <li>1. Volunteer firefighters: recruitment and retention</li> <li>2. Get Mill A Volunteers (MAV) to NFPA standard                             <ol style="list-style-type: none"> <li>a. Firefighter training</li> <li>b. Vehicle upgrade</li> <li>c. Hand Equipment Upgrade</li> <li>d. Vehicle storage (new fire hall)</li> </ol> </li> <li>3. Communications: Inoperability and lack of interoperability</li> <li>4. Water supply</li> </ol>	<p>HIGH HIGH HIGH HIGH HIGH HIGH HIGH HIGH</p>

## 2. Project Descriptions

### A. Fuel Reduction Projects (HFRA requirement 2)

The primary goal of fuel mitigation projects is to reduce wildfire risk by physically reducing fuel densities in selected areas to specified levels. Specific target areas and fuel densities will be assessed using computer models, NFPA-299 data, professional judgment and other appropriate and available methods.

#### **Project 1: Project 1: Common Safe Zone (see Planning Project 1) HIGH**

It is not always possible, or even the best choice to evacuate during a wildfire. Typically, when a wildfire threatens homes, evacuations are ordered. Evacuations will shelter residents away from danger during a catastrophic event. During evacuations though, panic and chaos ensue, causing traffic collisions, blocked roadways, injuries and deaths. In fact, most wildfire-related deaths occur during evacuation efforts. Clearing and maintaining a common safe zone for all community members to assemble to wait out the fire could save lives. The Mill A school would make an excellent safe zone with a small amount of fuel reduction.

#### **Project 2: Project 2: Reduce fuels around homes and Create Defensible Space HIGH**

Induce homeowners to create and maintain their own “Firewise” landscape by advertising, holding classes and demonstrations and using other suitable media. The “Living with Fire” brochure (Appendix F – “Living With Fire, A Guide for the Homeowner”) illustrates fuel reduction treatment types and methods that homeowners should implement. Fuel treatments will also comply with Skamania County and Columbia River Gorge National Scenic Area (CRGNSA) requirements. Insure that the land along escape routes and around neighborhoods is cleaned of excess fuels, regardless of land ownership, or create a shaded fuel break between heavy fuels and homes. Implementing “Firewise” methods such as creating defensible space, thinning dense vegetation, providing access, creating shaded fuel breaks, and having established escape routes to an adequate safety zone can greatly reduce a community’s risk from wildfire.



**Project 3: Shaded fuel break along Cook - Underwood Road****HIGH**

The Cook - Underwood Road is the main escape route for LWSD communities. A shaded fuel break along both sides of the entire road would help to keep the road open during a wildfire, give firefighters a place to fight the fire (a shaded fuel break will cause a crown fire to drop to a ground fire), and keep crown fires from starting due to thrown cigarettes and other human causes. This project was also identified as a high priority by the adjacent Underwood CWPP.

**Project 4: Camp sites (clean up brush and other fuel)****HIGH**

There are numerous camping areas in the LWSD CWPP area. Many are surrounded by areas with heavy fuel loads. Clearing brush from these areas would decrease the chance of a wildfire started in a campsite.

**Project 5: Reopening access road loops (Federal campground)****HIGH**

Current road closures in the Oklahoma campground could make both escape from the area during fire and fire fighting difficult. Clearing brush and opening access roads would make the campground safer.

**Project 6: Fire breaks along Little White Salmon River Canyon****HIGH**

Fire travels more quickly through steep terrain especially when pushed through the canyon by wind. The terrain in the canyon makes it virtually impossible to fight fire there. A Fuel break at the top of the canyon would give fire fighters a chance to stop a fire before it can get to homes or infrastructure.

**Project 7: Thinning along forest road 18 (Oklahoma Road)****HIGH**

This is the best escape route from many campgrounds and the south east portion of the Gifford Pinochet National Forest. Thinning dense vegetation or creating a shaded fuel break along escape routes can mean the difference between life and death for those who use them during a wildfire. Also see fuel reduction project 3.

**Project 8: Refine fuel estimates****HIGH**

Accurate fuel load estimates may be needed. WA DNR conducted a coarse resolution assessment in 2003 however no assessment has been done since. GIS layers available from the LANDFIRE project have a resolution of 30 meters (each pixel represents a square 30m by 30m) are intended for use as a landscape level estimate. (Landfire 2008) The first step to prioritizing and completing fuel mitigation projects is accurate information about the type and amount of fuels at project locations.

**Project 9: Shaded Fuel break or other fuel reduction along forest road 66**

Forest road 66 is the main access road for the Lava Field area. The fuel reduction here is similar to projects 5 and 7.

**B. Planning Projects**

The primary goals of planning projects are to further refine education and fuels mitigation projects and reduce or eliminate constraints in response and interagency cooperation.

**Project 1: Evacuation plan (see fuel reduction project 1)****HIGH**

Careful preparation beforehand, and knowing what needs to be done, can help keep families safe when a wildfire threatens. For evacuation to be successful it needs to be planned and executed in advance of danger. Evacuation on narrow roads needs to occur before emergency response vehicles need the road. Individuals and families should plan for evacuation and have important papers and other essentials ready to take with them well in advance. Evacuation planning needs to involve the entire community and consider special needs in the community. Evacuation procedures should be practiced at least annually before the onset of fire season.

**Project 2: Water source mapping and development (Also see equipment staffing And training project 7)****HIGH**

Water is scarce in the northern part of the planning area. During the Broughton fire in nearby Underwood firefighters exhausted the municipal water supply. Valuable time is lost when firefighters need to travel a long distance to replenish water. Skamania County PUD #1 will be adding one 250,000 gallon water tank in the near future but more water storage is desirable.

**Mapping**

Firefighters need to know where water can be obtained before it is needed. The Skamania "Firewise" project has located hydrants and alternative water sources. The information has been distributed to first responders in both a searchable electronic and book form.

## **Development**

Existing water sources are not adequate. Additional water tanks, equipment capable of accessing water in streams, lakes, and ponds, and tankers capable of carrying large amounts of water are needed for optimum firefighting ability.

### **Project 3: Mutual aid agreements**

**HIGH**

A mutual aid agreement is an agreement between fire departments or other emergency responders outlining how they will work together to respond to a large emergency and other details including how those services will be paid for. Mill A Volunteer Fire Department will develop mutual aid agreements with Skamania County Fire Districts and other emergency responders to be better prepared to respond to wildfire in the CWPP area.

### **Project 4: Continued hazard and resource assessment**

**HIGH**

Hazards are not static. Plants that comprise the fuel load continue to grow. People keep moving into the wildland interface. Resources are acquired, damaged, and used up. Assessment of hazards and resources will allow LWSD CWPP communities to accurately estimate their risk and resources and plan accordingly.

### **Project 5: Better mapping to find locations more easily**

**HIGH**

The Skamania County "firewise" project released an initial version of Incident View (Alcea Geospatial 2008) for Skamania County in early 2008. All emergency responders including Mill A Volunteer were given one laptop computer loaded with Incident View software and data including NFPA 299 scores of homes and businesses in the WUI, and locations of hydrants, gates and other useful features. The data set was refined during the 2008 field season and an updated data release is anticipated in the near future. A map book with a grid key showing locations of individual maps was also distributed. Training in the use of the Incident View and updates to the data as more water sources are located and construction is completed in the CWPP area will be required.

## **C. Education Projects (Structure Ignitability) (HFRA requirement 3)**

The goal of education projects is to raise public wildfire awareness to the point where residents will take responsibility for creating and maintaining defensible space around their own homes and structures and make it their personal priority to take steps to protect themselves during wildfire.

### **Structure Ignitability**

The LWSD CWPP Steering Committee recommends using the publication "Living with Fire: A Guide for the Homeowner" as an initial guide to reducing structure ignitability (Appendix F). Education projects will teach the public proper "Firewise" techniques and recommend measures that homeowners can take to reduce structure ignitability.

#### **Project 1: Defensible space around homes / "Firewise" principles**

**HIGH**

Educate all community members on defensible space and "Firewise" principles. Distribute the publication "Living With Wildfire" (Appendix F) as widely as supplies allow. A link to the "Living With Wildfire" website is included in all web postings of Skamania County CWPPs. Include inserts in newspapers and school newsletters and put up posters with "firewise" messages in areas frequented by community members.

#### **Project 2: Educate youth**

**HIGH**

Youth can learn more quickly than adults and influence both current and future practices. Engaging youth in wildfire prevention as a high school senior project would benefit the community. Create internships with the fire department for local senior high school students. Use "Smokey the Bear" or other kid friendly materials to educate younger children about the dangers of wildfire and ways to reduce the risk of wildfire and personal risk during a wildfire.

#### **Project 3: Debris burning safe practices and rules**

**HIGH**

According to WA DNR wildfire statistics, debris burning is one of the top three causes of fires within the CWPP area. Enforcing debris burning regulations is difficult. The Steering Committee feels that teaching the public proper techniques for preparing and igniting burn piles would decrease the number of escaped fires. Education approaches include developing training for residents interested in learning the proper way to burn debris, and distributing the information on proper burning techniques with burn permits, at the Skamania County Fair, and at other community events.

#### **Project 4: Residential ignition sources**

**HIGH**

Educate area residents on causes of residential ignitions and ways to prevent them.

#### **D. Equipment, Staffing and Exercise Projects**

The primary goal of Equipment, Staffing and Exercise projects is to increase the wildfire response capabilities of the CWPP planning area fire agencies by defining and addressing equipment, staff and training needs.

##### **Project 1: Volunteer firefighters recruitment and retention**

**HIGH**

The Mill A Volunteer Fire Department wants to recruit more volunteer fire fighters and retain the ones they have. Upgrading equipment (including communications equipment) would increase safety and help retain current volunteers. Other potential solutions include: community recognition of volunteers, support (interviews and information) for high school seniors interested in doing a senior project on wildfire response and/or prevention and, internships for students interested in firefighting.

##### **Project 2: Get Mill A Volunteers (MAV) to NFPA standard**

**HIGH**

Train all Mill A Volunteers and upgrade all equipment to NFP Standards. Equipment and training materials will be pursued through AFG and other grants as well as government surplus. See appendix E - Current Inventory and Future Needs for specifics on needed equipment and training.

- a. Firefighter training
- b. Vehicle upgrade
- c. Hand Equipment Upgrade
- d. Vehicle storage (new fire hall)

##### **Project 3: Communications: Upgrade to P-25 compliant equipment**

**HIGH**

Lack of communications interoperability has been an issue nationwide for a long time. Eventually a national standard was developed. P-25 is a national standard for digital radio communication. It was created by the Association of Public-Safety Communications Officials using specifications agreed upon by several communication companies and government organizations. P-25 is required by the BLM and USFS for all new radio purchases. New P-25 complaint radios use narrow banded frequencies incompatible with existing radios. In order for local fire departments to communicate with state and federal emergency responders P-25 compliant radio equipment is essential.

##### **Project 4: Water Supply (see Planning Project 2)**

In addition to locating additional water supplies, equipment is needed to access and transport the water to fire locations.

## **Step Six: Develop an Action Plan and Assessment Strategy (HFRA Requirement 3)**

### **1. Assessment Strategy**

Because the LWSD CWPP is a “living document” the steering committee will meet as needed to discuss grant proposals, plan amendments, and current status of the plan. The plan will be reviewed annually by the Mill A volunteer Fire Department Chief, and LWSD Steering Committee. The USFS, WA DNR, and other interested agencies will be included in the process. The core group (Step 1, page 9) will oversee and approve any plan amendments or grant applications referencing the LWSD CWPP.

As provided for in Sec.102 (g)(5) of HFRA the committee may also participate in multiparty monitoring of USFS and BLM projects in or adjacent to the planning area.

To help document changes in vegetation over time, before and after photos should be taken of fuel mitigation project areas. Pictures demonstrate the effectiveness of the project and changes from year to year. Establishing photo points (for larger projects) or recording GPS coordinates of the photo locations are strongly suggested. Software such as Landscape Modeling System (LMS) can help predict when retreatment will be necessary.

### **2. Action Plan**

The committee considered all projects and discussed what could be done right now and in the near future with a minimum of grant funding and outside support, then established the following action plan. The Title III “Firewise” Project offers initial CWPP project follow-up and grant application assistance while legislated funding is still available. Because this is not a permanent funding source, a fulltime position to coordinate CWPP projects and write grants will be pursued.

Table 2 – LWSD Action Plan

<b>LWSD Action Plan</b>	
<b>Action Description</b>	<b>Targeted Completion Date</b>
Coordinate creation of a shaded fuel breaks for defensible fuel profiles along Cook Underwood road.	December 2008
Initiate loop clean up within campground at Oklahoma campground with the assistance of community volunteers.	June 2009
Collaborate with the Underwood CWPP Steering Committee to create and place signage identifying evacuation routes.	June 2009
Refine fuel profiles for CWPP area especially around communities at risk.	June 2010
Create a USFS model “Firewise” campground at Oklahoma campground with the assistance of community volunteers.	September 2011
Seek wildfire prevention intern to recruit volunteers, hold educational classes, research grant funding, and write grants.	
Fire hazard mitigation in the Little White Salmon Drainage. Important for Mill A water quality/ fish hatcheries/ research labs	
Enhance water sources within CWPP planning area	
Obtain surplus fire equipment	
Educate planning area residents regarding defensible space (NFPA-299). Send letters to property owners regarding hazard level of their properties. Use persistence and peer pressure to get those residents to create and maintain defensible space around their homes.	
Assist individual property owners in creating a stewardship plan for fuel mitigation.	

## Step Seven: Community Wildfire Protection Plan Approval and Compliance with other Standards

### 1. Approval

The core group will approve the final plan after considering feedback from the steering committee and public comment. The LWSD CWPP will seek the Skamania County Board of Commissioner’s approval. The plan will be submitted to Washington Department of Natural Resources for approval of the State Forester.

### 2. FEMA Compliance

The LWSD CWPP has recognized FEMA Pre-Disaster Mitigation (PDM) plan requirements. The table in Appendix G indicates how the LWSD CWPP meets FEMA PDM compliancy and what components are missing for future acceptance.

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# Appendix A: Little White Salmon Drainage CWPP Meeting Agendas and Minutes

## AGENDA

### Mill A Community Wildfire Protection Plan Meeting 1

Mill A School, 1142 Jessup Road, Cook, WA. 98605

Tuesday, May 20, 2008 at 7:00 pm

#### GOALS:

- 1) Outline CWPP Process
- 2) Introduce Firewise Communities Program
- 3) Form Steering Committee
- 4) Establish Goals and Objectives
- 5) Create a Risk Assessment

Time	Speaker(s)	Topic
07:00-07:10	Fullerton, All	Introductions, agenda review
07:10-07:20	Fullerton	Community Wildfire Protection Plan Synopsis <ul style="list-style-type: none"> <li>• Roles</li> <li>• Background</li> <li>• Process</li> <li>• Requirements</li> <li>• Completed Data Collection</li> <li>• Current Status</li> <li>• Main Limitations</li> <li>• Underwood CWPP Outline</li> </ul>
07:20-07:30	Underwood Conservation District	<ul style="list-style-type: none"> <li>• Beyond the CWPP: Firewise Communities</li> </ul>
7:30-7:35	Cordell	<ul style="list-style-type: none"> <li>• Firewise Youth</li> </ul>
7:35-7:50	ALL	<ul style="list-style-type: none"> <li>• Questions</li> <li>• Form Steering Committee</li> </ul>
7:50-8:00	Fullerton, Helgerson	Review Underwood Planning Area <ul style="list-style-type: none"> <li>• Underwood Base Map</li> </ul>
8:00-8:15	All	Establish the Underwood CWPP Objectives and Goals <ul style="list-style-type: none"> <li>• Protection of Life, Property and Resources</li> </ul>
8:15-9:00	All	Create an Underwood Risk Assessment <ul style="list-style-type: none"> <li>• History</li> <li>• Hazard</li> <li>• Values Protected</li> <li>• Protection Capabilities</li> </ul>
9:00	All	Adjourn Meeting

# Mill A CWPP Meeting 1 Minutes

## Tuesday, May 20, 2008

### 7:00-7:10PM-

Introductions and agenda review

13 people attended (including intern, coordinator, and ole)

- **Pat Cushman (Steering Committee Member)**
- **Neal Salon (Steering Committee Member)**
- **Kurt Rohrbacher (Steering Committee Member)**
- **Paul Clavette (Steering Committee Member)**
- **Jason Thomas (Steering Committee Member)**
- **Adrienne Zuckerman (Steering Committee Member)**
- **John Carlson**
- **Kathleen Carlson**
- **Greg Page**
- **Rod Altig**
- **Ole Helgerson**
- **Gail Fullerton**
- **Sharisse Cordell**

Need a steering committee for the CWPP

- **Steering committee established**

### 7:10-7:15PM-

Community Wildfire run-down from Gail Fullerton of:

- **Roles**
- **Backgrounds**
- **Process**
- **Requirements**
  - **Collaboration (local, state, and federal)**
  - **Prioritize fuel reductions**
  - **Treatment of structure ignitability**
- **Completed Data Collection**
  - **Base Map-Road layer, homes, fire hydrants, gates, propane tanks, other structures**
- **Current Status**
  - **Convened**
  - **Federal agencies involved interested parties**
  - **Established a community base map**
- **Main Limitations**
  - **TIME-A.S.A.P**
- **Underwood CWPP Outline**
  - **Take home and talk next meeting**

### 7:15-7:30PM-

Underwood Conservation District-Jamie Gomez

- **Presented their FireWise Program-**
- **Based out of white salmon**

- A long history of landowner assistance
- Recently awarded funding to assist landowners and communities
- A multi agency effort designed to reach beyond fire service.
- Evaluating your risk to wildfire
- Construction Materials
- Topography-
  - Steepness=Risk
- Other Factors
- FREE wildfire hazard home assessments
- What's next-
  - Call Underwood Conservation District to arrange for a free Wildfire Hazard Home Assessment
    - ucs@gorge.net
- FireWise Community's/USA
- FireWise Summary

**7:30-8:25PM**

**Community Risk Assessment (Rank by how much trouble)**

- Gifford Pinochet –lots of land and few exits
- IGNITION RISKS
  - Man
    - Thrown Cigarettes(LOW)
    - Campfire-County/Fed Land(HIGH)
    - GAS station(HIGH)
    - Slash(LOW)
    - Transmission Lines(HIGH)
    - Compression Station (GAS)(HIGH)
    - Local Fireworks(MED)
    - Arson (abandoned cars)(HIGH)
    - Structural Fires (HIGH)
    - Federal Research Centers(HIGH)
    - Logging associated fires(LOW)
    - Machinery associated fires(LOW)
    - Recreational Fires(MED)
    - Motor Vehicle Accident Fires(LOW)
  - Nature
    - Lightening(HIGH)
- HAZARDS (Ranked by How much trouble) (ALL HIGH)
  - Weather
    - Winds (E&W)
    - Hot and Dry conditions (60 Days no Rain, 2 WKS consecutive 90 degree weather)
    - Pressure Gradient-funnel effect
    - Humidity Changes in short time
  - Fuels
    - Forest Lands
    - Heavy Fuels

- Ladder Fuels
  - Forest
  - Homes
- Continuity of fuels
- Fuels Profile Changes through out area making it unpredictable
  - Light/Fast Fuels
  - Heavy slash in many areas
- History of fire suppression
- Recreation
- Topography
  - 600 feet-2,000 feet
  - Steep
  - Little White Salmon Canyon (Throughout Mill A and Underwood)
  - Transmission/GAS Lines
  - Slide Area
  - Complicated Topography
- Assets/Values to Protect
  - School(HIGH)
  - Individual Homes(MED)
  - Business's(HIGH)
  - Camp Grounds(HIGH)
    - Federal
    - County
  - Research Facilities(HIGH)
  - Forest(HIGH)
    - Federal
    - State
    - Private
  - Transmission Lines(LOW)
  - Gas Pipelines(LOW)
  - Public Water supply(HIGH)
    - Mill A/Willard
  - Road Infrastructure(HIGH)
  - People(HIGH)
  - Pets & Livestock(LOW)
  - Switch Facilities(HIGH)

**NOTE: Map not zoomed out far enough to properly mark locations (Need to stretch further North to Oklahoma Camp Ground, will bring Revised Map to Mill A CWPP Meeting 2.**

**8:25-8:30PM**

Map Out as much as possible  
Adjourned



**Mill A CWPP Meeting 2 Minutes**  
**Tuesday, May 27, 2008**

**7:00-7:06:** Review the CWPP process:  
Why Mill A needs a community wildfire protection plan.  
Minimum Requirements for a CWPP  
Three meeting process.  
What happens at the meetings (and in between)?

**7:06-7:13:** Introductions, Agenda, meeting one minutes reviewed

**7:13 -7:15:** Jamie Gomez unavailable to be here so Adrienne Zuckerman explained briefly that the Underwood Conservation District is providing FREE Home Evaluations.

The **corrected contact information** for the **Underwood Conservation District** is:

P.O. Box 96  
170 NW Lincoln, Park Center Building  
White Salmon, WA 98672  
ph: 509-493-1936  
email: [ucd@gorge.net](mailto:ucd@gorge.net)

**7:17-7:29:** Review Goals & Create a statement of goals and objectives.  
Mission Statement: "Protection of Life, Property (both private and public), and Natural Resources from fire through education and planning."

**7:29-7:43:** Review and revise Risks, Hazards, and Values to be protected and priority level.  
Add to Hazards:

**Weather:**

- Hot and Dry conditions - up to 4 months of hot dry weather (60 Days no Rain, 2 WKS consecutive 90 degree weather)

**Other:**

- Limited access to water (partly due to lack of proper equipment)
- Few access roads in much of planning area
- 

**7:43-8:05:** Map workshop:  
Included visual aids and discussion regarding:

- Population Density
- Future Development
- Fire History
- Fuel Loads

**8:05-8:06:** Gap Identification Workshop (Have we forgotten anything? What do we need and how will we get it?)

**8:06-8:08:** Grants and requirements (brief outline)

**8:08-8:31:** Create a list of Projects.

➤ **Fuel Mitigation:**

- Thinning 66 road (MEDIUM)
- Defensible Space around homes (HIGH)
- Common Safe Zone (HIGH)
- Thinning around community/federal campsites (HIGH)
- Reopening access road loops (HIGH)
- Fire breaks along Little White Salmon River
- Canyon (HIGH)
- Thinning along 18 road (HIGH)

- Planning Projects:
  - Evacuation Plan (HIGH)
    - \* Special Needs
  - Water sources (HIGH)
    - \* Water source development
  - Mutual aid agreements (HIGH)
  - Hazard assessment (HIGH)
  - Resource assessment (HIGH)
  - Mapping (HIGH)
  - Public notification plan (HIGH)
  
- Education Projects:
  - Defensible Space (HIGH)
  - Smokey the Bear (HIGH)
  - Outreach to youth (HIGH)
  - Debris burning safe practices and rules (HIGH)
  - Residential ignition sources (HIGH)
  
- Equipment, Staffing, Training and Practice and project priorities:
  - List will be sent to Wildfire Prevention Coordinator, Gail A. Fullerton by MVFD or brought to the meeting on 5/17/2008
  - Volunteerism (HIGH)

**8:31-8:32:** Name of CWPP: **Little White Salmon Drainage CWPP**

**8:32-8:35:** **Meeting 3 will be: 6/17/2008 at 7:00 pm at the  
Evergreen Community Presbyterian Church,  
432 Jessup Road, Cook, WA, 98605**

**Note change of meeting location for meeting 3!**

**Mill A CWPP Meeting 2 Minutes**  
**Tuesday, May 27, 2008**

**7:00-7:06:** Review the CWPP process:  
Why Mill A needs a community wildfire protection plan.  
Minimum Requirements for a CWPP  
Three meeting process.  
What happens at the meetings (and in between)?

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Mission Statement: "Protection of Life, Property (both private and public), and Natural Resources from fire through education and planning."

**7:29-7:43:** Review and revise Risks, Hazards, and Values to be protected and priority level.  
Add to Hazards:

**Weather:**

- Hot and Dry conditions - up to 4 months of hot dry weather (60 Days no Rain, 2 WKS consecutive 90 degree weather)

**Other:**

- Limited access to water (partly due to lack of proper equipment)
- Few access roads in much of planning area
- 

**7:43-8:05:** Map workshop:  
Included visual aids and discussion regarding:

- Population Density
- Future Development
- Fire History
- Fuel Loads

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**8:08-8:31:** Create a list of Projects.

➤ **Fuel Mitigation:**

- Thinning 66 road (MEDIUM)
- Defensible Space around homes (HIGH)
- Common Safe Zone (HIGH)
- Thinning around community/federal campsites (HIGH)
- Reopening access road loops (HIGH)
- Fire breaks along Little White Salmon River
- Canyon (HIGH)
- Thinning along 18 road (HIGH)

- Planning Projects:
  - Evacuation Plan (HIGH)
    - \* Special Needs
  - Water sources (HIGH)
    - \* Water source development
  - Mutual aid agreements (HIGH)
  - Hazard assessment (HIGH)
  - Resource assessment (HIGH)
  - Mapping (HIGH)
  - Public notification plan (HIGH)
  
- Education Projects:
  - Defensible Space (HIGH)
  - Smokey the Bear (HIGH)
  - Outreach to youth (HIGH)
  - Debris burning safe practices and rules (HIGH)
  - Residential ignition sources (HIGH)
  
- Equipment, Staffing, Training and Practice and project priorities:
  - List will be sent to Wildfire Prevention Coordinator, Gail A. Fullerton by MVFD or brought to the meeting on 5/17/2008
  - Volunteerism (HIGH)

**8:31-8:32:** Name of CWPP: **Little White Salmon Drainage CWPP**

**8:32-8:35:** **Meeting 3 will be: 6/17/2008 at 7:00 pm at the  
Evergreen Community Presbyterian Church,  
432 Jessup Road, Cook, WA, 98605**

**Note change of meeting location for meeting 3!**



# AGENDA

**Little White Salmon Drainage CWPP – Meeting 3,  
Evergreen Community Presbyterian Church,  
432 Jessup Road, Cook, WA, 98605  
June, 17 2008 7:00 pm**

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## **GOALS:**

- 1) Review Projects**
- 2) Add/Remove Projects**
- 3) Prioritize Projects**
- 4) Create an Action Plan**

<b>Time</b>	<b>Speaker(s)</b>	<b>Topic</b>
7:00-7:10	Fullerton, All	Introductions, agenda review, meeting minutes from 5/27/07
7:10-8:00	All	Review and make changes to project descriptions <ul style="list-style-type: none"><li>• Fuel Mitigation</li><li>• Planning</li><li>• Education</li><li>• Equipment/Staffing/Exercise</li></ul>
8:00-8:20	All	Add/Remove projects
8:20-8:30	All	Prioritize projects <ul style="list-style-type: none"><li>• Prioritize new projects</li><li>• Re-prioritize previous projects if necessary</li></ul>
8:30-8:45	Fullerton, Helgerson, Cordell, All	Create an action plan <ul style="list-style-type: none"><li>• CWPP sustainability</li></ul>
8:45-8:50	Fullerton, Helgerson, All	CWPP and FEMA Pre-Disaster Mitigation Plan Compliance
8:50-9:00	Fullerton, Helgerson, Cordell, All	Review meeting, adjourn meeting <b>THANK YOU FOR ALL OF YOUR HELP!!!</b>

# Little White Salmon Drainage (LWSD) CWPP Meeting 3 – 6/17/2008

Meeting began 7:00 PM

**All previous community input was reviewed. This included:**

**Mission Statement:**

“Protection of Life, Property, (both private and public), and Natural Resources from fire, through education and planning.”

**Additions:**

Climate:

Hot and Dry conditions are present up to 4 months of the year. It is common to have 2 consecutive weeks of temperatures 90 degrees or higher, and no rain for 60 days.

Other:

Limited access to water (partly due to lack of proper equipment)

**IGNITION RISKS**

Man

Campfire-County/Fed Land	(HIGH)
NG pumping station/ Compression Station (NG)	(HIGH)
Debris burning (non permitted)	(HIGH)
Transmission Lines (BPA)	(HIGH)
NG pipe lines	(HIGH)
Arson (abandoned cars)	(HIGH)
Structural Fires	(HIGH)
Federal Research Centers	(HIGH)
Local Fireworks	(MED)
Recreational Fires	(MED)
Slash (permitted)	(MED)
Machinery associated fires	(LOW)
Logging associated fires	(LOW)
Slash burning (commercial)	(LOW)
Thrown Cigarettes	(LOW)
Motor Vehicle Accident Fires	(LOW)

Nature

Lightening	(HIGH)
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## Values to be protected

School (Mill A)	(HIGH)
Businesses	(HIGH)
Camp Grounds	
Federal	(HIGH)
County	(HIGH)
Research Facilities	(HIGH)
Forest	
Federal	(HIGH)
State	(HIGH)
Private	(HIGH)
Public Water supply	
Mill A	(HIGH)
Willard	(HIGH)
Road Infrastructure	(HIGH)
People	(HIGH)
Switch Facilities (phone)	(HIGH)
Individual Homes	(HIGH)
Transmission Lines (BPA)	(HIGH)
Gas Pipelines	(HIGH)
Pets & Livestock	(HIGH)

## Map Workshop:

Considered:

Population, Development, Topography, Fire History and Fuel Loads

Established areas of concern:

Cook Underwood Road (Main Evacuation Route)

FS 66 (Main Evacuation Route)

Other evacuation routes: Oklahoma rd to FS 1840 through Trout Lake.

Mill A School (community safe zone)

## Gap Identification Workshop:

What limits our ability to fight wildfire within the planning area?

What do we need to survive a wildfire that we don't have? How will we get it?

Have we thought of everything:

Communications, safe place, special needs in the community, evacuation, planning and practice?

### **Fuel Mitigation Projects**

1. Common Safe Zone (HIGH)
2. Defensible Space around homes (HIGH)
3. Regardless of land ownership (private, State, Federal)
4. Shaded Fuel Break along Cook Underwood Road (HIGH)
5. Campsites (clean up brush and other fuel) (HIGH)
6. Reopening access road loops (Federal campground) (HIGH)
7. Fire breaks along Little White Salmon River Canyon (HIGH)
8. Thinning along 18 (Oklahoma) road (HIGH)
9. Revise fuel estimates (HIGH)
10. Thinning 66 road (MEDIUM)

### **Planning Projects**

1. Evacuation Plan (HIGH)  
Special Needs
2. Water sources (HIGH)  
Water source development
3. Mutual aid agreements (HIGH)
4. Hazard assessment (HIGH)
5. Resource assessment (HIGH)
6. Mapping to find locations (HIGH)
7. Public notification plan (HIGH)

### **Education Projects:**

1. Defensible Space (around homes) (HIGH)
2. Smokey Bear Outreach to youth (HIGH)
3. Debris burning safe practices and rules (HIGH)
4. Residential ignition sources (HIGH)

### **Equipment/Training/Exercise Projects (MAV)**

- Volunteer recruitment and retention (HIGH)
- Get MAV to NFPA standard (HIGH)
- Vehicles (HIGH)
- Vehicle hand equipment (HIGH)
- Vehicle storage (A new Fire Hall) (HIGH)
- Interoperable communications (HIGH)
- Water Supply (HIGH)

New projects have been incorporated into the lists of projects above.

### **Review Planning Area Boundary**

Include east end of Cook Underwood Road in Little White Salmon Drainage planning area boundary

## **Recommendations:**

### Review:

MAV organize meeting annually (at minimum), or following zoning changes to discuss any grant proposals, plan amendments, and update current status report.

### RADIO INTEROPERABILITY

Despite topography of the area

Inter jurisdictional cooperation between Federal, State, County, and citizens for burn bans.

Cooperate under the same set of rules (burn ban) in the interest of fire safety

## **Action Plan (How are we going to make the Little White Salmon Drainage CWPP sustainable?)**

### Resources

Title III – Firewise 2008 – through 12/2008

WA DNR

Underwood Conservation District

Learn from Trout Lake

1. Create shaded fuel breaks for defensible fuel profiles along Cook Underwood road. Coordinate by (Dec 2008)
2. Create a USFS model “Firewise” campground at Oklahoma campground with the assistance of community volunteers. (within 3 years) continue loop clean up within campground (by 6/2009)
3. Collaborate with Underwood CWPP to create and place signage identifying evacuation routes. (by 6/2009)
4. Refine fuel profiles by (6/2010)
5. Seek wildfire prevention intern to recruit volunteers, hold educational classes, research grant funding, and write grants.
6. Fire hazard mitigation in the Little White Salmon Drainage. Important for Mill A water quality/ fish hatcheries/ research labs
7. Enhance water sources within CWPP planning area
8. Obtain surplus fire equipment
9. Educate planning area residents regarding defensible space (299)
10. Stewardship plan for individual property owners for fuel mitigation.
11. Letters to property owners regarding hazard level of their properties
12. Peer Pressure
13. Persistence



**CWPP Draft**

Outline of draft was reviewed

Gail will revise the outline to include changes to projects and fine-tuning done at meeting 3

CWPP will integrate FEMA requirements if possible

Gail will send draft of the completed CWPP to Steering Committee for review

A press release for public review and comment will run in the Skamania Pioneer and the Enterprise

Public comments received via surveys will be integrated into CWPP

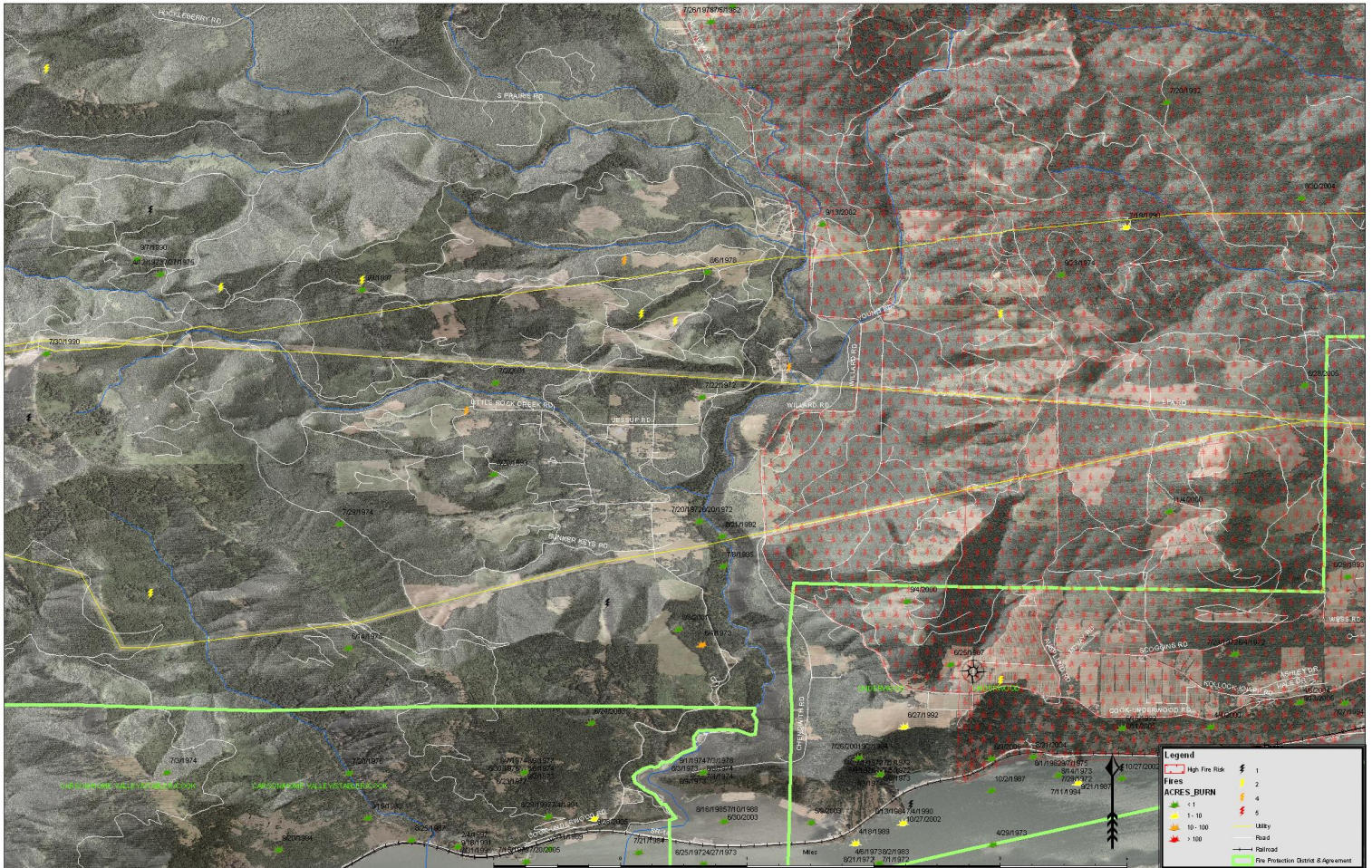
Following a final review by the LWSD CWPP Steering Committee the CWPP will be sent to DNR for approval by DNR.

I will keep Committee posted on any CWPP updates and progress throughout this year.

**My Thanks to all of you who are participating in this process!  
Lets continue to work together to make Little White Salmon Drainage a  
safer place to live**

# Appendix B – Little White Salmon Drainage CWPP Questionnaire

## The Little White Salmon Drainage Community Wildfire Protection Plan (CWPP) Questionnaire



Return Address:

Skamania Firewise  
Little White Salmon Drainage CWPP  
PO Box 790  
Stevenson, WA, 98648

# The Little White Salmon Drainage Community Wildfire Protection Plan (CWPP) Questionnaire

The purpose of this survey is to involve members of the Mill A Community in the Little White Salmon Drainage CWPP. The intent of Little White Salmon Drainage CWPP is to protect life, private and public property, and natural resources in the event of wildfire.

What we need from you are ideas about specific areas that you want to protect. For example: water sources, wilderness areas, recreation spots, unknown cemeteries, watersheds, hunting grounds, archaeological sites, roads, etc.

- Please:**
- **If you know the location of the things you would like to protect, show the location with an x or a circle on the map on the back of this page. (please label)**
  - **Answer the questions below.**
  - **Fold in thirds, tape closed, and mail. (The address is on the back, postage is prepaid)**

1. As a community member what areas within the Little White Salmon Drainage planning area do you want protected in the event of a wildfire?
  
  
  
  
  
  
  
  
  
  
2. What projects do you think could improve the community's fire awareness and responsiveness?
  
  
  
  
  
  
  
  
  
  
3. Do you support the idea of seeking grant funding to upgrade our local, state and federal fire fighting organization's equipment?
  
  
  
  
  
  
  
  
  
  
4. Would you be willing to volunteer or work on your property to meet a matching requirement for grant funding?
  
  
  
  
  
  
  
  
  
  
5. Any other suggestions, concerns, comments, or questions regarding the Little White Salmon Drainage CWPP.

To stay connected to the Little White Salmon Drainage CWPP please fill out the following confidential information.

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

**For more information contact:**  
Gail A. Fullerton, Wildfire Prevention Coordinator or  
Sharisse Cordell, Wildfire Prevention Intern  
(509)427-4130  
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# Appendix C – NFPA-299 Hazard Rating Form

Wildfire Hazard Severity Form Checklist    NFPA 299

This form may be used for individual houses or larger areas like developments or other types of applications.

**Name of area or address receiving assessment**

A. Subdivision Design	Points	House or area	Notes
<b>1. Ingress and egress</b>			
Two or more roads in/out	0		
One road in/out	7		
<b>2. Road width</b>			
Greater than 24 feet	0		
Between 20 and 24 feet	2		
Less than 20 feet wide	4		
<b>3. All-season road condition</b>			
Surfaced, grade < 5%	0		
Surfaced, grade > 5%	2		
Non-surfaced, grade < 5%	2		
Non-surfaced, grade > 5%	5		
Other than all-season	7		
<b>4. Fire service access</b>			
< = 300ft, with turnaround	0		
> = 300ft, with turnaround	2		
< = 300ft, no turnaround	4		
> = 300ft, no turnaround	5		
<b>5. Street signs</b>			
Present (4 in. in size and reflective)	0		
Not present	5		
<b>B. Vegetation ( Fuel Models)</b>			
<b>1. Predominant vegetation</b>			
Light ( grasses, forbs )	5		
Medium ( light brush and small trees)	10		
Heavy ( dense brush, timber, and hardwoods)	20		
Slash ( timber harvest residue)	25		
<b>2. Defensible space</b>			
More than 100 ft of treatment from buildings	1		
More than 71 -100 ft of treatment from buildings	3		
30-70 ft of treatment from buildings	10		
Less than 30 feet	25		
<b>C. Topography</b>			
<b>1. Slope</b>			
Less than 9%	1		
Between 10-20%	4		
Between 21-30%	7		
Between 31-40%	8		
Greater than 41%	10		

**Totals for this page**



<b>D. Additional Rating Factors</b>	Points	House or area	Notes
1. Topography that adversely affects wildland fire behavior	0 - 5		
2. Area with history of higher fire occurrence	0 - 5		
3. Areas of unusually severe fire weather and winds	0 - 5		
4. Separation of adjacent structures	0 - 5		
<b>E. Roofing Materials</b>			
1. Construction material			
Class A roof ( metal, tile)	0		
Class B roof ( composite)	3		
Class C roof ( wood shingle)	15		
Non-rated	25		
<b>F. Existing Building Construction</b>			
1. Materials ( predominant)			
Noncombustible siding/ deck	0		
Noncombustible siding/ wood deck	5		
Combustible siding and deck	10		
2. Setback from slopes > 30%			
More than 30 feet to slope	1		
Less than 30 feet to slope	5		
Not applicable	0		
<b>G. Available Fire Protection</b>			
1. Water source availability ( on site)			
500 gpm pressurized hydrants < 1000ft apart	0		
250 gpm pressurized hydrants < 1000ft apart	1		
More than 250 gpm non-pressurized, 2 hours	3		
Less than 250 gpm non-pressurized, 2 hours	5		
No hydrants available	10		
2. Organized response resources			
Station within 5 miles of structure	1		
Station greater than 5 miles	3		
3. Fixed fire protection			
Sprinkler system (NFPA 13, 13R, 13D)	0		
None	5		
<b>H. Utilities ( Gas and Electric</b>			
1. Placement			
All underground utilities	0		
One underground, one aboveground	3		
All aboveground	5		
<b>Totals for this page</b>			
<b>I. Totals for Risk Assessments</b>			
<b>Totals for page 1 and 2</b>			
1. Low Hazard:	< 39 points		
2. Moderate Hazard:	40-69 points		
3. High Hazard:	70-112 points		
4. Extreme Hazard:	113 > points		
Census Data			
Track number			
Block group number			
Block number (s)			



## Appendix D: Wildfire Protection Capabilities LWSD CWPP October 2008

	Current Status			
Inventory Type	FS CGSA	FS GPNF	WADNR	Mill A Volunteer Fire Department
Fire Station(s)	Herman Creek Work Center, Cascade Locks and Hood River	Mt. Adams RD USFS Trout Lake, WA  Mt St Helens RD USFS Amboy , WA		Fire Stations 1 Main Station (not adequate to house modern equipment due size. The facility is also in disrepair.) 1 Satellite Station (garage at private residence)
Vehicles (Command, rigs, pumpers, tenders, brush rigs, etc.)	2 Command vehicles 1 Fire Prevention Unit 3 FS type 6 engines 2 Cooperative engines with WADNR 1 Cooperative Engine with ODF	<b>DUTY STA. Trout Lake, WA</b> 2 Type 6X Engines/ w Foam 300 gal 1 Type 6X Prevention Module 320 gal 1 Type 7X Prevention Module 80 gal 1 Command Vehicle Pick Up with Lights and Siren 1 6-Pak Crew Carrier - Pick Up 1 Pick Up for general use <b>At Amboy, WA The USFS has:</b> 1 Type 6X Engine /w Foam 300 gal 1 Type 6 Prevention Module 200 gal 2 Type 7 Prevention Modules 50 & 100 Gal	2 Type 6 Wildfire Engines	1 1952 heavy engine 1 1992 Type 5 Engine 1 1974 pick-up chassis with slip-pack
Staffing	7 day a week staffing from 7/1-10/1	Staffed 7 days a week From approx. July 4 <sup>th</sup> Through Fire Season Oct 15th	3 FF/Engine TOTAL -6	18 volunteers
Uniforms Clothing PPE		Normal PPE		good
Training				90% wildland trained
Radios	Bendix King	All Firefighters carry Bendix King Radios	2-portable Kings/engine 1mobile in each engine	6 – UHF portables 3 – UHF mobiles' 15 – VHF portables 2 – VHF mobiles
Pumps and hose lay	Fire Cache in Cascade Locks, and a type 3 fire trailer.	Dist Cache	1500 feet 1" hose Pump with foam Capabilities Mark III pump with 1000 gal portatank	1 – Mark III pump (poor condition) 600' 1 ½ wildland hose 300' 1" wildland hose 1 folding tank.
Wildfire response capability and sustainability	Can bring in resources from the GPNF, Mt Hood NF, or other federal units for ongoing fires or when there is a increased fire risk.	<b>Extended Attack :</b> As requested by the Dispatch centers, resource availability and fire Type (.1-5)	6 - 10 person type 2 hand crews- 2hour response	(Initial attack only)
Other		Gifford Pinchot Mobilization Plan Northwest Mobilization Guide and Directory Northwest Interagency Coordination Center	Additional overhead including type 3 team	

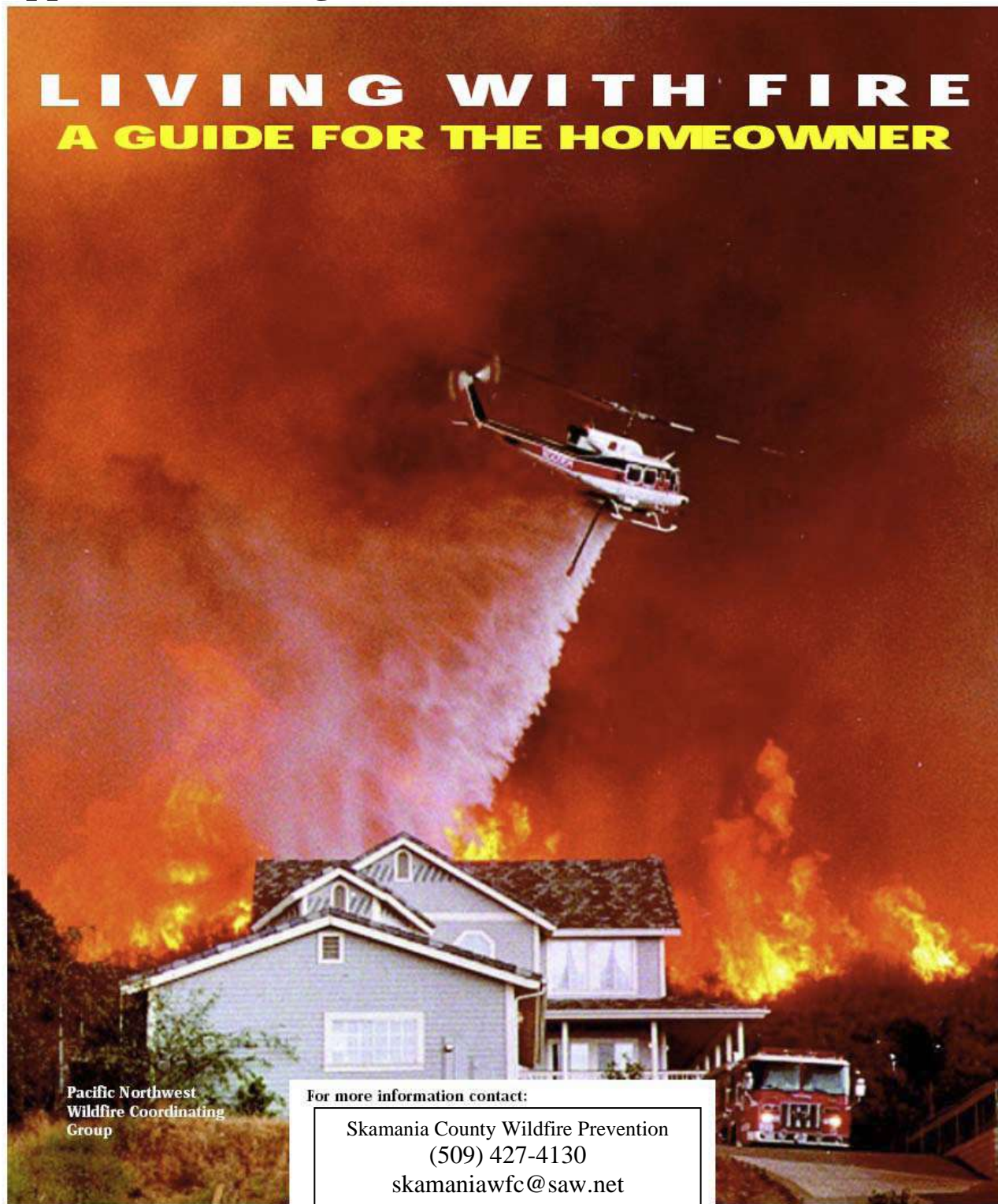
APPENDIX E: CURRENT INVENTORY AND FUTURE NEEDS  
WILDFIRE RESPONSE CAPABILITIES

June 2008

Fire Organization: Mill-A Volunteers - Fire Department

INVENTORY TYPE	CURRENT STATUS	INVENTORY NEEDED
Fire Stations 1 Main Station 1 Satellite Station	<b>Station 1</b> is not adequate to house modern equipment due size. The facility is also in disrepair.  <b>Station 2</b> is a residential garage informally made available; tenure is subject to change	Modern facilities to house equipment and training are needed in both the middle and upper regions of the CWPP area.
Vehicles 3 vehicles: 1 1952 heavy engine; 1 1992 Type 5 Engine; 1 1974 pick-up chassis with slip-pack	The <b>1952 "heavy engine"</b> meets no NFPA standard and is in poor condition.  The <b>1974 chassis</b> is in very poor condition.  The <b>Type 5 engine</b> was recently acquired as surplus from USFS and requires a new transmission.	The entirety of the CWPP area is urban-wildland interface with no hydrant system and scattered access to surface water. The department needs both tenders and rapid response (Type III and IV) Engines to reduce or control wildfire during early evolvment. Two of the three vehicles in inventory are inadequate.
Staffing 18 Volunteers	Available	Training
Uniforms / Clothing Wildland PPE Structure PPE	Good	Shelters & wildland packs needed
Training	90% of the volunteers are wildland qualified	Annual refresher
Radios	6 – UHF portables; 3 – UHF mobiles' 15 – VHF portables 2 – VHF mobiles	Additional UHF portables are requires for mutual aid integration with rural FDs responding in the interface zone
Pump & Hose Lay 1 – Mark III 600' 1 ½ wildland hose 300' 1" wildland hose 1 folding tank.	The Mark III is in poor condition.  Hose inventory includes aging cotton hose subject to bursting.	Additional portable pumps are requires to provide adequate water to fireground during interface operations. Additional nylon jacketed hose is required for multiple hose lays in excess of current limited inventory. Additional folding tanks are required for tender operations in the absence of nearby surface water or hydrant system.
Wildfire Response Capability & Sustainability	The Mill A Volunteer fire department is the first responder in a large urban-wildland zone that includes portions of state, federal and privately held timberland and recreational land which is remote from USFS and DNR responders. The department's response time has historically been within NFPA standards and surpasses the response time of large agencies by more than one hour and experience has shown that the highest risk fire ignitions are capable of being controlled with a quick and adequate initial attack. The inadequacy of equipment is the main impediment to ensuring the adequacy of response – obtaining multiple, modern, fast attack engines stationed in a logistically advantageous manner, equipped with adequate hose lay and coupled with tenders and folding-tanks is critical to controlling wildfire in the region.	

## Appendix F – Living With Fire, A Guide for the Homeowner



Pacific Northwest  
Wildfire Coordinating  
Group

For more information contact:

Skamania County Wildfire Prevention  
(509) 427-4130  
skamaniawfc@saw.net

Available online at: <http://extension.oregonstate.edu/emergency/livingwithfirepnw.pdf>

# Appendix G: FEMA Mitigation Compliance

## Little White Salmon Drainage (LWSD) CWPP

### FEMA Pre-Disaster Mitigation Plan Requirements

PDM Requirements	check list	How Underwood plans to accomplish
<b>Public Comment Opportunity</b>		The LWSD CWPP was posted on the Skamania County Web site from 10/16/2008 – 11/15/2008. An announcement requesting public comment was printed in the 10/22/2008 issue of the Skamania County Pioneer.
<b>Neighboring Communities, local and regional agencies involved in hazard mitigation activities</b>		Steering Committee includes representatives from the community (stakeholders, business owners, homeowners), Mill a Volunteer Fire Department, Skamania County, Washington DNR and the USFS, see Underwood CWPP, p. 9.
<b>Review and incorporate into other plans if applicable</b>		The LWSD CWPP will serve as a sub chapter to the Klickitat Skamania County CWPP and the Skamania County Mitigation Plan.
<b>Documentation of planning process including how prepared, who was involved and particularly public</b>		The planning process is included within the actual document as 7 planning steps (pages 9-22). Actual public involvement is documented in the CWPP. Copies of sign in sheets (cleansed of sensitive information) are available on request from <a href="mailto:skamaniawfc@saw.net">skamaniawfc@saw.net</a> or (509)427-4130
<b>Local risk assessment that describes the type, location and extent of all natural hazards</b>		A Risk assessment was performed in two phases. Phase I included documenting Risk of ignition, hazards, values protected and wildfire response capabilities specific to the planning area. Phase II included documenting “gaps” in the system and “high risk areas”
<b>Information on previous occurrences of hazardous events and the probability of future hazardous events</b>		This was completed by viewing fire history and current hazards that could potentially cause a catastrophic wildfire. “High risk areas” were designated and encompassed the major communities that fell within the planning area
<b>Summary of each hazard from the risk assessment and a description of vulnerability in terms of: type and number of structures and critical infrastructure, potential dollar loss and land uses and development trends</b>		Structures based on NFPA-299 GIS data ranking houses by risk; GIS identification of clusters of houses and important infrastructure in GWR community, dollar loss calculated by multiplying average cost of home in Skamania County to be calculated in future by using HAZUS and the GIS data.

<p><b>Multi-jurisdictional plans will include details for each jurisdiction's risks where they vary from the entire planning area</b></p>		<p>Wildfire response governed by Federal and Washington state policy with local MOU's coordinating roles of local, state and federal agencies</p>
<p><b>Mitigation strategy that provides the jurisdiction's blueprint for reducing potential losses from the risk assessment and includes: goals to reduce vulnerability to hazards, analyzing mitigation actions/projects considered to reduce the effects of the hazards with an emphasis on new and existing buildings and infrastructure</b></p>		<p>Phase II of the planning process analyzed hazards and proposed mitigation actions in 4 categories. (See LWSD CWPP pp 15-21)</p>
<p><b>Description of how projects will be prioritized implemented and administered by the local jurisdiction. Will include emphasis on the extent to which benefits are maximized</b></p>		<p>This plan provides a first approximation of project importance as determined by the steering committee and approved by the Chief. At the Chief's discretion, projects and their implementation will be reviewed, revised and re-ranked annually as per the LWSD CWPP Assessment Strategy. (LWSDCWPP p. 21)</p>
<p><b>Multi-jurisdictional plans must include identifiable action items specific to the jurisdiction requesting FEMA approval</b></p>		<p>An action plan was discussed and documented. Future development is needed to suit FEMA's specific requirements. (LWSD CWPP p. 21)</p>
<p><b>Description of plan maintenance including: methods, schedule of monitoring, evaluating and updating the mitigation plan within a 5 year cycle</b></p>		<p>At the Chief's discretion, projects and their implementation will be reviewed, revised and re-ranked annually as per the Underwood CWPP Assessment Strategy. (LWSD CWPP p. 21)</p>
<p><b>Description of the process by which the local government will incorporate the requirements of mitigation plan into other plans</b></p>		<p>This plan will serve as a chapter of the Skamania County FEMA Emergency management plan and Mitigation plan.</p>
<p><b>Discussion on how the community will continue public participation in the plan maintenance process</b></p>		<p>At the Chief's discretion, projects and their implementation will be reviewed, revised and re-ranked annually by the core group and steering committee.</p>
<p><b>Documentation that the plan has been formally been adopted by each jurisdiction requesting approval of the plan</b></p>		<p>The plan is to be signed by the Mill A Volunteer Fire Chief, the Skamania County Fire Marshal, the Skamania County Emergency Manager, and the Skamania County board of Commissioners.</p>


















# Appendix H1- Location of Little White Salmon Drainage (LWSD) CWPP

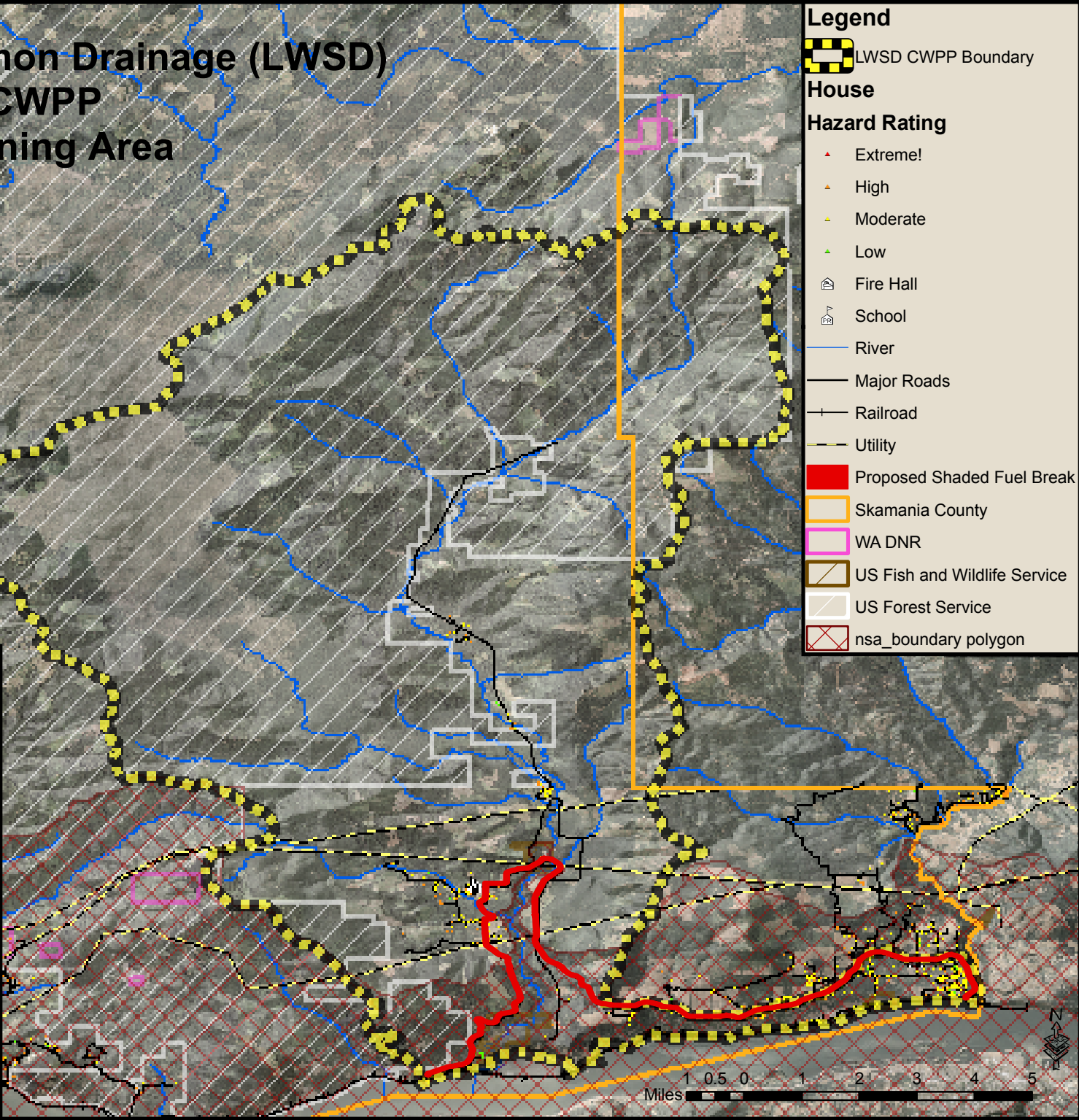




# Little White Salmon Drainage (LWSD) CWPP Planning Area

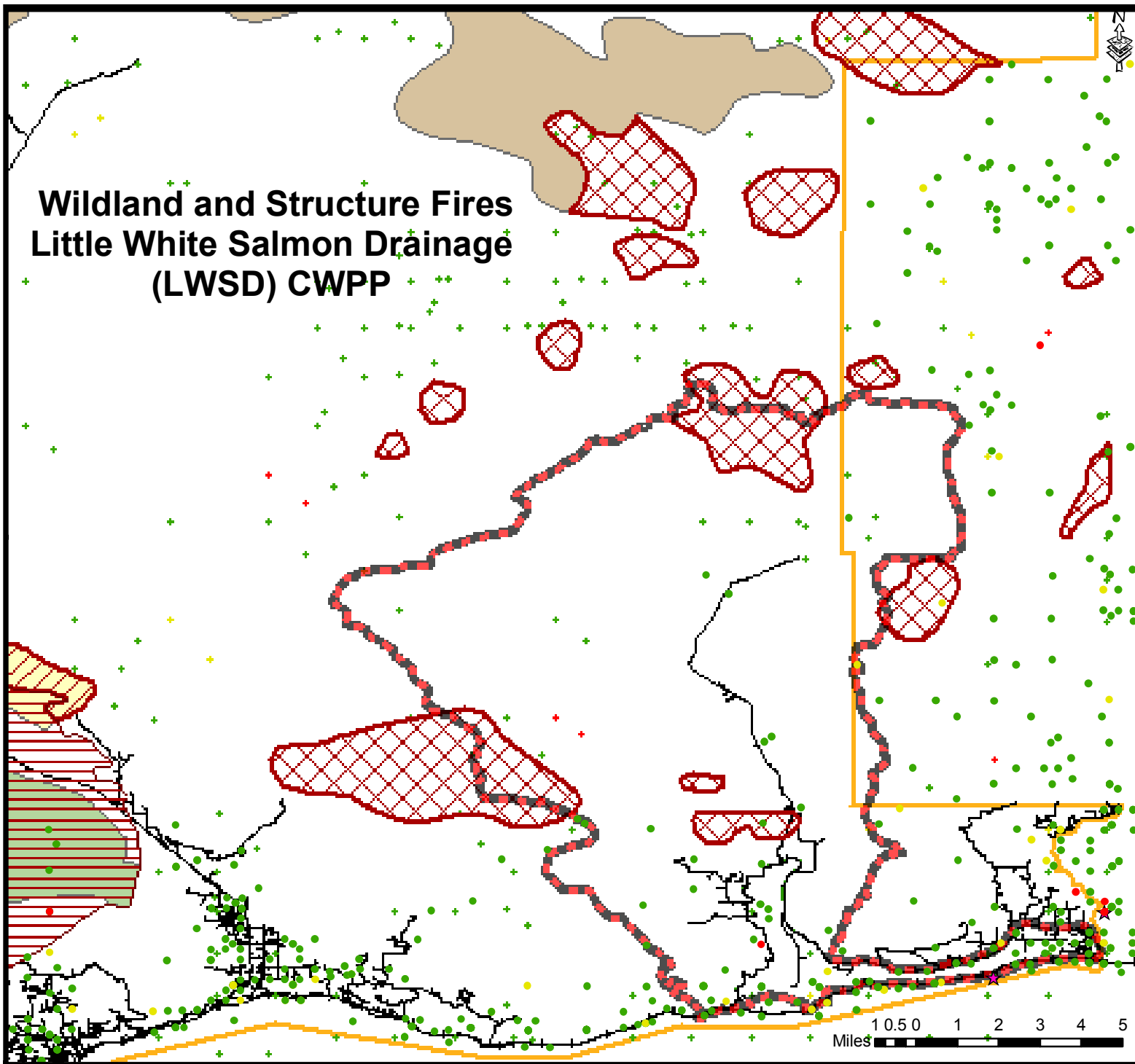
**Legend**

-  LWSD CWPP Boundary
- House**
- Hazard Rating**
-  Extreme!
-  High
-  Moderate
-  Low
-  Fire Hall
-  School
-  River
-  Major Roads
-  Railroad
-  Utility
-  Proposed Shaded Fuel Break
-  Skamania County
-  WA DNR
-  US Fish and Wildlife Service
-  US Forest Service
-  nsa\_boundary polygon



Appendix H2- Little White Salmon Drainage Planning Area

# Wildland and Structure Fires Little White Salmon Drainage (LWSD) CWPP



## Legend

### historic Fires (1902-1959)

- Yacolt Main Fire
- Lewis River
- Rock Creek
- Carson
- 1902 Yacolt Fire
- Unknown

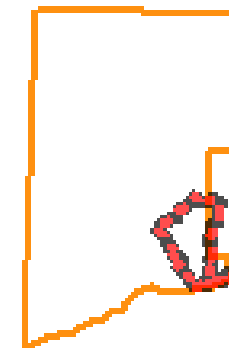
### Fires (1970-2007)

#### Acres Burned

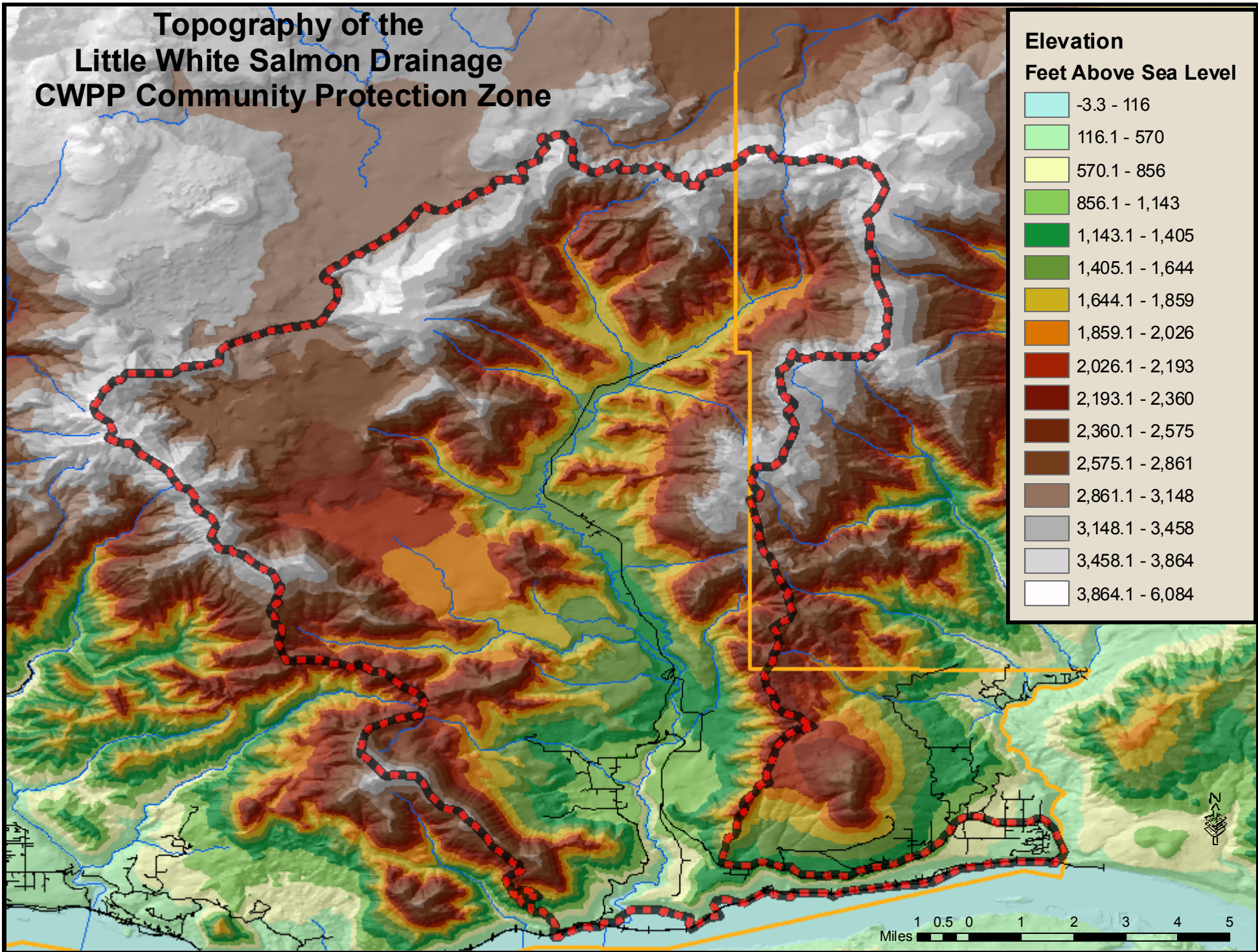
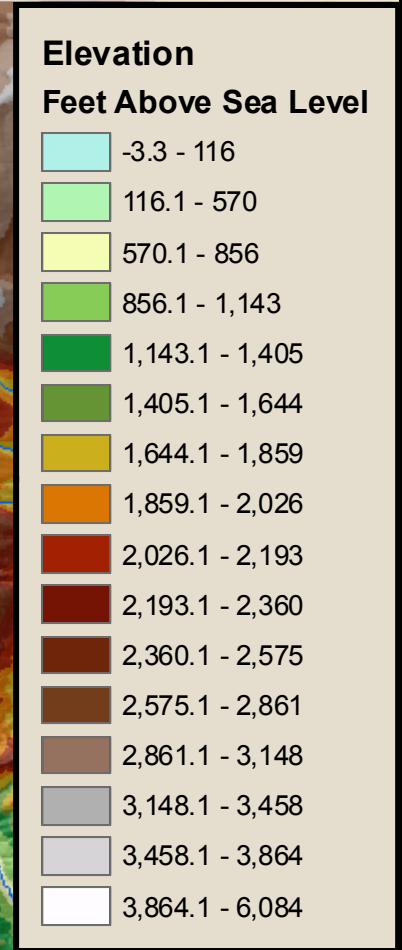
- 0.000000 - 1.000000
- 1.000001 - 10.000000
- 10.000001 - 100.000000
- > 100

- LWSD CWPP Boundary
- Major Roads
- Railroad
- Skamania County

Slamania County,  
Washington



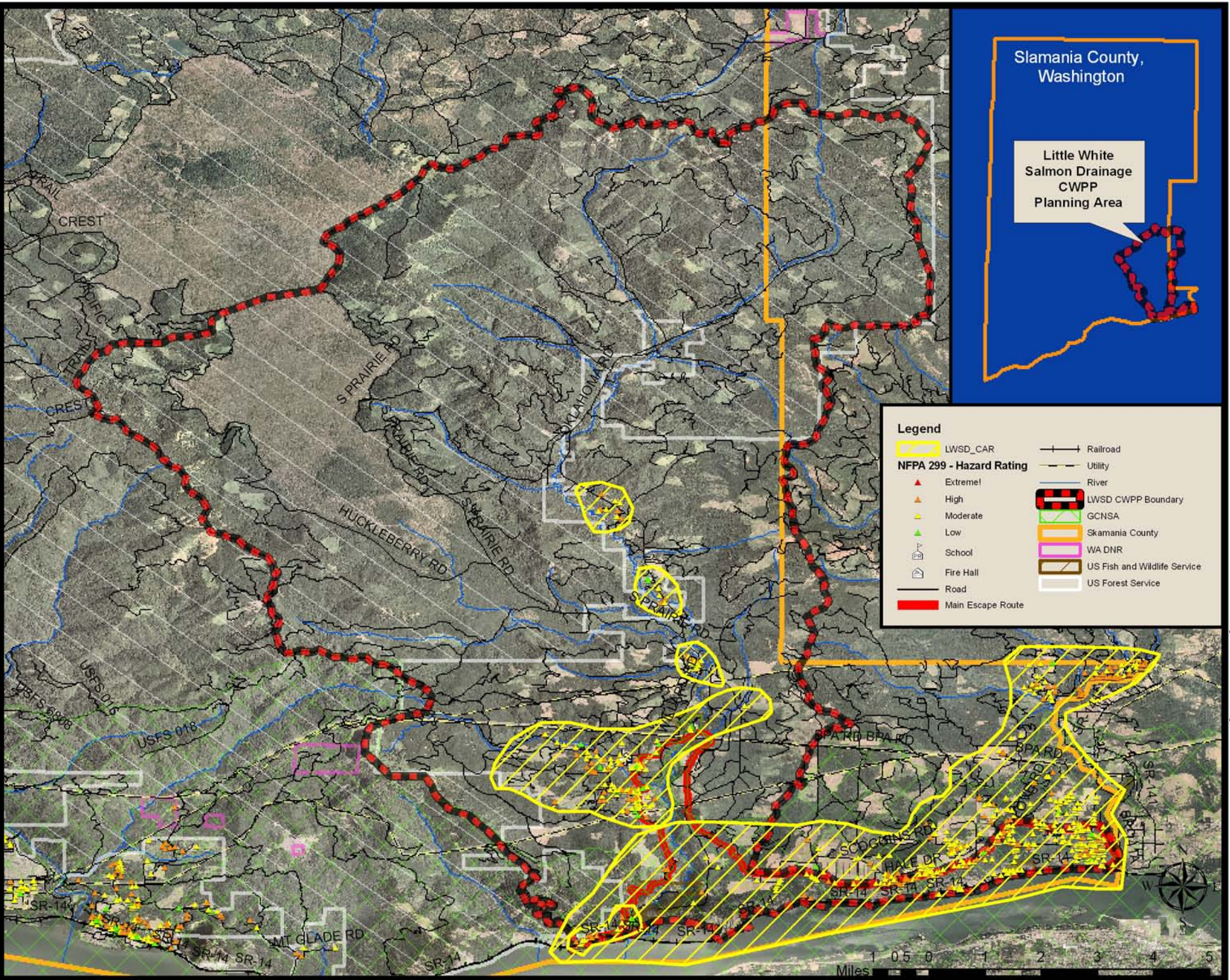
# Topography of the Little White Salmon Drainage CWPP Community Protection Zone



H-4 – CWPP Maps Little White Salmon River Drainage topography



# Appendix H-5 Little White Salmon Drainage (LWSD) Communities At Risk (CAR)





# Appendix H-6 Little White Salmon Drainage CWPP Anderson Fuel Models

