

Beacon Rock Community Wildfire Protection Plan

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Beacon Rock Community Wildfire Protection Plan (CWPP)

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Figure 1. (Appendix H1 Planning Area Location)

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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 Beacon Rock CWPP area are concerned about the effects of wildfire on their community. Although early fire suppression efforts in the CWPP area have been successful, several large fires have occurred nearby in recent years and numerous stand replacing fires have occurred in the last century in the CWPP area. Residents, government officials, and fire department personnel understand the potential for catastrophic wildfire in the area, and have joined together to proactively plan and implement actions to reduce the impact of wildfire on the community.

Mission

The Beacon Rock CWPP mission is "Protection of Life, Property, (both private and public), and Natural Resources from fire through education, planning, and action."

Through this CWPP, residents of the Beacon Rock CWPP area 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 Beacon Rock 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 Beacon Rock 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.

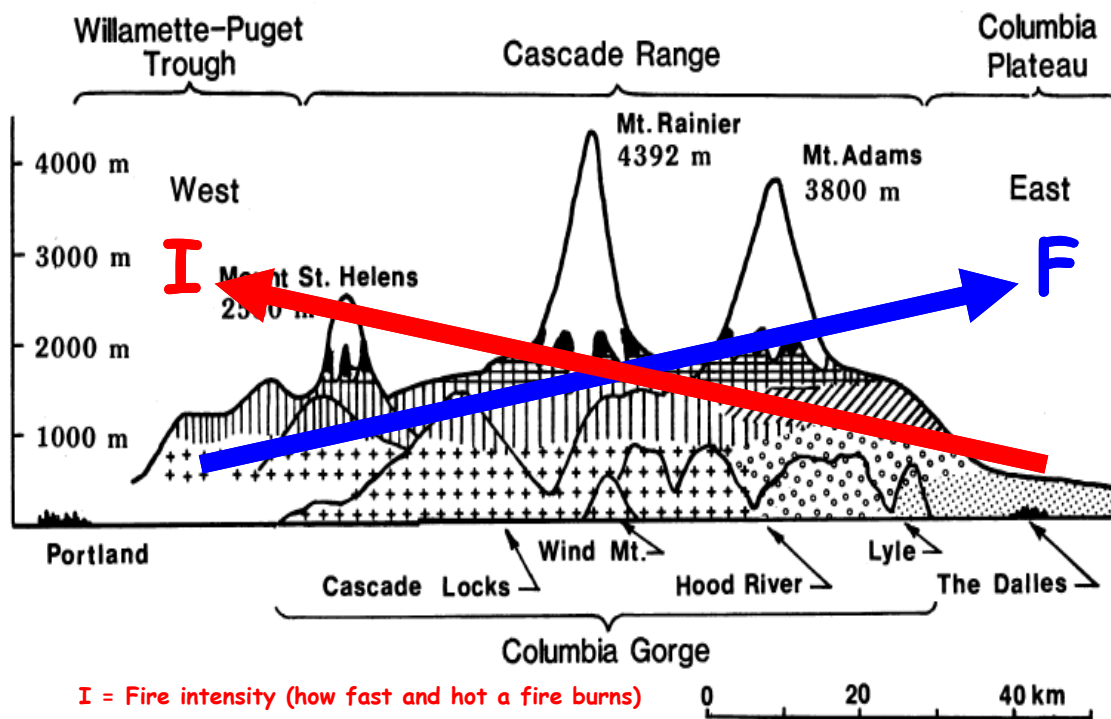
In an effort to minimize waste, all options for the utilization of biomass produced from fuels reduction projects will be evaluated.

Community Awareness

Residents of the Beacon Rock CWPP area are very aware of the need to develop a comprehensive wildfire prevention and protection plan. The Beacon Rock CWPP area 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 and SR 14 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.

Concerned residents began organizing in July of 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 Beacon Rock CWPP action plan includes education of planning area residents on the importance of defensible space and a conviction to see defensible space created, establishing evacuation routes and assembly points, and placing signage providing information on fire danger. The Beacon Rock CWPP communities are 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

Beacon Rock CWPP area residents value their homes, families, pets, schools, historic structures, 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, and 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 Beacon Rock CWPP area is located in southwest Skamania County, in the southwestern part of the state of Washington. (Figure 1, Appendix H-1) The CWPP planning area includes North Bonneville, and many small communities served by Skamania County FD #5. Beacon Rock State Park is located within the CWPP area as are a number of popular recreation destinations in the Gifford Pinchot National Forest. (Figure 3, Appendix H-2 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.

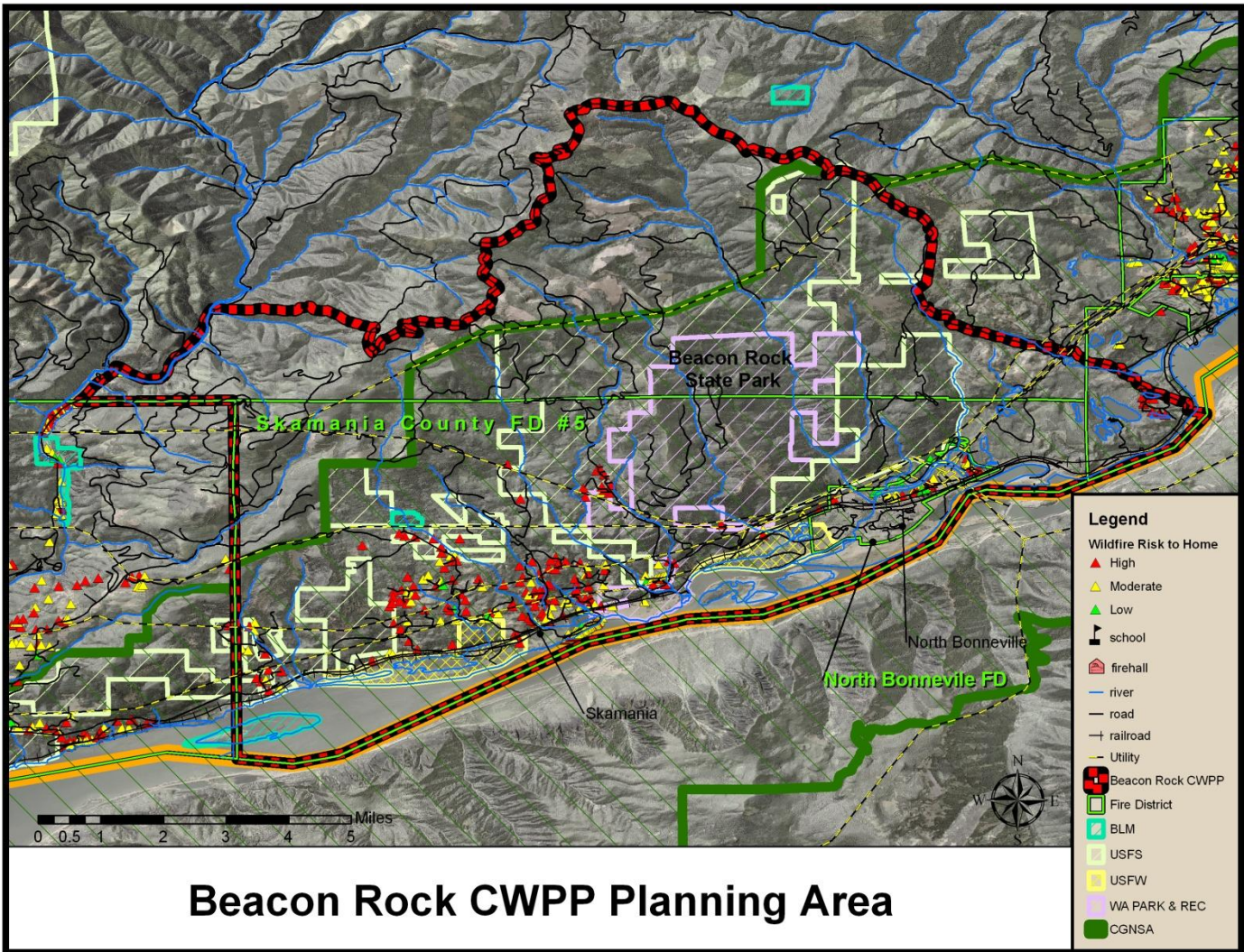


Figure 3. (Appendix – H2) Beacon Rock CWPP Base map. (Created by Gail A. Fullerton)

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, grassland. 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 Beacon Rock planning area ranges from about 50 feet to 3700 feet above sea level. (Appendix H-4) The main vegetation type in the Beacon Rock CWPP area is Douglas Fir – Western Hemlock forest Coastal true fir – hemlock forests are present above 2000 feet and Red Alder (*Alnus rubra*) woodlands cover slide zones. There is also a small amount of grand fir, grass, shrub, lodgepole pine (*pinus contorta*), black cottonwood (*Populus balsamifera*) and several species of willow (*Salix spp.*).

Fire History

Most of the Beacon Rock CWPP area is Group V fire regime. This means that the time between fires is generally greater than 200 years with any burn severity. Much of the CWPP area with elevation greater than 2000 ft is Group 1 fire regime - 35 to 200 years between fires with low and mixed severity, or Group 2 fire regime - 35 to 200 years between fires with stand replacing fire. The CWPP area has been the site of many large fires in the last century. (Figure 4. - Appendix H3)

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 5)

Numerous small fire starts have been recorded between 1970 and 2007 but most were contained quickly by local fire districts. Two recent fires near the CWPP area caused much damage in a short time. Driven by an east wind, the 2003 Herman Creek fire across the Columbia River in Cascade Locks, Oregon burned 375 acres in about four hours. 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.

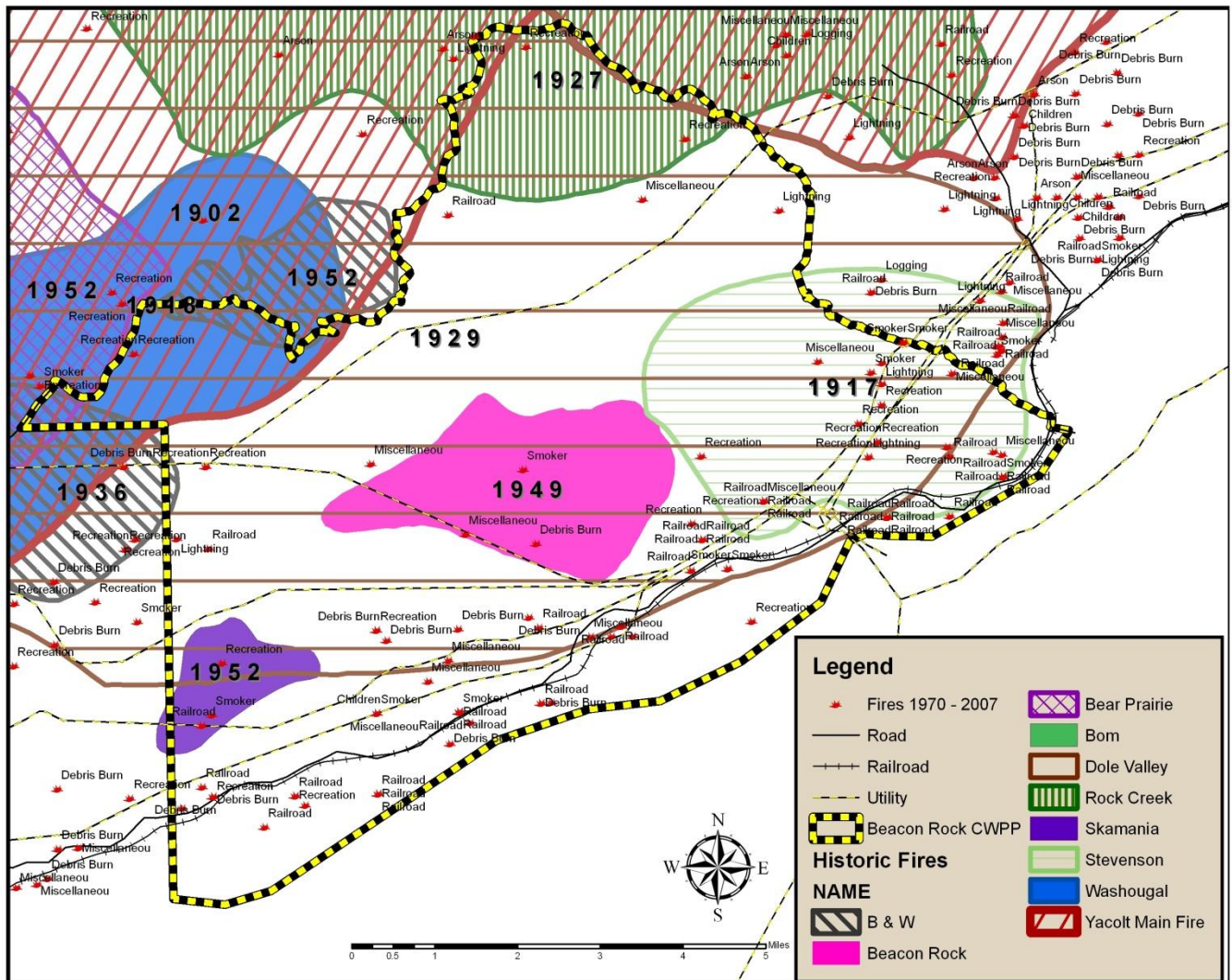


Figure 4. (Appendix – H3) Fire history of planning area. Fire statistics are from DNR statistics and may not include all fire starts. (Map by Gail A. Fullerton)

Population

The population of Skamania County is 10,700¹. 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 unincorporated Beacon Rock area is about 1100².

Transportation

Roads that service the Beacon Rock communities are SR 14, Cascade Drive, Duncan Creek Road, Woodard Creek road, Smith-Cripe Road, Kueffler Road, Skamania Landing Road and Franz Road. SR 14 is the major east - west route through the Columbia Gorge on the Washington side of the Columbia river.

¹ Based on 2006 census data

² Based on 2006 census data; WA, Office of Financial Management, Accessed 8/2008



Figure 5 - The town of Yacolt 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 Beacon Rock CWPP includes:

Transportation:

Roads: SR-14, Duncan Creek Road, Smith-Cripe Road, Kidney Lake Road, Kueffler Road

Bridges (SR 14)

Railroads

Utilities:

Gas

Natural gas lines

Propane tanks

Electricity

Bonneville Dam hydropower production facility

Power transmission lines

Water

Reservoir

Water lines and tanks

Other Services:

Schools

Senior Center

Library

Post Office

PLANNING PROCESS

Planning for the Beacon Rock CWPP followed recommendations found in “Preparing a Community Wildfire Protection Plan: a Handbook for Wildland-Urban Interface Communities” (National Association of State Foresters 2004), 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 Beacon Rock 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 Beacon Rock Steering Committee met three times to establish, review, and critique the planning components (Appendix A- Meeting Agendas, Minutes). The Beacon Rock Steering Committee consists of the following entities:

Core group (Decision makers)

Trevor Munsh – North Bonneville Fire Department, Chief
Shane Cornish – Skamania County Fire District #5, Acting Chief
John Carlson – Skamania County, Emergency Manager
Marlon Morat – Skamania County Fire Marshal and Building Inspector
Russ Hovey – Washington State Department of Natural Resources (WA DNR)
Pacific Cascade 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

Vivian Mc Neil – Beacon Rock State Park, Ranger
Ron Corl – Skamania Landing Owners Association (SLOA), Member, Retired Firefighter
Jim Bradley – , SLOA, Water
Chris Spangler – Skamania County Fire District #5 (SCFD #5)
David & Judy Martin – Beacon Rock community members
Jamie Gomez – Underwood Conservation District, Resource Technician
Steve Hickey – North Bonneville Fire Department
Alan Lawson – WA DNR
Bob Cannon - Skamania County Fire District #5 & CERT

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 Beacon Rock communities delineated the planning area. The planning area is an entire watershed and includes the all of the service area for both North Bonneville Fire Department, SCFD #5 and all of Beacon Rock State Park. The southern border of the planning area is the center of the Columbia River. The southernmost point of the eastern boundary is the center of bridge of the gods. The boundary follows SR 14 to Ash Lake road and continues along that road when it becomes Blue Lake Road. It continues to follow the ridgeline north and west to Three Corner Rock. From Three Corner Rock the boundary follows the road along the ridge (mostly south and west) which becomes Washougal River Road to the northern boundary of FD # 4 which it follows east to the western boundary of FD#5 which it follows to the southern boundary. (Figure 3, Appendix H-2) The Planning area encompasses 40,053 acres and ranges in elevation from 50 to 3,700 feet above sea level.

Step Three: Community Outreach

Community members from the Beacon Rock CWPP area served on the Beacon Rock Steering Committee to represent the public throughout the process. (A list of community members appears in Step One on page 7). A questionnaire was created, was distributed at the 2008 Skamania County Fair and dispersed within the community in October 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 December 15, 2008 to January 16, 2009.

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 Beacon Rock planning area.

Risk Assessment Process: Phase I

The Beacon Rock 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

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

Ignition source	Degree of risk
Man	
Campfires	(HIGH)
BNSF Railroad	(HIGH)
Stupidity	(HIGH)
Downed transmission lines (BPA)	(HIGH)
Arson	(HIGH)
Fireworks	(HIGH)
Recreational vehicle exhaust (catalytic converter)	(HIGH)
Cigarettes	(HIGH)
Nature	
Lightening	(HIGH)
Drought	(HIGH)

Description of Ignition Risks

Campfires

Campfires and other recreational fires account for the second largest number of both fire starts and acres burned in the Beacon Rock CWPP area. There are many hiking and backpacking destinations within the GPNF and CRGNSA that thousands of people visit every year. Campfires, 2 ft. x 2 ft. or smaller are allowed on public land and private land with no permit required 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.

BNSF Railroad

The Burlington Northern-Santa Fe (BNSR) Railroad runs the length of the southern boundary of the planning area. The railroad has been the cause of forty fires between 1973 and 2007 within the Beacon Rock CWPP boundary. However all these fires combined only burned about eight acres(DNR GIS). Still, this busy railroad has the potential to start a large wildfire that could affect homes and residents in the planning area as evidenced by the 2007 Broughton Fire. Railroad maintenance activities, especially track grinding, started fires in the past and are now governed by Skamania County Ordinance 2008-09.

Although highway SR 14 forms a fuel break, ample fuels exist in the strip between the railroad and the highway to support a significant wildfire with potential to spot across the highway and ignite the heavy forest fuels north of the highway.

Stupidity

Let's face it a large percentage of fires, are caused by stupidity every year. A campfire left unattended, a barbeque lit on a covered porch, an ATV driven through high dry grass in August or a cigarette thrown carelessly out the window of a car all have potential to start wildfires.

Downed transmission lines

Power transmission lines located throughout the planning area include the main distribution lines for power generated at Bonneville Dam. Power lines could be brought down by wind, falling trees or a natural disaster. Power lines touching the ground could ignite a fire as could branches or trees falling on power lines.' 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

Arson has been a problem in Skamania County in recent years despite efforts by law enforcement agencies including several arrests. 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.

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 vehicle exhaust (catalytic converter) Catalytic converters on recreational vehicles and sparks from off road vehicles can start wildfires during times of low fuel moisture. Don't drive or park in dry grass. If off-road motor vehicle use is permitted, check the exhaust system of full-size vehicles and clear any grass or twigs from around the system, including the catalytic converter. Be sure the spark arrester on motorcycles and ATVs is functioning properly. Always carry a fire extinguisher.

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.

Debris Burning

Debris burning caused more acres to burn in the CWPP area from 1970 to 2005 than any other fire cause. Education and recent changes in Skamania County burn regulations may account for the reduction in fire starts from debris burning in recent years. 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.

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.

Drought

Prolonged drought, coupled with high temperatures, and strong winds, spell fire danger anywhere. Summer drought conditions are important in the Pacific Northwest because the fire season occurs in late summer (August–September and even into October) rather than spring or early summer, and there is ample time for high temperatures to deplete moisture generated by winter or spring conditions even in large-diameter fuels (Hessel et al. 2004). Fuel moisture content is an important index for fire potential. In boreal forest and wetter areas of the Pacific Northwest, where fine fuel production is not limited by climatic variability, short-term synoptic fluctuations in atmospheric conditions play an important role in forcing extreme wildfire years (Peterson and McKenzie 2008).

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 Beacon Rock area runs from mid-May through October.

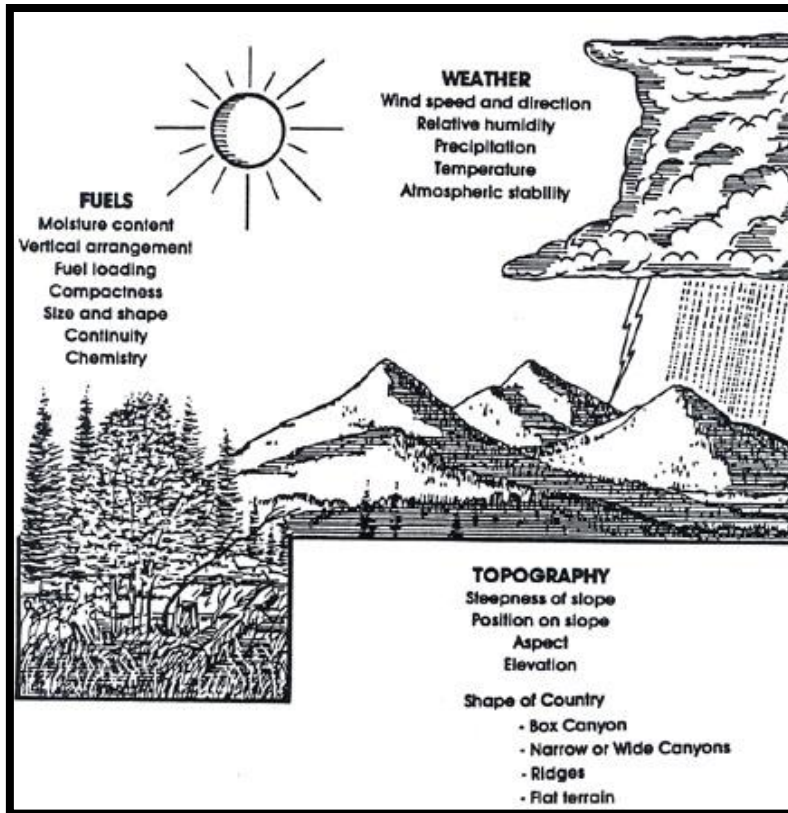


Figure 6. Hazards affecting rate of ignition and spread of wildland fire. (Adapted from www.pfmt.org/fire)

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 Beacon Rock CWPP area 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 Skamania County Fire District #5, North Bonneville Fire Department or Underwood Conservation District (UCD), for assistance in assessing and reducing their risk factor.

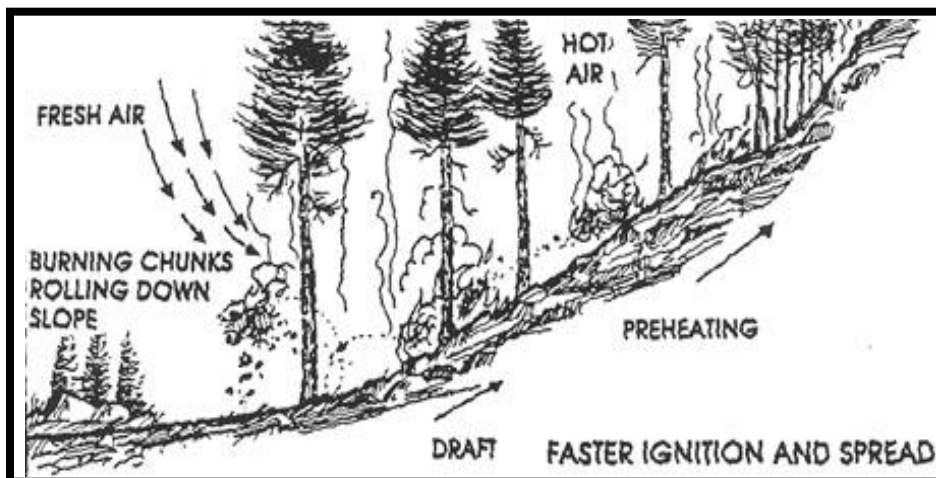


Figure 7. Effect of slope on fire ignition and spread. (Adapted from www.pfmt.org/fire)



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 Landfire³ were used in assessing wildfire hazard (Figure 9).

³ 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.

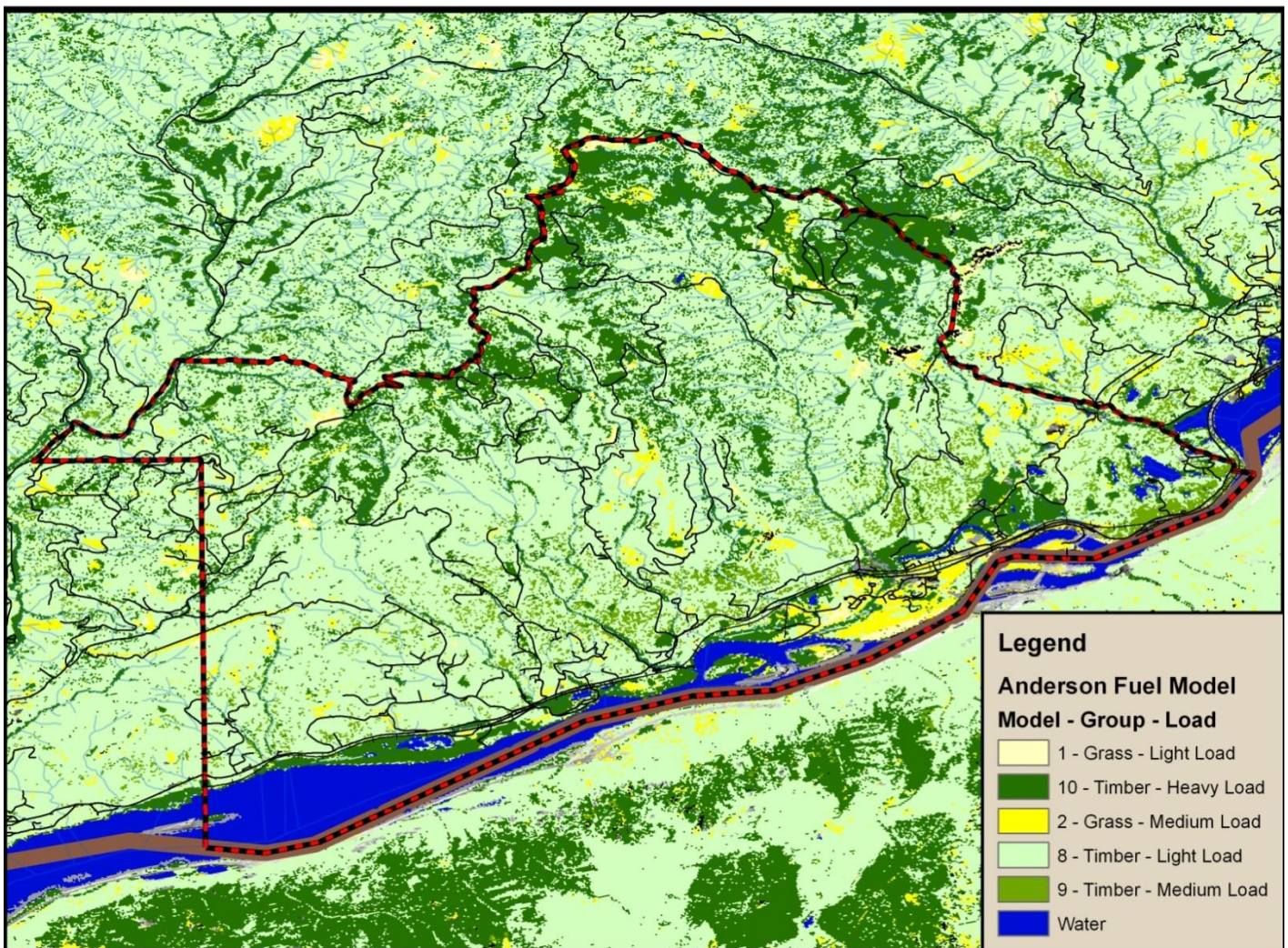


Figure 9. (Appendix H-6) Fuel types in Beacon Rock CWPP area. (Map by Gail A. Fullerton)

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.

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 Beacon Rock residents want to protect include but are not limited to:

— Family & Pets	HIGH
— Neighbors	HIGH
— Infrastructure	HIGH
— Reservoirs	HIGH
— Research Facilities	HIGH
— Escape Routes	HIGH
— Historic Structures	MEDIUM
— Beacon Rock Trail	MEDIUM

4. Emergency Equipment and Staffing Inventory

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

Skamania Fire District #

- 1 – Fire station with 4 bays
- 8 – Person crew
- 1 – Chief
- 1 – Captain
- 2 – Engines
- 1 – Tender brush rig.
- 1 – 1990 Brush truck

North Bonneville Fire Department

- 1 Fire Station
- 14 Volunteer fire fighters including 1 Chief and 1 Assistant Chief.
- 2 Engines
- 1 Brush truck

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 Beacon Rock 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 Beacon Rock 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: Duncan Creek Road, Woodard Creek Road, Smith-Cripe Road, Kidney Lake Road, Kueffler Road, Archer Mountain Road (evacuation routes), the Greenleaf Lake area (Green leaf creek and Greenleaf slough) , and Downed fuel left by the contractor that trimmed trees along the power lines near Beacon Rock State Park.

Communities at risk are shown in Figure 10. (Appendix H 5)

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 an 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 Beacon Rock CWPP.

The following projects were identified to reduce the risk of wildfire and protect life, property and natural resources within the Beacon Rock planning 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 Beacon Rock CWPP core group (see page 9 for definition) will oversee and approve any project amendments or grant applications that reference the Beacon Rock 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 Beacon Rock CWPP Steering Committee during CWPP planning meetings. Project priorities may be adjusted at future meetings of the Beacon Rock CWPP Steering Committee. Other project categories may be developed in the future.

Table 1. Beacon Rock CWPP Projects

1. Beacon Rock CWPP Projects		
PROJECT TYPE	PROJECT	PRIORITY
Fuel Reduction		
	1. Refine fuel estimates	HIGH
	2. Fuels reduction along evacuation Routes	HIGH
	a. Archer Mountain road	HIGH
	b. Duncan Creek Road	HIGH
	c. Kidney Lake Road	HIGH
	d. Kueffler Road	HIGH
	e. Smith-Cripe Road	HIGH
	f. Woodard Creek Road	HIGH
	3. Fuels reduction in the Green Leaf Lake area	HIGH
	4. Fuels reduction on privately owned properties	HIGH
	5. Chipping or removal of down wood and sprayed brush along BPA right of way near Beacon Rock State Park	HIGH
	6. Fuels reduction (thinning and chipping) in Beacon Rock State Park	HIGH
Planning		
	1. Evacuation planning	HIGH
	2. Water source identification	HIGH
	3. Coordination of Burn Bans (between all agencies and landowners)	HIGH
	4. Involve CERT	HIGH
	a. Engage in planning projects especially evacuation and assembly points	HIGH
	b. As a deployable resource for early response	HIGH
	5. Develop an all risk Incident Management Team (IMT) for Skamania County	HIGH
Education		
	1. Develop and post signage including fire danger and burn ban in effect	HIGH
	2. Signage for evacuation routes and assembly points	HIGH
	3. Education on mitigation of structure ignition	HIGH
	a. Gorge Days in North Bonneville booth	
	b. Skamania County Fair booth	
	4. A roving fire danger education team (volunteer?)	HIGH
	a. Trail Head Reading	
	b. Recreation Education (most starts are recreation related)	
Equipment, Staffing and Exercise		
	1. Communications Interoperability	HIGH
	a. Resolve Issues caused by repeater locations	HIGH
	b. P-25 compatibility	HIGH
	2. Volunteer recruitment and training	HIGH
	3. Fire department equipment and training	HIGH
	a. Brush rig (Skamania)	
	b. Water tender (North Bonneville)	
	c. Fire shelters	
	d. Firefighters red Card / wildland trainings (weekends, combine districts)	
	e. Other continuing firefighter training	
	4. Chipper – purchase or rent for use in planning area including Beacon Rock State Park	HIGH
	5. Water supply	HIGH

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: Refine Fuel Estimates

HIGH

Accurate fuel load estimates may be needed. Fuel loads are not static. Plants that comprise the fuel load continue to grow. People keep moving into the wildland interface. Assessment of fuels will allow Beacon Rock CWPP communities to accurately estimate their risk and plan accordingly.

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 2: Fuels treatment along evacuation routes

HIGH

Shaded fuel break along both sides of evacuation routes 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. The following roads will serve as evacuation routes for the Beacon Rock CWPP area and are considered priority locations for fuels reduction work.

- a. **Archer Mountain road**
- b. **Duncan Creek Road**
- c. **Kidney Lake Road**
- d. **Kueffler Road**
- e. **Smith-Cripe Road**
- f. **Woodard Creek Road**

Project 3: Fuels reduction in the Greenleaf Slough, Greenleaf Creek Area

HIGH

This is an area with heavy fuel (Anderson fuel model 10) near, railroad tracks, SR 14, popular recreation destinations and a relatively densely populated area. The Beacon Rock CWPP steering committee feels that this is a high priority for fuels reduction.

Project 4: Fuel reduction on privately owned properties

HIGH

There are a disproportionate number of homes at high risk to wildfire (NFPA 299 survey data) in the western half of Skamania County. This area is wetter than the eastern half of the county and has a fire regime of infrequent (200 year or greater interval) stand replacing fires. The success of local fire departments in suppressing small fire quickly has only enhanced the erroneous belief that it can't happen here. The problem is it can happen here. Education, and fuel reduction work on individual private properties can help keep people from losing their homes and/or their lives during wildfire that will inevitably burn through to the area.

Project 5: Chipping or removal of down wood and sprayed brush along BPA right of way near Beacon Rock State Park

HIGH

The contractor that cut down trees and shrubs in the BPA right of way near Beacon Rock State Park left the debris where it fell creating an excellent supply of fuel for a wildfire. There is also concern over the result of killing weeds with pesticides and leaving the dead plants in place.

Project 6: Fuel reduction (thinning and chipping) in Beacon Rock State Park

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.

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 planning (see fuel reduction project 2 and education project 2)

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. Assembly points, planned locations where people will go after evacuating, are an important part of the plan. Assembly points help to determine that everyone is safe. 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 identification (also see equipment staffing And training project 5) HIGH

Firefighters need to know where water can be obtained before it is needed. Knowledge of water locations and proper equipment to access the water are important to successful suppression of wild fire. Valuable time is lost when firefighters need to travel a long distance to replenish water. The Skamania “Firewise” project has located hydrants and some alternative water sources and the information has been distributed to first responders in both a searchable electronic and book form but more water sources need to be identified or developed.

Project 3: Coordination of Burn Bans (between all agencies and landowners) HIGH

The Beacon Rock CWPP area is comprised of private land governed by Skamania County and North Bonneville and public land managed by the USFS, US Fish and Wildlife, US Bureau of Land Management, and Washington Parks and Recreation. Each entity can issue its own burn bans. The situation is confusing to locals and visitors alike. Coordinated burn bans would make it easier to know when burning is allowed.

Project 4: Involve Skamania County Citizens Emergency Response Team (CERT) HIGH

The Community Emergency Response Team (CERT) Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

a. Engage in planning projects especially evacuation and assembly points

CERT members are likely to be well qualified to plan or help plan for wildfires and other emergencies. All CERT members have training in emergency response and many have had a chance to practice what they have learned. CERT members live in the communities where they volunteer and therefore have a good knowledge of the local area.

b. As a deployable resource for early response

Following a major disaster, first responders who provide fire and medical services will not be able to meet the demand for these services. Factors as number of victims, communication failures, and road blockages will prevent people from accessing emergency services they have come to expect at a moment's notice through 911. People will have to rely on each other for help in order to meet their immediate life saving and life sustaining needs. CERT members can help with evacuation and other tasks as needed to assist fire fighters.

Project 5: Roving fire danger education team (volunteer?) (Also education project 4) HIGH

The Beacon Rock CWPP area hosts numerous tourists each year. Many of them hike and camp in the forests of the CWPP area. Visitors to the area often have little knowledge of fire danger and fire history of the area. Neither Washington State Parks and Recreation or the USFS currently have funding to cover all trails and natural areas but volunteers could be recruited and trained. Two activities are suggested for the volunteers.

a. Trailhead readings

Having someone with knowledge of the history of the area at trailheads for popular destinations could enrich the visitors experience while ensuring that they are informed of the current fire danger and risks.

b. Recreation Education (Most starts are recreation related.)

Where there's camping, there's fire. It's inevitable. Unfortunately, just about everyone feels qualified to build a fire, regardless of how much experience or fire safety education they've received. Recreational fires account for the highest number of wildfire ignitions in Skamania County. Increasing fire safety and “leave no trace” education could dramatically decrease the number of ignitions. Fires are generally only allowed in existing fire rings. Where no such rings exist small portable camp

stoves should be used to heat food. If using an existing fire ring keep the fire small and burning only for the time you are using it. Allow wood to burn completely to ash. Put out fires with water, not dirt. Dirt may not completely extinguish the fire.

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.

Project 1: Develop and post signage including fire danger and burn ban in effect **HIGH**
Post sign with information on fire danger, burn bans and defensible space.

Project 2: Signage for evacuation routes and assembly points (see planning project 1) **HIGH**
Following evacuation planning, post signs along evacuation routes and at assembly points. Maps and other information about the evacuation plan should be distributed to community members.

Project 3: Education on mitigation of structure ignitability **HIGH**
Educate all community members on defensible space and "Firewise" principles. The Beacon Rock 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). A staffed booth at the following annual events will help to teach the public proper "Firewise" techniques and recommend measures that homeowners can take to reduce structure ignitability.

- a. Gorge Days in North Bonneville
- b. Skamania County Fair

Project 4: A roving fire danger education team (see planning project 5) **HIGH**
a. Trail Head Reading
b. Recreation Education (most starts are recreation related)

D. Equipment, Staffing and Exercise Projects (FD #3)

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: Communications Interoperability **HIGH**
a. **Resolve issues caused by repeater locations**
Locations of existing repeaters leave holes in the coverage area where there is no radio coverage. This means that firefighters can lose radio communications and be at greater risk. Oregon placed some of their repeaters on the Washington side of the Columbia to gain greater coverage. The Beacon Rock CWPP Steering Committee suggests that Skamania County and Washington State research options to improve radio coverage.

- b. **P-25 compatibility**
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. 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.

Project 2: Volunteer firefighters recruitment and retention **HIGH**
Both North Bonneville Fire Department and Skamania County FD #5 want 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 3: Fire department equipment and training **HIGH**
Train all fire fighters from the CWPP area 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. The following are critical to successful fire fighting operations:

- a. **Brush rig (Skamania County FD #5)**
- b. **Water tender (North Bonneville FD)**
- c. **Fire shelters**
- d. **Firefighters red Card / wildland trainings (weekends, combine districts)**
- e. **Other continuing firefighter training**

Project 4: Chipper – purchase or rent for use in planning area including Beacon Rock State Park HIGH
Chippers are almost always used during fuel reduction projects. The Beacon Rock CWPP Steering Committee suggests that the benefits of owning versus renting a chipper should be researched prior to beginning fuel reduction projects.

Project 5: Water Supply (see Planning Project 2) HIGH
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 Beacon Rock 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 Beacon Rock 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 Beacon Rock 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.

Beacon Rock Action Plan	
Action Description	Targeted Completion Date
Establish evacuation routes and assembly points.	
First meeting to occur by December 2008	
Signage at fire halls (burn ban signs just made and available for under 10\$) and escape routes.	
Explore options for dealing w/BPA right of way slash	
Follow through as needed by deadlines on applying for grants	
FD#5 Needs a grant writer	
Water source identification	
Informational booths at multiple events	
Generate community interest	
Roving Chipper	

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

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