

Tillamook County Community Wildfire Protection Plan



Cruz Hill Fire, October 2006

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Signatures:

As required by the Healthy Forests Restoration Act (HFRA), the undersigned representatives of the Tillamook County Board of Commissioners, Tillamook County Fire Defense Board and Oregon Department of Forestry acknowledge that they have reviewed and agree with the contents of this plan.

Tillamook County Fire Defense Board Chief

Jay Marugg, Tillamook County Fire Defense Board Chief Date

Oregon Department of Forestry

Andy White, District Forester, Tillamook District Date

Tillamook County

Charles Hurliman, Tillamook County Commissioner Date

Tim Josi, Tillamook County Commissioner Date

Mark Labhart, Tillamook County Commissioner Date

EXECUTIVE SUMMARY

Recent fires in Oregon and across the western United States have increased public awareness about the potential losses to life, property, and natural and cultural resources that fire can pose.

The Tillamook County Community Wildfire Protection Plan (TCCWPP) is the result of a countywide effort initiated to reduce wildland fire risk to communities and their citizens, the environment, and quality of life within Tillamook County. Citizens, fire districts, county staff, elected officials, and agency representatives have worked together to create a plan that will be successful in implementing fuels reduction projects, fire prevention education campaigns, and other fire-related programs.

See Appendix A for a list of participants of the Tillamook County Local Coordinating Group (LCG)

Plan Adoption

To ensure recognition by the public, as well as partner agencies and organizations, The Local Coordinating group presented this Tillamook County Community Wildfire Protection Plan (TCCWPP) to the County Commissioners for adoption on March 10, 2010.

While the Tillamook County Community Wildfire Protection Plan provides a foundation and resources for understanding wildland fire risk and opportunities to reduce potential losses from wildland fire, individual communities, fire districts and neighborhoods can take local action by developing community-specific fire plans or by participating in countywide activities for prevention and protection.

The Healthy Forests Restoration Act of 2003 recommends that communities develop a Community Wildfire Protection Plan. With formal adoption of this plan, Tillamook County is more competitive for funding that may assist with plan implementation. Furthermore, adoption of this plan highlights the partnerships between fire districts, local government, community-based organizations and public agencies. The result of this partnership is direction for the local agencies about priority fuel treatments on non-federal lands, state managed forests and federally managed lands.

Sustaining Fire Plan Efforts

In the past, there has been limited awareness about the investment required to maintain fire protection. From fuels reduction, education and prevention to evacuation, citizens must have the information and resources to be active participants in reducing their risk to wildland fire. For many years, there has been a reliance on insurance, local government, fire service, federal agencies and many other types of organizations to aid us when disaster strikes.

The Tillamook County Community Wildfire Protection Plan (**TCCWPP**) encourages citizens to take an active role in identifying needs, developing strategies and implementing solutions to address wildland fire risk by assisting with the development of local community wildfire protection plans and participating in countywide fire prevention activities. Citizen action may be cleaning up brush around homes, installing new smoke detectors, volunteering to be a part of auxiliary, attending community meetings, and/or passing along information on fire prevention to neighbors and friends. With the **TCCWPP** as a foundation, community wildfire plans and local action can guide successful implementation of fire hazard reduction and protection efforts in the County.

Development of the Tillamook County Community Wildfire Protection Plan has been no small task. Building a partnership and cooperative environment between “community based” organizations, fire districts, local government and the public land management agencies has been the first step in identifying and prioritizing measures to reduce wildfire risk. Maintaining this

cooperation with the public is a long-term effort that requires commitment of all partners involved. Tillamook County is committed to supporting the rural fire districts and communities in their fire protection efforts, both short and long-term. The County will continue to provide support in maintaining countywide risk assessment information and emergency management coordination.

In 2009, The Local **TCCWPP** Coordination Group will work on implementing the wildfire plan by working with fire districts, community organizations and public agencies to coordinate fuels reduction projects with existing dollars through the National Fire Plan. The **TCCWPP** will include public meetings, an education campaign and strengthening emergency management and evacuation procedures. **TCCWPP** partners will also focus on refining long-term strategies to maintain fire protection activities in the County. Annual meetings of the local coordinating group and annual open house meetings will continue to take place.

Tillamook County Community Wildfire Protection Plan Mission, Goals, Objectives

Developed by the local coordinating group comprised of rural fire protection districts, local government, state and federal agencies, and community-based organizations, the plan mission is to reduce the risk from wildland fire to life, property and natural resources in the County.

Goals

- Protect against potential losses to life, property and natural resources from wildland fire;
- Build and maintain active participation from each Fire Protection District;
- Set realistic expectations for reducing wildland fire risk;
- Identify actions for fire protection;
- Access and utilize federal and other grant dollars;
- Identify incentives for fire protection and community participation;
- Promote visible projects and program successes;
- Monitor the changing conditions of wildland fire risk and citizen action over time;
- Institutionalize fire-related programs and sustain community efforts for fire protection;
- Establish and maintain escape routes and adjacent corridors.

To address the complex range of issues within the **TCCWPP**, it became clear early in the planning process that broader and diverse participation was needed for success. Through public meetings and invitations to organizations and stakeholders in the county, sub categories were formed to develop objectives and implement actions to support the plan. Objectives within sub categories are described below.

Category	Objective
General	<ul style="list-style-type: none"> • Provide oversight to all activities related to the TCCWPP • Ensure representation and coordination • Develop and refine goals for fire protection in Tillamook County • Develop a long-term structure for sustaining efforts of the TCCWPP
Risk Assessment	<ul style="list-style-type: none"> • Identify Communities-at-Risk in the Wildland-Urban Interface • Develop and conduct a wildland fire risk assessment • Identify hazardous fuels treatment projects
Fuels Reduction	<ul style="list-style-type: none"> • Identify strategies for coordinating fuels treatment projects at a landscape scale

	<ul style="list-style-type: none"> Provide special need citizens with an opportunity to participate in programs
Emergency Management	<ul style="list-style-type: none"> Strengthen emergency management, response and evacuation Coordinate between County government and local fire districts
Information and outreach	<ul style="list-style-type: none"> Develop strategies for increasing citizen awareness and action for fire prevention Reach out to all citizens in the county

County Profile

Based on the 2006 Census, there are 25,380 people residing in Tillamook County. Principal industries are tourism, fishing and forest products. The total area of Tillamook County is 1,125 square miles. 90% of the county is considered forest land. The county is bordered on the north by Clatsop County, on the west by the Pacific Ocean, on the east with the verdant Oregon Coast range between the County and Washington, Yamhill and Polk Counties, and on the south by Lincoln County.

Management	Acres	Percent
Private Lands (Residential, Timber Companies, etc.)	195,368	29.6%
Bureau of Land Management	48,433	7.3%
Army Corps of Engineers/Misc. Federal	130	<1%
Other Owner Management (Tillamook County & Municipal Lands)	16,529	2.5%
Oregon Department of Forestry	307,833	46.7%
United States Forest Service	91,000	13.8%
Total	659,293	

Within the county boundary there are 4 incorporated cities with fire departments: Bay City, Garibaldi, Rockaway Beach, and Tillamook. In addition to the city fire departments there are 3 rural fire districts. 96% of Tillamook County's firefighters are volunteers. The remaining 4% are paid officials ranging from Fire Chiefs to Training Officers. The City of Tillamook is the only fire department that is staffed 24 hours.

There are 9 organizations that provide wildland fire protection in Tillamook County, comprised of the rural fire districts and fire departments, US Forest Service and Oregon Department of Forestry (ODF). During elevated levels of Fire Danger the Northwest Oregon Fire Protective Association (NWOFFPA) contracts with local companies to provide air patrol and, through special appropriations, a helicopter is pre-positioned within the boundaries of the NWOFFPA.

Oregon Department of Forestry and the Tillamook County Fire Defense Board are in a partnership to suppress wildland fires, and operate under a "closest forces" concept. ODF is responsible for protection of private lands, BLM lands, county and State of Oregon lands within the Forest Protection District. ODF has mutual aid agreements with the rural and city fire districts/departments, and the USFS within Tillamook County that allows for assistance to be provided regardless of jurisdiction.

See Land Management Map in Appendix B

See Tillamook County Rural Fire Protection Districts Map in Appendix B

Wildland Fire Risk Assessment

The Tillamook County Community Wildfire Protection Plan wildland fire risk assessment analyzes the potential losses to life, property and natural resources. Objectives of the risk assessment are to identify Communities at Risk and the Wildland-Urban Interface, develop and conduct a wildland fire risk assessment, and identify and prioritize hazardous fuels treatment projects. The analysis takes into consideration a combination of factors defined below:

Risk: Potential and frequency for wildland fire ignitions (based on past occurrences)

Hazard: Conditions that may contribute to wildland fire (fuels, slope, aspect, elevation, and weather)

Values: People, property, community infrastructure, natural and other resources that could suffer losses in a wildfire event.

Protection Capability: Ability to mitigate losses, prepare for, respond to, and suppress wildland and structural fires.

Structural Vulnerability: Characteristics influencing the vulnerability of structures during a wildland fire event (roof type and building materials, access to the structure, and whether or not there is defensible space or fuels reduction around the structure.)

Communities at Risk

In recent years the population of Tillamook County has moved further and further into traditional resource land including forested lands. This has produced a significant increase in threats to life and property and has pushed existing fire protection beyond its original or current design capabilities.

Many Tillamook County property owners could use assistance identifying the challenges they face. Information on risk reduction and mitigation to offset the fire hazards on their property is essential.

Hazardous Fuels Reduction Objectives

Action
1. Identify fuels treatment projects on lands using the risk data.
2. Utilize risk assessment information in applications for National Fire Plan grants and other fuels reduction dollars.
3. Review how grant dollars for fuels reduction projects are administered. Make changes to the program so that they are more directed towards landscape scale treatments.
4. Develop long-term strategies for maintenance of fuels reduction
5. Focus Strategic planning for hazardous fuels treatment projects on evacuation routes/corridors. (County Roads/Forest Roads/State Hwys/Public Access Roads/Private Drives)
6. Promote education and outreach through all fuels reduction programs to ensure strong community involvement in fuels reduction and wildland fire prevention projects.

Fuels Treatment Areas

The State, County, Rural and City fire districts, community organizations and agency partners have worked together to identify fuel treatment areas. This process includes examining the risk assessment maps and strategic planning units and using local knowledge and information gathered during community meetings to identify the most appropriate places to prioritize for treatment.

Monitoring Strategy

The primary objective of the local coordinating group is to provide guidance for all elements of planning and implementation of the Tillamook County Community Wildfire Protection Plan. The local coordinating group will continue to provide oversight through meetings and coordination with the fire protection agencies and the communities at risk in Tillamook County.

CHAPTER 1: INTRODUCTION

Environment and Natural Resources

Tillamook County was established December 15th, 1853 and was named after the Killamook Indians. The first settlers arrived to find much of what is found today with its rich natural resources. Home of the famous Tillamook Cheese, the county is known for its many dairies.

Principal industries of the county are tourism, fishing and forest products. With forests covering 90% of the county, it is a popular destination for outdoor recreation including fishing, hiking, hunting and camping. The area has a coastal marine environment climate with average temperatures of 42.2 degrees in January and 58.2 degrees in the month of July.

Rogers Peak is the highest mountain at 3,706 feet in elevation. Surrounding this mountain are competing hills and valleys covered in Sitka spruce, western hemlock, Douglas-fir, red alder and western redcedar trees. Interspersed within the forests are rivers and valleys where small farms and communities are located.

At the base of the Oregon Coast Range mountains are several small coastal communities that quietly exist until the summer months draw crowds of tourists. The terrain along the ocean is steep rocky cliffs mixed with sand dunes covered in beach grass and shore pine.

Strategy

Fire has been a major force in shaping the existing forest and other plant communities since long before the country was settled. Humans will always be the major contributing factor to fire starts during all weather conditions. Of the three fire behavior components (fuel, weather, topography), fuels are the one variable that humans can easily influence and modify. This plan is aimed at reducing fire effects by reducing fuel loading as well as educating the public on wildland fire prevention. A reduction in fuel loading will create conditions that are essential to safety and efficiency in fire suppression efforts. When these efforts are combined with a community based approach to fire prevention our results will be doubled.

1. The number one goal of this plan is to provide for the protection of the public and create a safe work environment for fire suppression forces. With the reduction of wildland fuels and establishing firewise communities we move closer to achieving the goal of all structures surviving an oncoming fire. Again education and outreach play an important factor here as many homeowners around the county are unaware of defensible space strategies and how to implement them effectively.
2. Everyone involved with this plan must work together to successfully manage hazardous fuels within and near the communities. Those included are association groups, federal agencies, local Agencies, local and state fire protection districts, private industrial timberland owners, and private land and home owners.
3. There are occasionally weather conditions where high temperatures, 30% or less humidity and strong winds occur simultaneously. These conditions can lead to plume dominant fires which create their own burning conditions and are literally unmanageable and can become catastrophic. Under these conditions, prevention through communication to reduce fire start potential is the only protection for communities from wildland fire effects.
4. There are various local, state and federal programs and policies related to community fire planning.

The key to making this plan work will be increasing public awareness through informational programs. This county is a typical Oregon rural county with small cities scattered throughout with a population of people living in homes scattered outside the city limits. These homes are located in all fuel types. Some are snuggled in the timber adjacent to the forest. Others are in the lower elevations of the coastal strip with beach grass and shore pine. 96% of Tillamook

County's firefighters are volunteers and during work hours and holidays, it can be very difficult for fire departments to respond with an appropriate level of firefighters.

Fire Policies and Programs and Fire Protection.

Recently, the Healthy Forests Restoration Act, signed into law by President Bush in 2003, calls for the development of Community Wildfire Protection Plans for all communities at risk from wildland fire. This section describes these requirements, as well as related county, state and federal programs.

Healthy Forest Restoration Act (HFRA) / Healthy Forest Initiative (HFI)

In 2002, the President announced the Healthy Forest Initiative (HFI) which was designed to identify and remove barriers to the implementation of projects that were developed to restore the health of the national forests. HFI was focused on renewed efforts to be more effective and efficient in carrying out restoration projects. Under HFI, new categorical exclusions were developed to allow the federal agencies to move more quickly through National Environmental Policy Act (NEPA) process under appropriate circumstances. The streamlined administrative review processes for NEPA created new regulations under the Endangered Species Act for National Fire Plan projects to streamline consultation with federal regulatory agencies. It also set the stage for extensive discussion between the administration and Congress that resulted in new legislation addressing forest health.

Congress enacted the Healthy Forest Restoration Act in November 2003. It provides new tools and additional authority to treat more federal-managed acres more quickly to expedite our restoration goal. It strengthens public participation and provides incentives for local communities to develop community wildfire protection plans. It limits the complexity of environmental analyses for hazard reduction projects, provides a more effective appeal process and instructs the courts that are being asked to halt projects, to balance the short-term effects of implementing the projects against the harm from undue delay and long term benefits of a restored forest.

Title I of the HFRA addresses vegetation treatments on certain types of National Forest System and Bureau of Land Management (BLM) lands that are at risk of wildland fire or insect and disease epidemics.

This title:

- Encourages streamlined environmental analysis of HFRA projects;
- 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 Forest Service and BLM conduct HFRA projects in such stands;
- Requires HFRA projects in the Forest Service 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;
- Encourages collaboration between federal agencies and local communities when community wildfire protection plans are prepared;
- Requires using at least 50% of the dollars allocated to HFRA projects to protect at risk communities from wildland fire;
- Requires performance to be monitored when agencies conduct hazardous-fuel reduction projects and encourages multiparty monitoring that includes communities and other stakeholders; and

- 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.

Title III of the Act also encourages the development of Community Wildfire Protection Plans under which communities will designate their Wildland Urban Interface (WUI), where HFRA projects may take place. Half of all fuel reduction projects under the HFRA will occur in the community protection zone as defined by HFRA. HFRA also encourages biomass energy production through grants and assistance to local communities to create market incentives for removal of otherwise residual forest material.

National Fire Plan and 10-Year Comprehensive Strategy

The National Fire Plan (NFP) was established after a landmark fire season in 2000 with the intent of actively responding to severe wildland fires and their impacts to communities while assuring sufficient firefighting capacity for the future. The NFP is a long-term commitment intended to help protect human lives, communities and natural resources, while fostering cooperation and communication among federal agencies, states, local governments, tribes and interested publics. The NFP focuses on 1) fire suppression and protection, 2) restoration/rehabilitation, 3) hazardous fuels reduction, 4) community assistance, and 5) accountability. The Oregon and Washington NFP Strategy Team sees reduction of unnatural hazardous fuel levels that threaten communities and forest ecosystems as the foundation principle for dealing with fire risks (NFP Strategy Team 2002). Most NFP funding in Oregon goes to wildland fire preparedness and hazardous fuel treatment (USDI and USDA 2003).

The National Fire Plan is a long-term investment that will help protect communities and natural resources, and most importantly, the lives of firefighters and the public. It is a long-term commitment based on cooperation, and collaboration, communication among federal agencies, states, local governments, tribes and interested publics. The federal wildland fire management agencies worked closely with these partners to prepare a 10-Year Comprehensive Strategy, completed in August 2001. The National Fire Plan calls for the development of Community Fire Plans to aid in effectively implementing NFP goals.

Senate Bill 360: Oregon Forestland-Urban Interface Fire Protection Act

The Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB360) is intended to facilitate development of an effective WUI protection system in Oregon by 1) establishing policies regarding WUI protection, 2) defining the WUI in Oregon and establishing a process and system for classifying the interface, 3) establishing standards for WUI property owners so they can manage or minimize fire hazards and risks, and 4) providing the means for establishing adequate, integrated fire protection systems in WUI areas, including information and prevention efforts. This act is only pertinent to areas within ODF's protection boundaries and will eventually be implemented in these areas statewide.

Oregon Statewide Land Use Planning Goal 7

The intent of Oregon Statewide Land Use Planning Goal 7 for areas subject to natural hazards is to protect people and property from natural hazards. Goal 7 directs local governments to adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards. Goal 7 also indicates that new hazard inventory information provided by federal and state agencies shall be reviewed by the Oregon Department of Land Conservation and Development (DLCD) in consultation with affected state and local government representatives. After such consultation, the DLCD shall notify local governments if the new hazard information requires a local response. Local governments shall respond to new inventory information on natural hazards within 36 months after being notified by the DLCD,

unless extended by the DLCD – (<http://www.lcd.state.or.us/LCD/docs/goals/goal7>) *In relationship to ODF, as new data is identified, and particularly high hazard areas identified through Senate Bill 360, local governments will need to address the provisions of Goal 7.)*

Federal Emergency Management Agency Disaster Mitigation Act of 2000

Federal Emergency Management Agency (FEMA) requirements under Title 44 CFR Part 201 of the Disaster Mitigation Act of 2000 specifies criteria for state and local hazard mitigation planning which require local governments applying for Pre-Disaster Mitigation (PDM) funds to have an approved local mitigation plan. The adopted TCCWPP will be used as the wildfire chapter in the County's Natural Hazards Mitigation Plan.

CHAPTER 2: COORDINATION PROCESS

Coordinating Groups

There are two major committees that deal with all aspects of fire emergencies in Tillamook County. The Fire Defense Board is represented by all the municipal fire departments, Oregon State Fire Marshal's office and rural protection districts. The second is under the Master Agreement and Operating Plan between the Federal wildland fire agencies and the states of Oregon and Washington.

Community outreach will be done through both of these groups. There are many homes and structures that are in danger from possible wildland fire. Many of these homes are situated in high risk areas due to the desire for seclusion. It will be a major hurdle to contact these land owners and inform them about defensible space or convince them it is a necessary objective.

Gaining Committee Representation

The **TCCWPP** Local Coordinating Group (LCG) began conducting outreach with community-based organizations throughout the County. The **TCCWPP** Local Coordinating Group invited all organizations, businesses and residents with an interest in working on fire-related issues to participate. This was accomplished through a series of community based (CPAC) meetings coordinated between Tillamook County Planning Department and ODF. During these countywide meetings, citizens were able to voice their thoughts and concerns regarding wildland fire and ideas on how to mitigate these threats.

The LCG began by ODF conducting meetings with all of the fire districts, the US Forest Service, BLM, and private timber industry and home owner associations. This process resulted in each of the agencies appointing at least one person to the **TCCWPP** Local Coordinating Group. Agencies directed field officers, fuels management specialists, fire prevention staff and others to participate.

Local Coordinating Group

The Local Coordinating Group is responsible for providing guidance to all elements of planning and implementation of the Tillamook County Community Wildfire Protection Plan. It also compiles and documents the priority of communities at risk and projects. Members of the Local Coordinating Group include;

Members Representing:

- Rural and City Fire Departments
- Tillamook County Fire Defense Board
- Oregon State Fire Marshal
- Oregon Dept. of Forestry representing State Agencies
- Federal Agencies: USFS, BLM
- Tillamook County Planning Department
- Local Home Owners, Citizen Planning Advisory Committee
- CPAC Meetings)

Local Coordinating Group Responsibilities:

Actions	Timeline	Outcomes
Gain representation and involvement from RFPD	Short-term	Active participation by each RFPD
Access and utilize federal dollars while they are available	Short-term	Continued federal funding for fuels reduction
Set realistic expectations for reducing wildland fire risk	Ongoing	Increased public awareness about wildland fire
Coordinate priorities for funding	Ongoing	Achieve landscape treatment and equitable distribution
Promote visible projects and program successes	Ongoing	Increased awareness
Find funding to support efforts	Long-term	Increased Funding
Identify incentives for fire protection and community participation	Long-term	Increased citizen action
Engage insurance companies	Long-term	Insurance industry investment in activities
Promote local investment (property, infrastructure, business)	Long-term	Increased economic development

Citizen Involvement

The heart of the Tillamook County Community Wildfire Protection Plan is the interest and long-term involvement of residents in reducing wildland fire risk around their homes and in their community. One goal of the plan is to generate more citizen awareness and involvement in the wildfire planning process. Providing tools, information and resources that enable citizens to understand, prepare for, recover from, and learn to live with wildfire can have long-lasting effects in building resilience to catastrophic wildfire. This can also increase the capacity for communities to work together toward common goals.

Community Risk Assessment

Understanding the risk of wildfire to people, property and natural resources is an essential starting point for identifying priorities for treatment. The Tillamook County risk assessment includes a comprehensive analysis of risk, hazard, values, structural vulnerability, and protection capabilities. Each rural fire district identified areas within their jurisdiction where areas of concern exist and provided project ideas on how to mitigate these concerns in the future.

CHAPTER 3: Wildland Fire Risk Assessment

Fire Occurrence - History of fire within the community

Many of the significant fire events in Tillamook County occur as a result of carelessness with fire. During periods of high fire danger when temperatures soar into the upper 80s and 90s Tillamook County sees a large influx of people trying to escape the heat in the valley. Every Fourth of July the coastline of Tillamook County is a major draw for people celebrating with the use of illegal and legal fire works. It is not uncommon, however, for large fires to occur any time of the year. Tillamook County has had several large fires that have occurred in November, December and February. A devastating fire situation is only a matter of timing whether it occurs during the Fourth of July during multiple fire starts or in the winter when Oregon Department of Forestry's seasonal firefighters are not employed.

Majority of Statistical fires, Non-Statistical fires and Non-Fire Crew Action incidents occur during Closed Fire Season which is typically July through October.					
STATISTICAL FIRE DATA (A fire requiring suppression action by the department)			NON-STATISTICAL FIRE DATA (Mutual Aid assistance to another Agency)		
<i>TEN YEAR AVERAGE</i>			<i>TEN YEAR AVERAGE</i>		
GENERAL CAUSE	# of FIRES	ACRES BURNED	GENERAL CAUSE	# of FIRES	ACRES BURNED
lightning	0	0.01	lightning	0	0.00
railroad	0	0.03	railroad	0	0.00
equipment use	2	5.44	equipment use	1	0.18
recreationist	7	2.74	recreationist	1	0.01
smoking	1	0.04	smoking	0	0.00
debris burning	5	16.44	debris burning	1	0.90
arson	1	0.41	arson	1	0.01
juveniles	1	0.05	juveniles	0	0.00
misc	2	0.32	misc	1	0.01
TOTAL	17	25.47	TOTAL	5	1.11

The leading cause of fires for Tillamook County is recreationists. The tourism opportunities available bring a variety of types of people to the county all year round. As stated above, the population in the county during Fourth of July increases significantly with events occurring in Manzanita all the way down to Neskowin. Along the beaches, warming fires in, around and near driftwood often turn into escaped fires spreading to the beach grass and surrounding driftwood. However, this is not entirely isolated to Fourth of July, or the beaches, and occurs year round. A noticeable increase in fires happens during other major holidays, extremely hot weather and school breaks.

Hunting season tends to be the next leading occurrence of recreationist caused fires. Cured, dry fuels and cool, crisp, fall mornings lead to many warming fires left abandoned or unattended. Most warming fires are not built safely clear of vegetation or in a designated pit. Windy conditions often fan the spread of the fires to nearby brush and vegetation.

The second leading cause of statistical fires is debris burning. This category encompasses general burning and slash pile burning. Specific causes range from inadequate clearing, inadequate resources to control, burning prohibited material, failure to follow permit instructions, burning during poor conditions, inadequate mop up and unattended.

The Tillamook County Fire Defense Board has implemented a county wide burn ban for open pile burning and burn barrels for the last several years. One of the contributors to the debris burning cause being so high is the weather. Unseasonable, rainy conditions during closed fire season and the burn ban lower peoples concern of the fire danger that still exists causing them to have escaped burns. East wind events raise fire danger levels, however, people find the weather desirable to burn their backyard debris which also leads to escaped burns. Investigations have often identified inadequate clearing, unattended, and failure to recognize the severity of burning conditions as the leading specific cause of debris burn fires.

After fire season has ended and the district has received significant precipitation, reforestation activities begin in preparation for tree planting season. One of these activities is fall slash pile burning. Several considerations play a factor in determining where and when to burn designated slash piles. Consultation with meteorologist's smoke management weather forecasts, size and tonnage of planned burn and location determine the approval to burn. Conditions can be ideal and perfect, then weeks later an unexpected fall east wind event can rekindle piles with heat still in them, spreading from the pile out to the unit creating a broadcast fire. Escaped slash burning accounts for a very small percentage of the number of fires, but usually the acreage burned is much greater.

Another cause of statistical fires is equipment use. The timber industry has been prevalent in the county for over a hundred years. Logging equipment ranges in size, shape, age and quality. Harvesting practices, techniques, and rules have evolved over the years due to a number of factors, one of them being wildland fire. The devastating Tillamook Burn is an excellent example of harvest technique versus weather conditions. Since then, restrictions on logging activities have been implemented in relation to Industrial Fire Precaution Levels. However, these restrictions are only in effect during closed fire season. Significant fires in recent past occurred in July during Level 1 conditions, with normal seasonal weather conditions. These fires were caused by sparks or friction from the rigging, and the cable system. Outside of fire season incidents can still occur. The majority of these incidents are usually caused by the equipment not the harvesting activity.

NON-FIRE CREW ACTION (NFCA) DATA (Reports or incidents not requiring suppression action by the department, or standby calls for another protection agency)
<p>The majority of NFCA that occur in Tillamook County are abandoned campfires. In 2008, protection fire crews and recreation staff responded to and extinguished 82 abandoned campfires. Locations vary from the beach to designated recreation areas, to non-designated remote campsites. Most common occurrence of abandoned campfires is on Sunday or Monday when campers have had breakfast, burned their trash, then left to return home. Of most concern are the abandoned campfires at remote campsites, where given the right weather conditions could cause the fire to escape and turn into a wildland fire. In addition to the abandoned campfires, 25 illegal attended campfires were reported in 2008, resulting in a violation of ORS 477.</p> <p>Fire reporting features have been improved allowing more accurate tracking of other types of NFCA. On average, crews respond to 5 smoke chases, 1 lightning strike chase, and 2 debris burn calls a season.</p>

Tillamook County Fire Statistics 1960 to 2009

Size (acres)	Number of Fires	Total Acres Burned
0-10	909	572
10-100	33	851
100-1000	4	1,244
1000 +	0	0
Totals	946 Fires	2667 Acres Burned

Fire Information Provided by ODF's Fires program. Prior to 1960 Tillamook County witnessed several large fires, four of those being the series of fires known as the Tillamook Burn.

Notable Fires:

July 25, 2006:	Spring Creek Fire	35 Acres
November 26, 2002:	Bay Overlook Fire	46 Acres
November 29, 2002:	Butte Creek Fire	45 Acres
	Blue Lake Fire	45 Acres
September 20, 1995:	Steampot Fire	30 Acres
October 15, 1986:	Prouty Creek Fire	105 Acres
October 2, 1976:	Cronin Creek Fire	834 Acres
October 29, 1970:	Smith Creek Fire	202 Acres
September 21, 1951:	Edwards Creek Fire	33,000 Acres total
July 20, 1951:	Elkhorn Fire	
April 23, 1951:	North Fork Trask Fire	
	(the Edwards Fire was a rekindle of the July fire; all of the acreage had been burned in the previous large fires)	
July 11, 1945:	Wilson River Fire	180,000 Acres total
July 9, 1945:	Salmonberry	
	(the two fires burned together, much of the land had already been burned in the previous fires, only 65,150 new additional acres)	
August 1, 1939:	Saddle Mountain Fire	190,000 Acres total
	(much of the land had already been burned in the Tillamook Fire, only 50,091 new additional acres)	
August 14, 1933:	Tillamook Fire	240,000 Acres

*See Historic Fire Occurrence Map in Appendix B
See Previous Large Fire Map in Appendix B*

Wildland Urban Interface (WUI)

The boundaries of the **Wildland Urban Interface** are based on the actual distribution of structures and communities adjacent to or intermixed with wildland fuels. The WUI boundary for Tillamook County was established by the local coordinating group based upon local expertise. Each member from their respective area provided input and mapped out the boundary as to better grasp what was actually on the ground.

Fuel reduction treatments are designed to protect human communities from wildland fires as well as minimize the spread of fires that might originate in urban areas. The management objective in the wildland-urban interface zone is to enhance fire suppression capabilities by modifying fire behavior inside the zone while providing a safe and effective area for fire suppression activities.

See WUI Map in Appendix B

Fire Regime and Condition Class

Fire Regime Codes	Description
I	0-35+ years, low severity fires
II	0-35+ years, stand-replacement fires
III	35-100+ years, mixed severity fires
IV	35-100+ years, stand replacement fires
V	200+ years, stand replacement fires

The Fire Regimes are described in terms of frequency and severity and represent pre-settlement, historic fire processes. Fire Regimes I and II represent frequent fire return intervals. The 0-35+ years, low severity fire regime (I) occurs mostly on forested land. The 0-35+ years, stand replacement fire regime (II) occurs mostly on grasslands and shrublands. Fire Regime III, IV, V have longer intervals and occur on forestlands, shrublands, and grasslands. Generally Tillamook County has witnessed fires which span across fire regime codes 3-5 as seen in the Tillamook Burn Fires.

Condition Class Codes	Description
I	Fire frequencies are within or near the historical range, and have departed from historical frequencies by no more than one return interval.
II	One or more fire return intervals have been missed, possibly resulting in increased fire sizes and intensities and decreased landscape mosaics and diversity.
III	Multiple fire return intervals have been missed resulting in dramatic departure from historical conditions.

Condition Class refers to how close an ecosystem is to its historic Fire Regime. As fire return intervals are missed, the ecosystem is altered. When fire does return, the damage is more severe to an ecosystem due to the missed interval.

CHAPTER 4: Emergency Operations

Wildland Fire Suppression Procedures

Currently all wildland fires on protected lands within Tillamook County are aggressively suppressed. This is done through a Master Cooperative Fire Protection Agreement. This agreement consists of three organizations:

Tillamook District ODF

Mutual Aid Agreements with all rural fire departments

USFS

Wildland firefighting organizations have a multitude of support resources. Movements of federal resources are coordinated through local dispatch centers and the Northwest Coordination Center (NWCC) in Portland, Oregon. State resource movement is coordinated through local dispatch centers, the ODF-Salem Coordination Center and the Washington State Department of Natural Resources (WDNR) dispatch office in Olympia, Washington.

Tribal Resources

Indian tribal resources are available through the use of existing Bureau of Indian Affairs/Tribal Cooperative agreements.

Inmate Resources

Oregon Department of Forestry has an agreement with Oregon Department of Corrections for the use of inmate resources to fight fires and support fire suppression activities. The use of inmates is available through the Master Cooperative Fire Protection Agreement with other agencies.

International Resources Mexico, Canada

The use of international resources is available through the Northwest Compact and Annual Operations Guidelines and International Agreements in the National Mobilization Guide.

There are two methods of initial attack available; one is by air, the other by land. As conditions become worse due to drying or multiple fires, these organizations can call in more support from other areas, even outside the state/region. ODF has a total of 7 engines based out of the Tillamook District Office, 5 are designated with specific patrol areas. Four of the five engines are Type 6, 300 gallon and the fifth is a Type 5, 450 gallon engine. The other two engines are Type 4, 1000 gallon engines. Depending upon the fire danger level, a Type 4 may substitute one of the Type 6 for patrol.

The patrol areas are as follows:

- North Patrol: North end area. North District boundary south to Kilchis drainage.
- Central Patrol: Wilson area. Kilchis drainage south to Hembre Ridge.
- Trask Patrol: Trask area. Hembre Ridge south to Blaine.
- South Patrol: South end area. Blaine south to District boundary.
- Headquarters: Central area. Tillamook area and initial attack.

There is also a very large work force available on contract that can be called upon. Contracting equipment consists of dozers, lowboys, water tenders, engines, 20 person crews, and personnel with specialized skills.

If a fire goes beyond the initial attack capabilities of the local resources there are Incident Management Teams (IMT) that can be ordered to take over the suppression responsibilities. Oregon Department of Forestry IMTs and Pacific Northwest National IMTs are all staffed by

local agency personnel.

If the fire is large enough it would strip the county of all its capable initial attack resources and leave the area vulnerable to new starts, the Incident Management Team will set up fire camp with the capabilities of feeding and housing hundreds of resources. The “Team” supports the crews with equipment and supplies to safely suppress the fire. The important factor is the team uses outside agency help and contractors so local forces can be released back to their regular initial attack duties.

Though all these resources mentioned above are available to the fire agencies in the County, due to the lack of funding within the local municipal and rural fire departments, only the wildland fire agency (ODF, U.S. Forest Service) engines and crews would be available to these departments and association for initial attack at no cost through mutual aid agreements. The aerial support, incident management teams, and contract equipment would cost these departments and association more than they would be able to afford. Therefore, it wouldn't be a viable option for them without either state or federal agency assistance.

Conflagration Act

In the event a large amount of structures are threatened by a wildland fire in an area protected by a city or rural fire department, the Tillamook County Fire Defense Board Chief can request the Oregon State Fire Marshal to request the Governor to declare an emergency and invoke the Conflagration Act Mobilization. In areas outside of city and rural fire departments, the County Commissioners can request of the Governor to declare an emergency and invoke the Conflagration Act Mobilization. This will make structural resources along with structural IMTs through the Oregon State Fire Marshal's office immediately available to protect threatened structures.

Structures

Although ODF personnel are not trained, equipped, or organized to fight structure fires; they will assist the fire departments in protecting exposures and surrounding vegetation by clearing around houses, setting up pumps and locating and constructing fire lines. The county has the following list of current fire departments:

- Bay City RFPD
- Garibaldi RFPD
- Nehalem Bay Fire and Rescue District
- Nestucca RFPD
- Netarts-Oceanside RFPD
- Rockaway RFPD
- Tillamook Fire District

CHAPTER 5: Monitoring and Evaluation

Assessing Benefits and Costs of Mitigation

Many federal grant programs require benefit/cost analysis of proposed actions. This ensures that the investment will yield greater benefits than the investment costs. The benefits of planning, mitigation and preparedness for wildland fire, however, can be difficult to quantify. It can be difficult to put a monetary number to the value of human, environmental, cultural and other social resources.

The Tillamook County Local Coordinating Group emphasizes developing priorities of action for hazardous fuels treatment, education, emergency management and biomass utilization. The process to develop these priorities has included a technical risk assessment and collection of community input on values. The plan also takes into consideration the fact that low-income, elderly, disabled and other citizens with special needs may require extra assistance or resources to take fire protection actions. All of these values should be considered in developing priorities and assessing the costs and benefits of projects.

When applying for grants that require benefit/cost analysis, there are resources available through FEMA and other agencies that can assist in quantifying these costs and benefits.

Plan Oversight

The primary objective of the Local Coordinating Group (LCG) is to provide guidance for all elements of planning and implementation of the Tillamook County Community Wildfire Protection Plan. The Local Coordinating Group will continue to provide oversight through review of the plan and meetings with the local agencies and interested parties.

Monitoring

The purpose of this monitoring strategy is to track implementation of activities and evaluate how well the goals of the **TCCWPP** are being met over time. Monitoring measures progress over time so that we can understand how well our objectives are being met.

The following are the types of monitoring:

- Implementation Monitoring: Did you do what you said you would do?
- Effectiveness Monitoring: Did treatments meet objectives?
- Verification Monitoring: Evaluates whether our objectives helped to meet broad **TCCWPP** goals. Did our actions lead to the outcomes we expected?

Each functional element of the Tillamook County Community Wildfire Protection Plan (risk assessment, fuels reduction, emergency management, and education and outreach) provides monitoring tasks for recommended action items. Table 5.1 provides a summary of monitoring tasks for each of these functional areas that the LCG will conduct.

Table 5.1 CWPP Summary of Monitoring Tasks

Objective	Monitoring Tasks	Timeline
Risk Assessment	<p>Continue to use reliable and usable data that is compatible among the various partner agencies.</p> <p>Monitor changes in the WUI boundaries.</p> <p>Update risk assessment with new data or changing conditions.</p> <p>Continue to reflect community input from meetings as a risk assessment.</p> <p>Inventory private, county, state and federal existing and planned fuels projects.</p> <p>Once this plan has been completed, monitor acres treated, location and relative risk rating annually.</p>	Biennially
Fuels Reduction	<p>Identify and prioritize fuels treatment projects on an annual basis.</p> <p>Track grants and utilize risk assessment data in new applications.</p> <p>Track education programs and document how well they integrate fuels objectives.</p> <p>Track grant dollars and projects directed to citizens with special needs.</p> <p>Document number of residents that maintain treatment</p> <p>Monitor number of evacuation corridors/roads treated for fire protection on county, private, state and federal roads.</p> <p>Track fuels reduction grants and defensible space projects occurring on homes of citizens with special needs.</p>	Annually
Emergency Management	<p>Review emergency management policies and procedures.</p> <p>Update map illustrating arterial routes and shelter sites.</p> <p>Review evacuation procedures with the County Fire Defense Board.</p>	Annually
Information and Outreach	<p>Evaluate techniques used to mobilize and educate citizens.</p> <p>Report on techniques and lessons learned.</p> <p>Review materials available in the clearinghouse.</p> <p>Random sample of “certified” homes to measure whether or not they continue to meet standards.</p> <p>Evaluate # and type of fire education programs delivered to youth.</p> <p>Monitor interest and actions by the Insurance industry.</p> <p>Keep County up to date on SB 360 statewide implementation.</p>	Annually

CHAPTER 6 Action Plan

This chapter describes the Communities-at-Risk and Infrastructure-at-Risk along with the actions identified by the Local Coordinating Group to implement the Tillamook County Community Wildfire Protection Plan. The action plan in this chapter will be updated by the LCG annually upon notification by the Oregon Department of Forestry to the other members of the LCG.

Table 6.1 Communities-at-Risk Matrix

Each fire district was asked to use a numerical rating system (1-3) to determine the amount of risk associated with a given site. Basically 1 represents the extreme, 2 represents moderate, and 3 represents low threats. These were broken out into three different categories based on fire behavior potential, values at risk, and Infrastructures. Fire personnel identified in their respective districts which areas are in need of special fuels reduction projects. They also identified important evacuation routes as well as infrastructure concerns. The local coordinating group will meet annually to re-evaluate the progress and prioritize upcoming projects in concert with grant applications.

Risk Factor 1: Fire Behavior Potential:

Situation 1: In these communities, continuous fuels are in close proximity to structures. The composition of surrounding fuels is conducive to crown fires or high intensity surface fires. There are steep slopes, predominantly south aspects, dense fuels, heavy duff, prevailing wind exposure and/or ladder fuels that reduce firefighting effectiveness. There is a history of large fires and/or high fire occurrence.

Situation 2: In these communities, there are moderate slopes, broken moderate fuels, and some ladder fuels. The composition of surrounding fuels is conducive to torching and spotting. These conditions may lead to moderate firefighting effectiveness. There is a history of some large fires and/or moderate fire occurrence.

Situation 3: In these communities, grass and/or sparse fuels surround structures. There is infrequent wind exposure, flat terrain with little slope and/or predominantly a north aspect. There is no large fire history and/or low fire occurrence. Firefighting generally is highly effective.

Risk Factor 2: Values at Risk:

Situation 1: This situation most closely represents a community in an urban interface setting. The setting contains a high density of homes, businesses, and other facilities that continue across the interface. There is a lack of defensible space where personnel can safely work to provide protection. The community watershed for municipal water is at high risk of being burned compared to other watersheds within that geographic region. There is a high potential for economic loss to the community and likely loss of housing units and/or businesses. There are unique cultural, historical or natural heritage values at risk.

Situation 2: This situation represents an intermix or occluded setting, with scattered areas of high-density homes, summer homes, youth camps, or campgrounds that are less than a mile apart. This situation would cover the presence of lands at risk that are described under State designations such as impaired watersheds, or scenic byways. There is a risk of erosion or flooding in the community if vegetation burns.

Risk Factor 3: Infrastructure

Situation 1: In these communities, there are narrow dead end roads, steep grades, one way in and/or out routes, no or minimal fire fighting capacity, no fire hydrants, no surface water, no pressure water systems, no emergency operations group, and no evacuation plan in an area surrounded by a fire-conductive landscape.

Situation 2: In these communities, there are limited access routes, moderate grades, limited water supply, and limited fire fighting capability in an area surrounded by a scattered fire conducive landscape.

Situation 3: In these communities, there are multiple entrances and exits that are well equipped for fire trucks, wide loop roads, fire hydrants, open water sources (pools, creeks, and lakes), an active

emergency operations group, and an evacuation plan in place in an area surrounded by a fireproof landscape.

BAY CITY

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Bay City	1	2	2

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
High Pressure Water Tanks (2)	1	2	2
PP&L Main Line runs through the drainage north to south	1	2	2
Private property adjacent to forestland boundary	1	2	2

Evacuation Route(s)

Road Name	Route to Safety
Highway 101	All service streets will lead out to Hwy 101, vacate either north or south
Vaughn Road	Vaughn Road could provide additional access to the south and east towards Idaville.
Doty Road	Doty Road could provide additional access to the south and east towards Idaville.

Wildfire Risk Reduction Projects

Priority Level	Projects
Priority 1	Thin, pile and burn brush adjacent to new 500,000 gallon water tank on Forest Rd
Priority 2	Work with property owners to clear area adjacent to properties to reduce fuel loading

Priority 3	Work with PP&L to clear and maintain power line right-of-way.
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BUREAU OF LAND MANAGEMENT

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
BLM Wilson Block	1	1	2
BLM Trask Block	1	1	2
BLM Nestucca Block	1	1	1

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Late Succession/Timber Management Area (all areas)	1	2	2
Alder Glen Recreation Site	1	2	3
Elk Bend Recreation Site	1	2	3
Fan Creek Recreation Site	1	2	3
Dovre Recreation Site	1	2	3

Evacuation Route(s)

Road Name	Route to Safety
Wilson Block	
Kilchis River Road	East or west
Wilson River Highway (Hwy 6)	East or west
Trask Block	

North Fork Trask River Road	East or west
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BUREAU OF LAND MANAGEMENT

Evacuation Route(s) cont'd

Road Name	Route to Safety
Trask Block	
Trask River County Road	East or west
Nestucca Block	
Nestucca River Access	East or west
Blaine Road	East or west
Bible Creek Road	East or west

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
Priority 1	Pump chance maintenance
Priority 2	Roadside pruning, brush cutting, slash pullback
Priority 3	Helispot maintenance

GARIBALDI

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Camp Magruder	1	1	1
Barview County Park	1	1	1
Twin Rocks Friends Camp	1	1	1

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Church Camp (Camp Magruder)	1	1	1
Pine Beach Development	2	2	2
Utility Lines	2	1	1
Well site and pump station for Barview/Watseco water district	1	1	1
Port of Tillamook Bay Rail Lines	2	2	2
Highway 101	3	2	3
Friends Camp (Twin Rocks)	1	1	1
City of Garibaldi water storage, pumps, well	2	2	2
Foley Creek Estates (mile post 7 to mile post 8, Miami Foley Road	2	1	2

GARIBALDI

Evacuation Route(s)

Road Name	Route to Safety
Camp Magruder, Barview	
Cedar Street	Cedar Street in Barview leads east and west. Evacuation out of park would lead east on Cedar Street to Hwy 101.
Highway 101	North and south
Old Pacific Hwy	Evacuation out of Camp Magruder would lead north on Old Pacific Hwy to Hwy 101.
Unimproved road between Barview Park and Camp Magruder	There is an unimproved fire trail between the park and camp. This unimproved road needs to be maintained for a fire access road and evacuation route.
	Both Barview Park and Camp Magruder have only one way in and one way out. One possible evacuation would be to walk out to the beach.
Twin Rocks Friends Camp	
Highway 101	Hwy 101 North to Rockaway, and south to Barview and Garibaldi. There is an unimproved access road to a logging road that is on the southeast side of the camp and could be used as an access road if improved.

Wildfire Risk Reduction Projects

Priority Level	Projects
Camp Magruder, Barview	
Priority 1	Create and maintain a firebreak along the beach separating the driftwood fuel load from the beach grasses and the timber.
Priority 2	Build better access roads to the firebreaks
Priority 3	Enlarge defensible space around structures.
Priority 4	Brush out and maintain existing fire access road between the Park and the Camp.
Priority 5	Create signage during fire season on burning regulations on the beach amongst driftwood.
Priority 6	Reduce driftwood fuel load on the beach by having a burn exercise.

GARIBALDI

Fuels Reduction – Structure Survivability Projects cont'd

Priority Level	Projects
Camp Magruder, Barview	
Priority 7	Identify primary and secondary evacuation routes and label/mark such routes.
Twin Rocks Friends Camp	
Priority 1	Improve southeast access road for escape and firebreak.
Priority 2	Create defensible space around structures.
Priority 3	Create a firebreak around Camp.

NEHALEM BAY

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Manzanita	1	1	2
Nehalem	2	2	2
Mohler	3	2	3
Wheeler	2	2	2
Brighton	1	1	2

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Jetty Creek Water Supply	2	2	2
Nehalem Bay, Cougar Valley, Oswald West State Parks	1	1	1
Neahkanie Mountain Communication Site	2	1	1

Evacuation Route(s)

Road Name	Route to Safety
Highway 101	North or south
Highway 53	North to Clatsop County
Miami Foley	North or south

NEHALEM BAY

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
1	Fuels reduction at Nehalem Bay and Oswald West State Parks
2	Address signs in rural settings for emergency response
3	Continue education of Firewise Communities with homeowners

NESTUCCA/USFS

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Beaver (Hwy 101 @ Blaine Rd, east to the 5th bridge)	2	2	2
Blaine (Blaine Rd @ 5th bridge, east to Upper Nestucca River Rd at MP 14)	1	1	1
Hebo (Hwy 101 @ Hwy 22, east to end of NRPFD @MP 11)	1	1	1
Cloverdale (Hwy 101 @ Hwy 130, north to Hwy 101 @ Hansen Rd)	1	2	2
Sandlake (Hwy 101 @ Sandlake Rd to MP 9 Sandlake Rd)	2	2	1
Tierra Del Mar (Sandlake Rd MP 9 to Sandlake Rd MP 13)	2	2	2
Neskowin (Hwy 101 MP 95-101, Slab Creek Rd to MP 4)	1	1	1

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Beaver Substation	3	2	3
Watersheds	1	1	1
Hebo Substation	1	2	1
Main BPA Lines east/west along Hwy 22	1	2	1

NESTUCCA/USFS

Infrastructures at Risk cont'd

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Federal, State and County Radio Communication towers on top of Mt. Hebo	1	2	1
State Fish Hatchery (MP 2 on Hwy 22)	2	1	3
Cloverdale High School	1	1	1
Sandlake Recreational Area	1	2	1
Whalen Island Campground	2	2	1
Neskowin Water Treatment Plant	1	1	1
Slab Creek School	1	1	1
State/County Radio Towers	1	1	1

Evacuation Route(s)

Road Name	Route to Safety
Beaver	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Blaine Road	Blaine Rd. runs east and west from Beaver to Blaine. There are many logging roads on either side of Blaine Rd and locals with knowledge of the roads could vacate to adjacent drainages to the north and south or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Blaine	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.

NESTUCCA/USFS

Evacuation Route(s) cont'd

Road Name	Route to Safety
Blaine	
Blaine Road	Blaine Rd. runs east and west from Beaver to Blaine. There are many logging roads on either side of Blaine Rd and locals with knowledge of the roads could vacate to adjacent drainages to the north and south or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Hebo	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Hwy 22	Hwy 22 runs east and west from Hebo to Salem. There are many logging roads on either side of Hwy 22 and locals with knowledge of these roads could vacate to adjacent drainages to the north (Big Nestucca) and south (Nestucca) or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Cloverdale	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Hwy 130	Hwy 130 runs east and west from Hwy 101 to Dolph Junction. There are many logging roads on either side of Hwy 130 and locals with knowledge of these roads could vacate to adjacent drainages to the north (Big Nestucca) and south (Nestucca) or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Sandlake	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Sandlake Rd	Sandlake Rd runs from Hwy 101 to Pacific City.
Blaine Road	Blaine Rd. runs east and west from Beaver to Blaine. There are many logging roads on either side of Blaine Rd and locals with knowledge of the roads could vacate to adjacent drainages to the north and south or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Tierra Del Mar	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Sandlake Rd	Sandlake Rd runs from Hwy 101 to Pacific City.

NESTUCCA/USFS

Evacuation Route(s) cont'd

Road Name	Route to Safety
Tierra Del Mar	
Blaine Road	Blaine Rd. runs east and west from Beaver to Blaine. There are many logging roads on either side of Blaine Rd and locals with knowledge of the roads could vacate to adjacent drainages to the north and south or east to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.
Neskowin	
Hwy 101	Hwy 101 runs north and south to Tillamook and Lincoln City.
Slab Creek Rd	Slab Creek Road runs east and west from Hwy 101 to Hwy 18. There are many logging roads on either side of Slab Creek Road and locals with knowledge of these roads could vacate to adjacent drainages. This would be dependent on fire location.
Hwy 18	Hwy 18 runs east and west from Lincoln City to Grand Ronde tribal lands near Willamina. This would be dependent on fire location.

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
Nestucca RFPD	
Priority 1	Creating or enlarging defensible space around residences.
Priority 2	Establishing additional water supplies (draft sites), by creating access to rivers and streams, or installing dry hydrants.
Priority 3	Brush out and widen roads for fire apparatus (access and egress).
Priority 4	Collaborate with State and local agencies, private landowners, to establish fuel breaks.
Priority 5	Recommend agencies and companies that maintain logging access, sign the roads appropriately to correspond with local maps.
Priority 6	Recommend all residences be addressed for identification.
Priority 7	Identify primary and secondary evacuation routes, have signs available for appropriate agencies to place defining the evacuation route.

NESTUCCA/USFS

Fuels Reduction – Structure Survivability Projects cont'd

Priority Level	Projects
Nestucca RFPD	
Priority 8	Identify closed roads that may be opened for fire suppression activities and/or evacuation routes.

NETARTS/OCEANSIDE

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Netarts/Oceanside	1	1	1
Beach Front Oceanside to Netarts Bay	1	1	1

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Netarts Water Treatment Plant	1	1	1
Oceanside Water Treatment Plant	1	1	1
Main PUD Line	2	2	3
Cape Lookout State Park	1	1	1
Cape Meares Lighthouse	3	2	3
Netarts Bay Watershed	1	1	1
Cape Meares National Wildlife Refuge	3	1	3

Evacuation Route(s)

Road Name	Route to Safety
Netarts/Oceanside	
Hwy 131	State Route 131 is an east/west travel roadway that runs from Tillamook to Netarts then onto Oceanside. This is the primary means of travel for most people traveling to and from our communities to Tillamook and to connect with other state highways. A large part of Hwy 131 runs through forestland.

NETARTS/OCEANSIDE

Evacuation Route(s) cont'd

Road Name	Route to Safety
Netarts/Oceanside	
Cape Meares Loop Road	From Oceanside there is Cape Meares Loop Road, a low maintained county road that is primarily a north/south travel roadway that either runs through or borders forestland.
Whiskey Creek Road	From Netarts there is Whiskey Creek Road that runs south from Netarts through forestland; this route is the only way out of Cape Lookout State Park.
Beach Front	
Tsunami Evacuation Route	Residents will have to evacuate in an Easterly direction until they intersect with the main highway then more in a north or south direction.

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
Netarts/Oceanside	
Priority 1	Enlarge defensible space around residences.
Priority 2	Educate residents and visitors about escape routes.
Priority 3	Gain access to locked gates.
Beach Front	
Priority 1	Enlarge and improve defensible space around residences.
Priority 2	Public education on the proper way to extinguish beach warming fires.
Priority 3	Train firefighters to be familiar with access locations and housing cluster locations that correspond with high risk areas on the beach.

ROCKAWAY

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Nedonna Beach	1	2	2
Manhattan Beach	1	2	2
Rockaway Beach	1	2	3
Twin Rocks	1	2	3

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Jetty Creek Watershed	3	2	2
Jetty Creek Water Treatment Plant	3	2	2
East Well	3	1	3
West Well	3	1	3
Manhattan Well	3	1	3
McMillan Creek Reservoir	3	2	3
Scenic View Reservoir	3	2	3
N 3rd Street Reservoir	3	2	2
Pacific View Estates Reservoir	3	2	2

ROCKAWAY

Infrastructures at Risk cont'd

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
N 3rd Street Pump Station	3	2	3
PUD Lines	2	2	2

Evacuation Route(s)

Road Name	Route to Safety
Hwy 101	Hwy 101 travel by vehicle to the north or south. By foot, people can travel west to the ocean or to one of the four lakes for protection.

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
Priority 1	Construct firebreak between City of Rockaway Beach and Green Diamond industrial forestland property.
Priority 2	Public education on the proper way to extinguish beach warming fires.
Priority 3	Create and maintain a firebreak along the beach separating the driftwood fuel load from the beach grasses and the timber.

TILLAMOOK

Communities at Risk

Community	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Wilson (mouth of the Wilson River Hwy canyon MP 5 to end of district at MP 14)	1	1	1
Trask (mouth of the Trask River Road canyon MP 4 to end of district at MP 10)	1	1	1
Kilchis (mouth of Kilchis River Road canyon up to Kilchis County Park and Kilchis Forest Rd)	1	1	1
Deer Road	2	2	2
Cape Meares	2	2	1
Willowbrook Road, Pike Road (off of Doughty Road)	2	2	3

Infrastructures at Risk

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
BPA Lines	1	1	1
Fiber Optic Lines	2	2	2
Electronic Testing Site	2	2	2
Alice's Restaurant	2	1	2
Highway 6	1	1	1

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Infrastructures at Risk cont'd

Infrastructures	Risk Factor 1: Fire Behavior Potential Situation Level	Risk Factor 2: Values At Risk Situation Level	Risk Factor 3: Infrastructure Situation Level
Private Watersheds	1	1	1
Cell Towers	1	1	1
Gold Creek Hatchery	2	1	2
Municipal Watersheds	1	1	1

Evacuation Route(s)

Road Name	Route to Safety
Wilson	
Highway 6	Head east or west on Highway 6. Locals with knowledge could also vacate to adjacent drainage on north (Kilchis) or the south (Trask).
Kansas Creek Forest Road	Kansas Creek Forest Road runs east/west along Hwy 6. There are many logging roads accessible from Kansas Creek Road and locals with knowledge of these roads could vacate to adjacent drainages to the east (Wilson) and to the south (Trask)
Jordan Creek Forest Road	Jordan Creek Forest Road runs east/west along Hwy 6. There are many logging roads accessible from Kansas Creek Road and locals with knowledge of these roads could vacate to adjacent drainages to the east (Wilson) and to the south (Trask)
Trask	
Trask River County Road	Trask River County Road leads east into various logging road systems. These roads could vacate to adjacent drainage on the north (Wilson) or east to the McMinnville area.
North, South, and East Forks of the Trask Forest Roads	These logging roads could vacate to adjacent drainage on the north (Wilson) or east to the McMinnville area.
Kilchis	
Kilchis River County Road	Kilchis River Road dead ends at the park, vacating would require residents to use the river to reach Kilchis Forest Road. Fires from the east would require use of the river or Kilchis River Road for a western escape route to Alderbrook Road (3 - 4 miles).

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Evacuation Route(s) cont'd

Road Name	Route to Safety
Kilchis	
Kilchis Forest Road	Kilchis Forest Road spreads out into many logging roads that could be used to flee potential wildfires if cutoff from the west. Fires from the east would require use of the river or Kilchis River Road for a western escape route to Alderbrook Road (3 - 4 miles).
Deer Road	
Highway 131	Highway 131 is an east/west travel route to Netarts and Tillamook.
Deer Road	Deer Road dead ends requiring downhill egress to safety along Hwy 131. Some industrial land behind the subdivision has old logging roads in which people could vacate on foot.
Cape Meares	
Bay Ocean Road	Primary evacuation routes by vehicle are Bay Ocean Road and Cape Meares Loop Road. A key has been issued for evacuation through a water district access gate directly up the hill to Cape Meares Loop. By foot, people can only travel west to the ocean and NW to the lake for protection.
Cape Meares Loop Road	Primary evacuation routes by vehicle are Bay Ocean Road and Cape Meares Loop Road. A key has been issued for evacuation through a water district access gate directly up the hill to Cape Meares Loop. By foot, people can only travel west to the ocean and NW to the lake for protection.
Willowbrook/Pike Road	
Doughty Road	Dead end roads requiring downhill egress to safety along Doughty Road to the north or south.

Fuels Reduction – Structure Survivability Projects

Priority Level	Projects
Wilson	
Priority 1	Enlarging defensible space around residences.
Priority 2	Establish additional draft sites.
Priority 3	Brush out and widen fire apparatus access roads.

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Fuels Reduction – Structure Survivability Projects cont’d

Priority Level	Projects
Wilson	
Priority 4	Re-open pre-existing logging roads for fire evacuation.
Priority 5	Recommend all residences be addressed for identification.
Priority 6	Identify primary and secondary evacuation routes, label or mark such routes.
Trask	
Priority 1	Enlarging defensible space around residences.
Priority 2	Establish additional draft sites.
Priority 3	Brush out and widen fire apparatus access roads.
Priority 4	Re-open pre-existing logging roads for fire evacuation.
Priority 5	Recommend all residences be addressed for identification.
Priority 6	Identify primary and secondary evacuation routes, label or mark such routes.
Kilchis	
Priority 1	Enlarging defensible space around residences.
Priority 2	Brush out and widen fire apparatus access roads.
Priority 3	Re-open pre-existing logging roads for fire evacuation.
Priority 4	Recommend all residences be addressed for identification.
Priority 5	Identify primary and secondary evacuation routes, label or mark such routes.

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Fuels Reduction – Structure Survivability Projects cont’d

Priority Level	Projects
Deer Road	
Priority 1	Enlarging defensible space around residences.
Priority 2	Brush out and widen fire apparatus access roads.
Priority 3	Re-open pre-existing logging roads (if any) for fire evacuation toward Tomlinson Road.
Priority 4	Recommend all residences be addressed for identification.
Priority 5	Recommend Firewise construction.
Cape Meares	
Priority 1	Enlarging defensible space around residences.
Priority 2	Brush out and widen fire apparatus access roads.
Priority 3	Re-open pre-existing logging roads for fire evacuation.
Priority 4	Recommend all residences be addressed for identification.
Priority 5	Community education programs held at the community center.
Willowbrook/Pike Road	
Priority 1	Enlarging defensible space around residences.
Priority 2	Brush out and widen fire apparatus access roads.
Priority 3	Re-open pre-existing logging roads for fire evacuation.
Priority 4	Recommend all residences be addressed for identification.

Appendix A

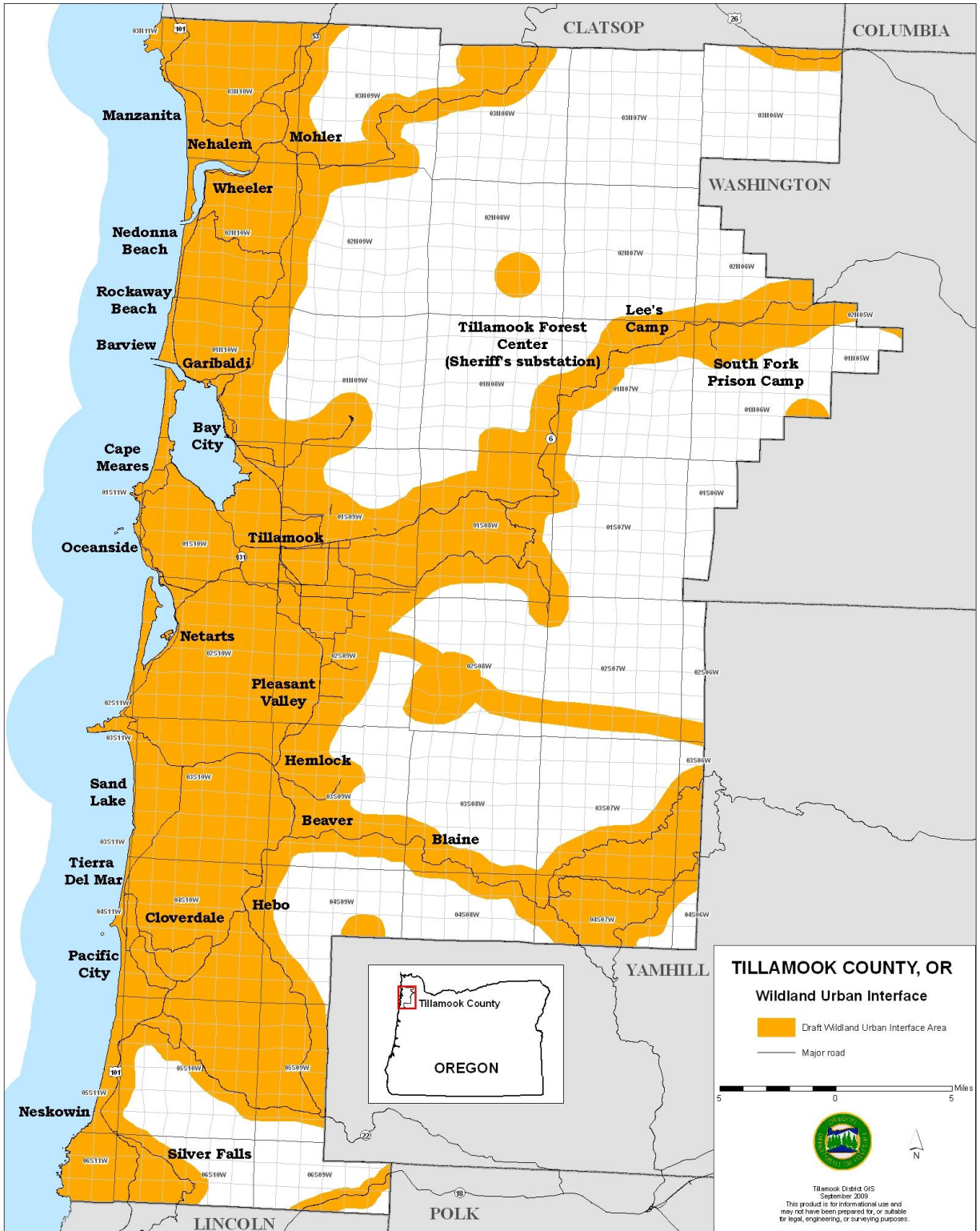
TCCWPP Local Coordination Group Participants

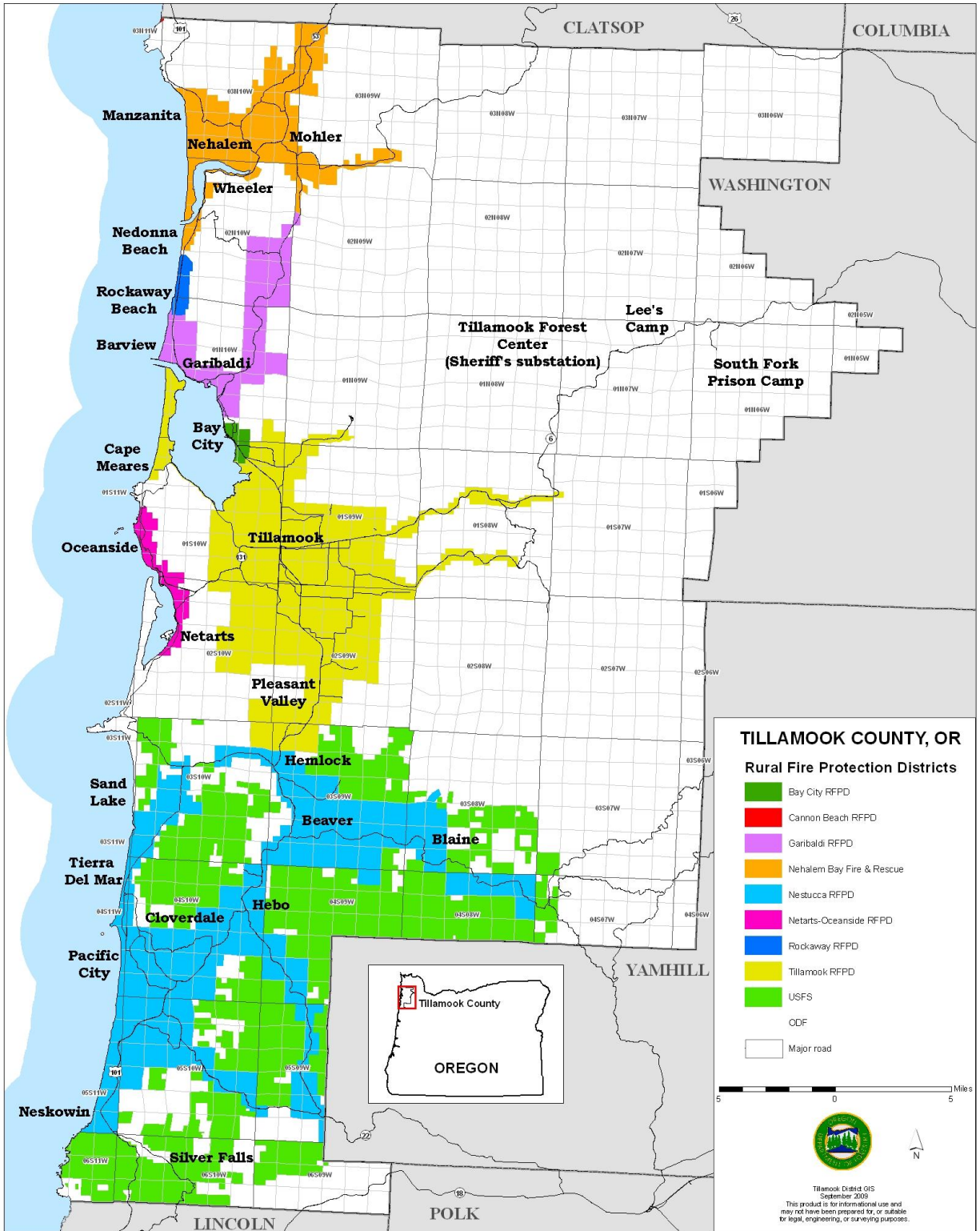
LCG Participants:

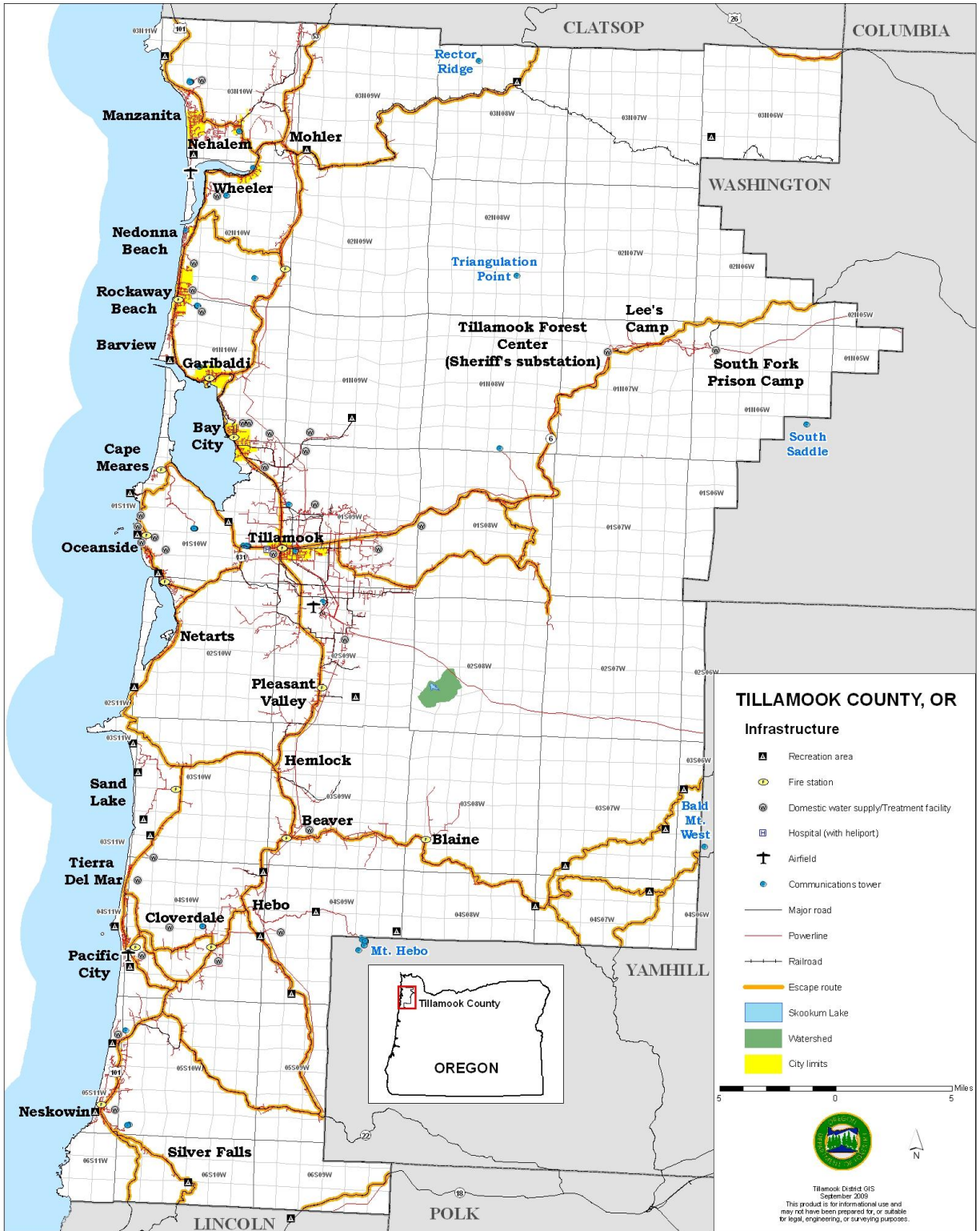
Ed Wallmark - Protection Unit Forester/Oregon Dept. of Forestry, Tillamook
Brian Dally-Permanent Forest Officer/Oregon Dept. of Forestry, Tillamook
Howard Harrison-GIS Specialist/Oregon Department of Forestry, Tillamook
Jay Marugg-Chief/Garibaldi Fire, Tillamook County Fire Chief
Reuben Descloux-Fire Marshall, Tillamook Fire District
Pat Kelly-Training Officer, Tillamook Fire District
Mickey Hayes-Division Chief of Maintenance, Nestucca Fire and Rescue
Don Reynolds-Chief/Bay City Fire
Barry Mammano-Chief/Rockaway Fire
David Andersen-AFMO/USFS, Siuslaw NF, Hebo Ranger District
Terri Brown-FMO/USFS, Siuslaw NF, Hebo Ranger Dist.
Kent Mortensen-Fuels Technician/BLM, Tillamook Dist.
Tad Pedersen-Deputy State Fire Marshal
Jen Warren-National Fire Plan Coordinator/ODF
Bradford Sheets-Associate Planner, Tillamook County Dept. of Community Development

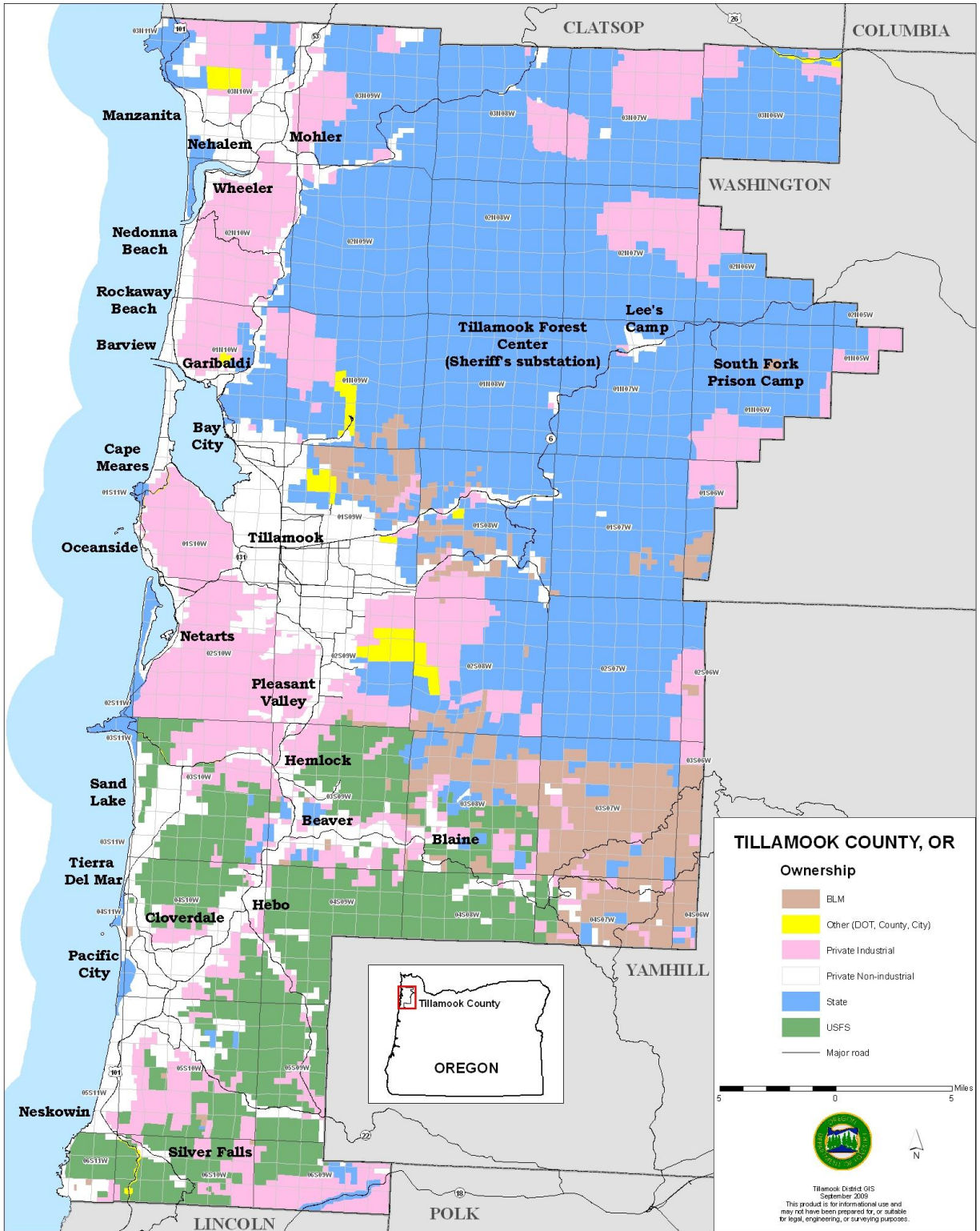
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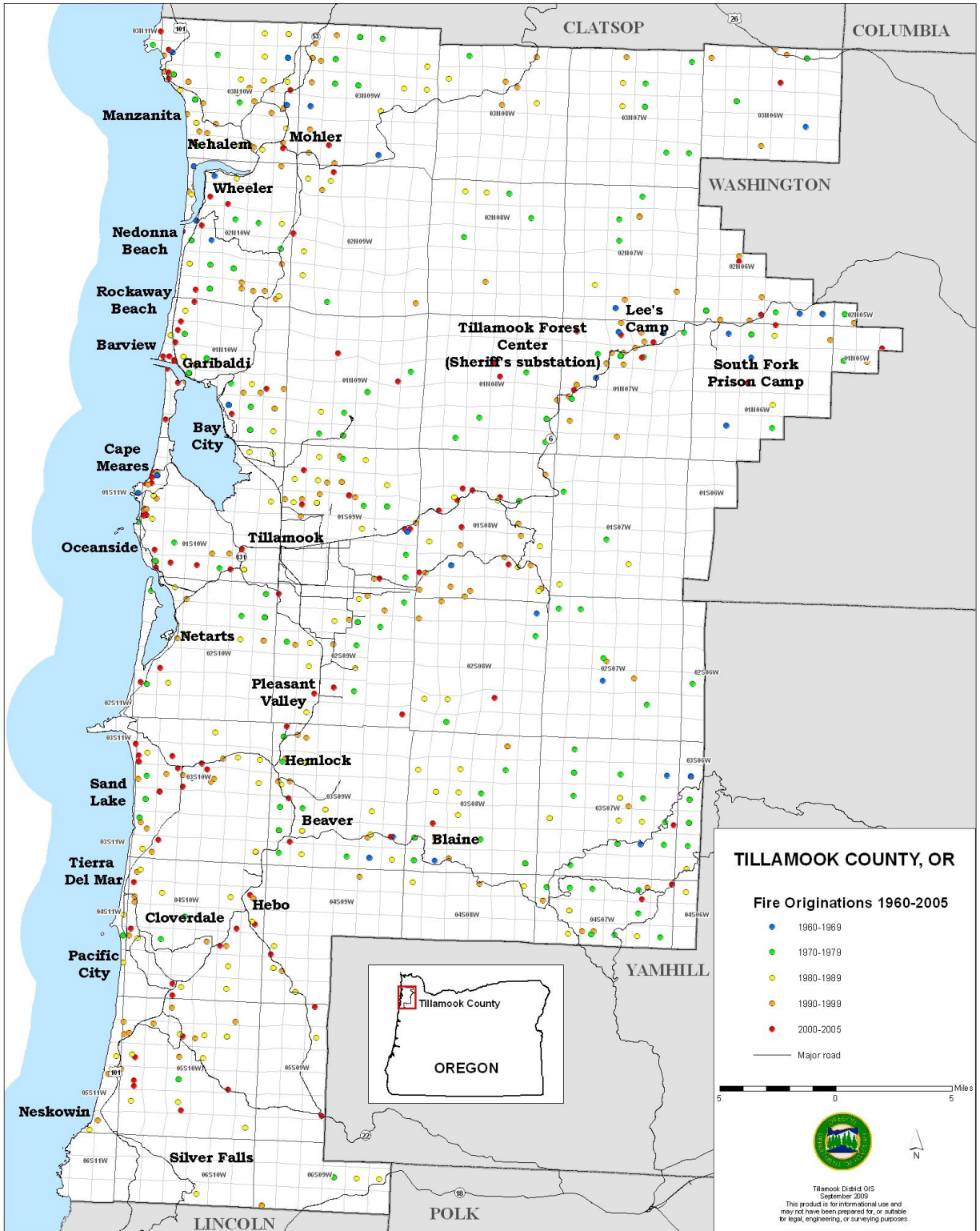
MAPS

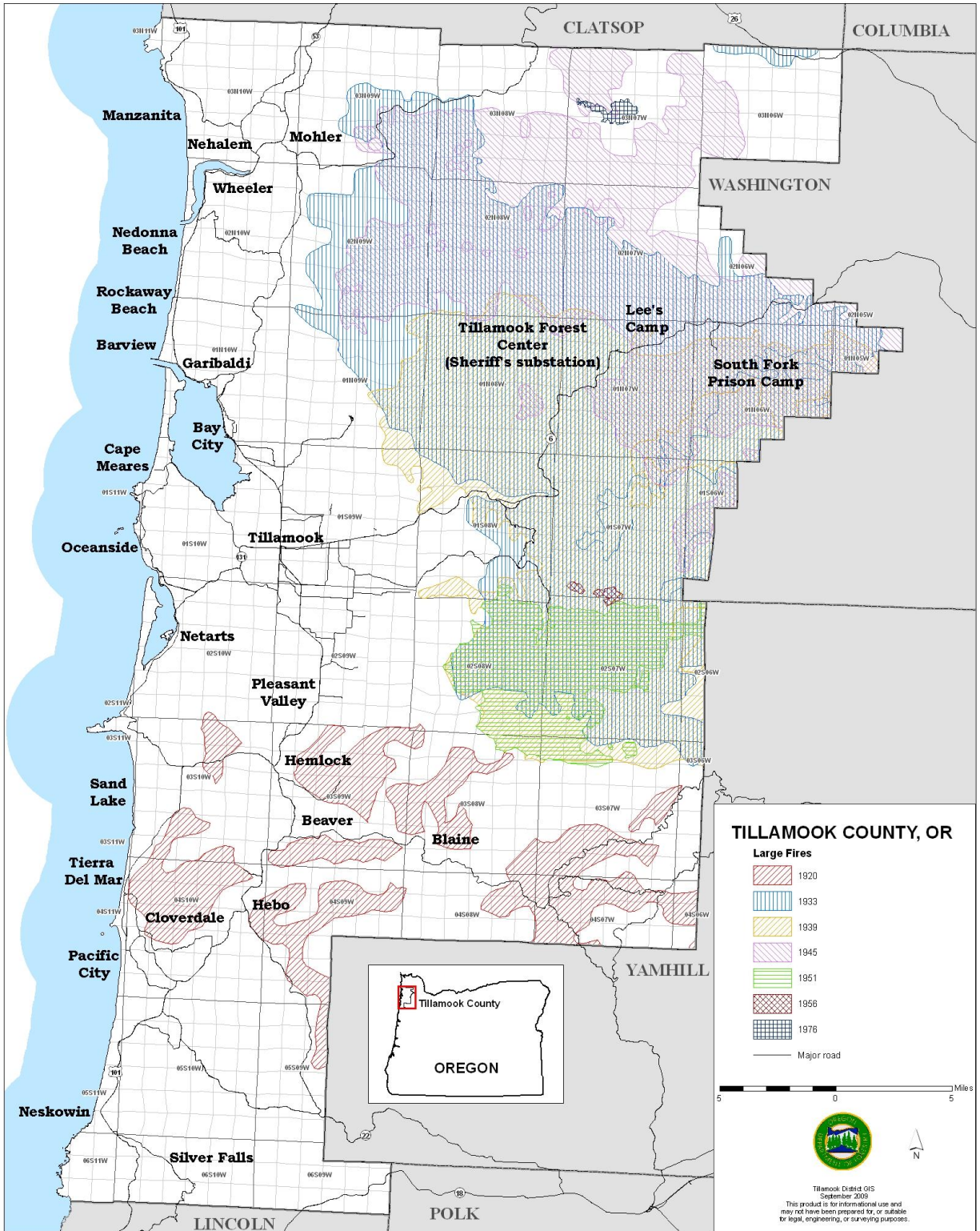












Appendix C

Glossary

Glossary

Definitions and Policies - This section provides a summary of policies and definitions of Communities at Risk, wildland urban interface, and defensible space.

Wildfire Risk Assessment

Policy/Source	Definition
National Fire Plan	<p>Risk: the potential and frequency for wildfire ignitions (based on past occurrences)</p> <p>Hazard: the conditions that may contribute to wildfire (fuels, slope, aspect, elevation and weather)</p> <p>Values: the people, property, natural resources and other resources that could suffer losses in a wildfire event.</p> <p>Protection Capability: the ability to mitigate losses, prepare for, respond to and suppress wildland and structural fires.</p> <p>Structural Vulnerability: the elements that affect the level of exposure of the hazard to the structure (roof type and building materials, access to the structure, and whether or not there is defensible space or fuels reduction around the structure.)</p>

Communities at Risk

Policy/Source	Definition
Healthy Forests Restoration Act	<p>Title I – Hazardous Fuel Reduction on Federal Land, SEC. 101. Definitions:</p> <p>(1) AT-RISK COMMUNITY.—The term “at-risk community” means an area—</p> <p>(A) that is comprised of— (i) an interface community as defined in the notice entitled “Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire” issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with title IV of the Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001); or (ii) a group of homes and other structures with basic infrastructure and services within or adjacent to Federal land;</p> <p>(B) in which conditions are conducive to a large-scale wildland fire disturbance event;</p> <p>(C) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event.</p>
National Association of State Foresters Identifying and Prioritizing Communities at Risk	<p>In June 2003, the National Association of State Foresters developed criteria for identifying and prioritizing communities at risk. Their purpose was to provide national, uniform guidance for implementing the provisions of the “Collaborative Fuels Treatment Program.” The intent was to establish broad, nationally compatible standards for identifying and prioritizing communities at risk, while allowing for maximum flexibility at the state and regional level.</p> <p>NASF defines ‘Community at Risk’ as “a group of people living in the same locality and under the same government” (<i>The American Heritage Dictionary of the English Language</i>, 1969). They also state that ‘a community is considered at risk from wildland fire if it lies within the wildland/urban interface’ as defined in the federal register (<i>FR Vol. 66, No. 3, Pages 751-154, January 4, 2001</i>).</p> <p>NASF suggests identifying communities at risk on a state-by-state basis with the involvement of all organizations with wildland fire protection responsibilities (state, local, tribal, and federal) along with other interested cooperators, partners, and</p>

	<p>stakeholders. They suggest using the 2000 census data (or other suitable means) to identify all communities in the state that are in the wildland urban interface and that are at risk from wildland fire, regardless of their proximity to federal lands.</p>
<p>Federal Register /Vol.66, No.160 /Friday, August 17, 2001 /Notices</p>	<p>In January 2001, then Agriculture Secretary Dan Glickman and Interior Secretary Bruce Babbitt released a proposed list of communities eligible for enhanced federal wildfire prevention assistance. The preliminary list of over 4000 communities included many that are near public lands managed by the federal government.</p> <p>The initial definition of urban wildland interface and the descriptive categories used in this notice are modified from “A Report to the Council of Western State Foresters—Fire in the West—The Wildland/Urban Interface Fire Problem” dated September 18, 2000. Under this definition, “the urban wildland interface community exists where humans and their development meet or intermix with wildland fuel.”</p> <p>There are three categories of communities that meet this description. Generally, the Federal agencies will focus on communities that are described under categories 1 and 2. For purposes of applying these categories and the subsequent criteria for evaluating risk to individual communities, a structure is understood to be either a residence or a business facility, including Federal, State, and local government facilities. Structures do not include small improvements such as fences and wildlife watering devices.</p> <p>Category 1. Interface Community: The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually 3 or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.</p> <p>Category 2. Intermix Community: The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres. Fire protection districts funded by various taxing authorities normally provide life and property fire protection and may also have wildland fire protection responsibilities. An alternative definition of intermix community emphasizes a population density of between 28–250 people per square mile.</p> <p>Category 3. Occluded Community: The Occluded Community generally exists in a situation, often within a city, where structures abut an island of wildland fuels (e.g., park or open space). There is a clear line of demarcation between structures and wildland fuels. The development density for an occluded community is usually similar to those found in the interface community, but the occluded area is usually less than 1,000 acres in size. Fire protection is normally provided by local government fire depts.</p>
<p>A Definition of Community, James A. Kent / Kevin Preister</p>	<p>“A community is a geographic place that is characterized by natural systems such as watersheds, cultural attachment and human geographic boundaries. Physical, biological, social, cultural, and economic forces create natural boundaries that distinguish one community from another. The importance is in recognizing the unique beliefs, traditions, and stories that tie people to a specific place, to land and to social/kinship networks.</p>

	<p>It is a naturally defined human geographic area within which humans and nature rely on shared resources. People from outside this place can effectively contribute to its stewardship by providing relevant information and/or participating through relating their own values associated with geographic place.</p> <p>Community is defined by the informal systems and to the degree the formal systems are tied to the informal it becomes part of a community definition. Both have a distinct function. Informal systems are horizontal. They maintain culture, take care of people and are concerned with survival. They thrive on openness, honesty, and the idea that people want to do what is right for each other and the broader society.</p> <p>Formal systems are vertical and they serve centralized political, ideological, and economic functions. They contribute resources and legal structure to community change. Formal meetings alone do not constitute community communication or decision making functions.” http://www.ntc.blm.gov/partner/community.html</p>
Firewise Definition of Community	<p>“According to Webster’s dictionary, a community is ‘a body of people living in one place or district...and considered as a whole’ or ‘a group of people living together and having interests, work, etc. in common’. These smaller areas within the wildland/urban interface offer the best opportunities for active individual homeowner commitment and participation, which are vital to achieving and maintaining recognition status.” http://www.firewise.org/</p>

Wildland Urban Interface

Policy/Source	Definition
Federal Register /Vol.66, No.160 /Friday, August 17,2001 /Notices	The Federal Register states, "the urban-wildland interface community exists where humans and their development meet or intermix with wildland fuel." This definition is found in the Federal Register Vol.66, Thursday, January 4, 2001, Notices; and in "Fire in the West, the Wildland/Urban Interface Fire Problem", A Report for the Western States Fire Managers, September 18, 2000.
10-Year Comprehensive Strategy	A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy (August 2001) "The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels" (Glossary of Wildland Fire Terminology, 1996). http://www.fireplan.gov/content/reports/?LanguageID=1
Senate Bill 360:	Senate Bill 360: Forestland Urban Interface Protection Act of 1997. Forestland Urban Interface 477.015 Definitions. (1) As used in ORS 477.015 to 477.061, unless the context otherwise requires, "forestland-urban interface" means a geographic area of forestland inside a forest protection district where there exists a concentration of structures in an urban or suburban setting.
NFPA 1144	NFPA 1144: Standard for Protection of Life and Property from Wildfire 2002 Edition Wildland/Urban Interface is an area where improved property and wildland fuels meet at a well-defined boundary. Wildland/urban intermix is an area where improved property and wildland fuels meet with no clearly defined boundary. http://www.nfpa.org/catalog/home/OnlineAccess/1144/1144.asp

Defensible/Survivable Space

Policy/Source	Definition
Home Ignition Zones – “Wildland-Urban Fire—A different approach”	Recent research focuses on indications that the potential for home ignitions during wildfires including those of high intensity principally depends on a home’s fuel characteristics and the heat sources within 100-200 feet adjacent to a home (Cohen 1995; Cohen 2000; Cohen and Butler 1998). This relatively limited area that determines home ignition potential can be called the <i>home ignition zone</i> . http://firelab.org/fbp/fbresearch/wui/pubs.htm (Jack D. Cohen)
NFPA 1144	NFPA Publication 1411 defines defensible space as an area typically with a width of 9.14 m (30 ft) or more) between an improved property and a potential wildland fire where combustible materials and vegetation have been removed or modified to reduce the potential for fire on improved property spreading to wildland fuels or to provide a safe working area for firefighters protecting life and improved property from wildland fire.
OAR 629-044-1085: Fuel Break Requirements	<p>(1) The purpose of a fuel break is to: (a) Slow the rate of spread and the intensity of an advancing wildfire; and (b) Create an area in which fire suppression operations may more safely occur.</p> <p>(2) A fuel break shall be a natural or a human-made area where material capable of allowing a wildfire to spread: (a) Does not exist; or (b) Has been cleared, modified, or treated in such a way that the rate of spread and the intensity of an advancing wildfire will be significantly reduced.</p> <p>(3) A primary fuel break shall be comprised of one or more of the following: (a) An area of substantially non-flammable ground cover. Examples include asphalt, bare soil, clover, concrete, green grass, ivy, mulches, rock, succulent ground cover, or wildflowers. (b) An area of dry grass which is maintained to an average height of less than four inches. (c) An area of cut grass, leaves, needles, twigs, and other similar flammable materials, provided such materials do not create a continuous fuel bed and are in compliance with the intent of subsections 1 and 2 of this rule. (d) An area of single specimens or isolated groupings of ornamental shrubbery, native trees, or other plants, provided they are: (A) Maintained in a green condition; (B) Maintained substantially free of dead plant material; (C) Maintained free of ladder fuel; (D) Arranged and maintained in such a way that minimizes the possibility a wildfire can spread to adjacent vegetation; and (E) In compliance with the intent of subsections (1) and (2) of this rule.</p> <p>(4) A secondary fuel break shall be comprised of single specimens or isolated groupings of ornamental shrubbery, native trees, or other plants, provided they are: (a) Maintained in a green condition; (b) Maintained substantially free of dead plant material; (c) Maintained free of ladder fuel; (d) Arranged and maintained in such a way that minimizes the possibility a wildfire can spread to adjacent vegetation; and (e) In compliance with the intent of subsections 1 and 2 of this rule. http://arcweb.sos.state.or.us/rules/1102_Bulletin/1102_ch629_bulletin.html</p>
Senate Bill 360: Forestland Urban Interface Protection Act of 1997.	The Oregon Forestland-Urban Interface Fire Protection Act, often referred to as Senate Bill 360, enlists the aid of property owners toward the goal of turning fire-vulnerable urban and suburban properties into less-volatile zones where firefighters may more safely and effectively defend homes from wildfires. Basically, the law requires property owners in identified forestland-urban interface areas to reduce excess vegetation, which may fuel a fire, around structures and along driveways. In some cases, it is also necessary to create fuel breaks along property lines and roadsides. http://www.oregon.gov/ODF/FIRE/SB360/sb360.shtml
Is Your Home Protected from Wildfire	A survivable space is an area of reduced fuels between your home and the untouched wildland. This provides enough distance between the home and a wildfire to ensure that the home can survive without extensive effort from either you or the fire

<p>Disaster? A Homeowner's Guide to Wildfire Retrofit, Institute for Business and Home Safety</p>	<p>department. One of the easiest ways to establish a survivable space is to use the zone concept.</p> <p>Zone 1: Establish a well-irrigated area around your home. In a low hazard area, it should extend a minimum of 30 feet from your home on all sides. As your hazard risk increases, a clearance of between 50 and 100 feet or more may be necessary, especially on any downhill sides of the lot. Plantings should be limited to carefully spaced indigenous species.</p> <p>Zone 2: Place low-growing plants, shrubs and carefully spaced trees in this area. Maintain a reduced amount of vegetation. Your irrigation system should also extend into this area. Trees should be at least 10 feet apart, and all dead or dying limbs should be trimmed. For trees taller than 18 feet, prune lower branches within six feet of the ground. No tree limbs should come within 10 feet of your home.</p> <p>Zone 3: This furthest zone from your home is a slightly modified natural area. Thin selected trees and remove highly flammable vegetation such as dead or dying trees and shrubs.</p> <p>How far Zones 2 and 3 extend depends upon your risk and your property's boundaries. In a low hazard area, these two zones should extend another 20 feet or so beyond the 30 feet in Zone 1. This creates a modified landscape of over 50 feet total. In a moderate hazard area, these two zones should extend at least another 50 feet beyond the 50 feet in Zone 1. This would create a modified landscape of over 100 feet total. In a high hazard area, these two zones should extend at least another 100 feet beyond the 100 feet in Zone 1. This would create a modified landscape of over 200 feet total.</p> <p>http://www.ibhs.org/publications/view.asp?id=130</p>																							
<p>Living with Fire: A Guide for the Homeowner</p>	<p>This guide, distributed in Oregon through the Pacific Northwest Wildfire Coordinating Group, provides information on creating effective defensible space and guidelines illustrated below.</p> <table border="1" data-bbox="418 1115 1442 1696"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Defensible Space</th> </tr> <tr> <th colspan="3"><u>Recommended Distances – Steepness of Slope-----</u></th> </tr> <tr> <th></th> <th>Flat to Gently Sloping 0 to 20%</th> <th>Moderately Steep 21% to 40%</th> <th>Very Steep 40+%</th> </tr> </thead> <tbody> <tr> <td>Grass: Wildland grasses (such as cheatgrass, weeds, and widely scattered shrubs with grass understory)</td> <td>30 feet</td> <td>100 feet</td> <td>100 feet</td> </tr> <tr> <td>Shrubs: Includes shrub dominant areas</td> <td>100 feet</td> <td>200 feet</td> <td>200 feet</td> </tr> <tr> <td>Trees: Includes forested areas. If substantial grass or shrub understory is present use those values shown above</td> <td>30 feet</td> <td>100 feet</td> <td>200 feet</td> </tr> </tbody> </table>		Defensible Space			<u>Recommended Distances – Steepness of Slope-----</u>				Flat to Gently Sloping 0 to 20%	Moderately Steep 21% to 40%	Very Steep 40+%	Grass: Wildland grasses (such as cheatgrass, weeds, and widely scattered shrubs with grass understory)	30 feet	100 feet	100 feet	Shrubs: Includes shrub dominant areas	100 feet	200 feet	200 feet	Trees: Includes forested areas. If substantial grass or shrub understory is present use those values shown above	30 feet	100 feet	200 feet
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<p>Fire Free</p>	<p>A buffer zone -- a minimum 30-foot fire-resistive area around a house that reduces the risk of a wildfire from starting or spreading to the home. Although a 30-foot distance is standard, additional clearance as great as 100 feet may be necessary as the slope of your lot increases.</p> <p>http://www.firefree.org/ffreenew/subpages/gitz.htm.</p>																							

Other Definitions:

Crown Fire: Fire sustained in the over story or a surface fire with high fire line intensity leading to significant, scorch-related over story death.

Fire breaks---Man made, which include defensible space through fuel reduction, roads and natural breaks such as creek beds, rock faces, etc.

Fuel loading: How much fuel is available to feed the fire? Other loading factors are size, compactness and fuel moisture.

Fuels: Fuel is that combustible material available to feed a fire. Fuel is classified by volume and type. Volume is described in terms of “fuel loading” or the amount of vegetative fuel. The type of fuel, trees, Brush, grass, etc.

Season Ending Event: The data of the weather event after which fires cease to pose a significant problem, in terms of spread, to fire managers.

Surface Fire: Burning with low intensity in the forest understory with occasional individual tree torching or scorches related mortality.

Topography: This is the overall layout of the land: steepness of slope and aspect.

Vehicle access: Is access in and out possible for the type of initial attack or protection vehicle needed including space for more than one vehicle, turn-around space, and appropriate bridges and gates capable of accommodating firefighting vehicles.

Water sources: Many rural residential areas lack large water storage or pumping facilities, putting a higher demand on firefighting resources which have large water tank capabilities.

Weather: Major concerns are: yearly moisture accumulations, humidity, wind, temperatures and lightning frequency/occurrence.

Acronyms:

CFR: Code of Federal Regulations

CWPP: Community Wildfire Protection Plan

DEQ: Department of Environmental Quality

DOI: Department of Interior

EPA: Environmental Protection Agency

FEMA: Federal Emergency Management Agency

GIS: Geographic Information System

HFRA: Healthy Forest Restoration Act

HFI: Healthy Forest Initiative

HUC: Hydrologic Unit Code

ICS: Incident Command System

NFP: National Fire Plan and 10-Year Comprehensive Strategy

ODF: Oregon Department of Forestry

ODOT: Oregon Department of Transportation

OEM: Office of Emergency Management (State)

OSP: Oregon State Police

T & E: Threatened and Endangered Species

USFS: United States Forest Service

USDA: United States Department of Agriculture

BLM: Bureau of Land Management

USDI: United States Department of Interior

WFSA : Wildland Fire Situation Analysis

LCG: Local Coordinating Group

Appendix D

“Get in the Zone”

Fire Free Program

Ten Steps to “Get in the Zone!” – Fire Free Program – <http://www.firefree.org>

1. Define your defensible space.

Defensible space is a buffer zone, a minimum 30-foot fire-resistive area around your house that reduces the risk of a wildfire from starting or spreading to your home. Formed by following the critical steps outlined below, defensible space depends on clearing flammable material away from your home and replacing it with fire-resistive vegetation. Although a 30-foot distance is standard, additional clearance as great as 100 feet may be necessary as the slope of your lot increases. Defensible space not only helps protect your home in the critical minutes it takes a fire to pass, it also gives firefighters an area to work in. During a large-scale fire, when many homes are at risk, firefighters must focus on homes they can safely defend.

2. Reduce flammable vegetation, trees and brush around your home.

When needed, replace flammable landscaping with fire-resistive counterparts. Choose plants with loose branch habits, non-resinous woody material, high moisture content in leaves, and little seasonal accumulation of dead vegetation. Ask your local home and garden center about which varieties possess these and other fire-resistive traits.

3. Remove or prune trees.

If you live in a wooded area, reduce the density of surrounding forest by removing or thinning overcrowded or small-diameter trees. Check with local agencies for guidelines on tree removal before clearing or thinning your property. Be sure to prune low-hanging branches to keep a ground fire from climbing into upper branches. Limbing up these "ladder fuels" cuts the chances of a ground fire climbing into tree canopies.

4. Cut grass and weeds regularly.

Fire spreads rapidly in dry grass and weeds. Mow grasses and other low vegetation and keep them well-watered, especially during periods of high fire danger.

5. Relocate wood piles and leftover building materials.

Stack all wood, building debris and other burnable materials at least 30 feet from your home and other buildings. Then clear away flammable vegetation within 10 feet of wood/debris piles as an additional safeguard against the spread of wildfire.

6. Keep it clean. (Your roof and yard, we mean!)

Clear pine needles, leaves and debris from your roof, gutters and yard to eliminate an ignition source for tinder-dry vegetation. Remove dead limbs and branches within 10 feet of your chimney and deck. Tidying-up is especially important during the hot, arid months of fire season when a single spark can lead to an inferno.

7. Signs, addresses and access.

Easy-to-read road signs and address numbers that are visible from the road allow firefighters to find your home quickly during a wildfire or other emergency. Safe, easy access to your property includes two-way roads that can accommodate emergency vehicles and give them space to turn around. Bridges should support the weight of emergency vehicles. Driveways should also be trimmed of peripheral vegetation to allow emergency equipment to reach your house. Contact your local fire agency for recommendations on access and signage.

8. Rate your roof.

Your roof is the most vulnerable part of your house in a wildfire. If you have a wood shake roof, consider treatment or replacement to make it more fire-resistive. If you have a fireplace or woodstove, install an approved spark arrestor on your chimney to prevent sparks from reaching your roof or flammable vegetation.

9. Recycle yard debris and branches.

Check into alternative disposal methods like composting or recycling. Burning may be restricted or not allowed in your community, and should only be used as a last resort. Always contact your local fire agency for current burning regulations before striking a match!

10. What to do when a wildfire strikes.

Monitor your local radio and television stations for fire reports and evacuation procedures and centers. Keep an emergency checklist handy and prepare to evacuate if your neighborhood is threatened. Proper preparation includes closing all windows and doors, arranging garden hoses so they can reach any area of your house, and packing your car for quick departure.

Protecting Your Home from Wildland Fire, <http://www.nifc.gov/preved/protecthome.html>

Every year many families unnecessarily lose their homes and possessions to wildland fire. These losses can be minimized if homeowners take the time to become aware of safety measures to help protect their homes and complete some effective actions.

Use Fire Resistant Building Material - "The Best Thing That You Can Do"

The roof and exterior structure of your dwelling should be constructed of non-combustible or fire resistant materials such as fire resistant roofing materials, tile, slate, sheet iron, aluminum, brick, or stone. Wood siding, cedar shakes, exterior wood paneling, and other highly combustible materials should be treated with fire retardant chemicals.

Maintain a Survivable Space - "Things you can do today"

- Clean roof surfaces and gutters of pine needles, leaves, branches, etc., regularly to avoid accumulation of flammable materials.
- Remove portions of any tree extending within 10 feet of the flue opening of any stove or chimney.
- Maintain a screen constructed of non-flammable material over the flue opening of every chimney or stovepipe. Mesh openings of the screen should not exceed 1/2 inch.
- Landscape vegetation should be spaced so that fire can not be carried to the structure or surrounding vegetation.
- Remove branches from trees to height of 15 feet.
- A fuel break should be maintained around all structures.
- Dispose of stove or fireplace ashes and charcoal briquettes only after soaking them in a metal pail of water.
- Store gasoline in an approved safety can away from occupied buildings.
- Propane tanks should be far enough away from buildings for valves to be shut off in case of fire. Keep area clear of flammable vegetation.
- All combustibles such as firewood, picnic tables, boats, etc. should be kept away from structures.
- Garden hose should be connected to outlet.
- Addressing should be indicated at all intersections and on structures.
- All roads and driveways should be at least 16 feet in width.
- Have fire tools handy such as: ladder long enough to reach the roof, shovel, rake and bucket for water.
- Each home should have at least two different entrance and exit routes.

Appendix E

Incentive Programs

General Incentives Programs

The following information was summarized from "Incentive Programs for Resource Management and Conservation" (OSU Extension Publication #EC1119) and other sources. This lists the major incentive programs available to assist communities and landowners with the management of their communities. These programs are not limited to the issues of Communities at Risk and are able to provide similar types of cost share opportunities on private lands in all areas of Tillamook County.

Many other programs exist in addition to those listed. There are specialized / targeted incentive programs (National Fire Plan, Blue Mt. / Pacific Coast Demonstration Projects, etc) are not covered in this general summary.

Major Incentive Programs available to Family Forestland Owners in Oregon:

>**Forest Stewardship Program (FSP)** --- cost shares consultant written / ODF approved stewardship plans -- apply with your local ODF Stewardship Forester using FLEP application form.

>**Forest Resource Trust (FRT)** --- loan / grant to cover costs (normally 100% of costs) to convert underproducing forest land or marginal agricultural land into conifer forest. Applies only to DF "high" Site 4 or better sites. Apply by completing FRT application form at local ODF offices.

>**Forest Land Enhancement Program (FLEP)** --- cost shares a variety of upland forestry practices (site prep, tree planting, non-commercial thinning, release, etc.) Apply with local ODF Stewardship Forester using FLEP application form.** Projects are funded from one "pot" of funds in Salem. Funds are allocated to applications that arrive in Salem on a first come, first served basis, by priority. Unused funds continually recycle back into the "pot" as projects are completed or cancelled. In addition, we anticipate that "new" funds will be made available to Oregon in late 2005.

>**Oregon 50% Underproducing Forest Land Conversion Tax Credit** -- state tax credit on cost of converting underproducing forestland (brush land and low value / low volume forest) to well stocked forest. Apply by completing tax credit form and submitting it to the local ODF Stewardship Forester. (The form is available on the ODF/Private & Community Forests web site or at the local ODF office.) The state tax credit is available to qualified landowners and projects on a continuous basis. Proposed projects should be pre-qualified by the local ODF Stewardship Forester.

>**Afforestation Incentive (OAR 629-611 Forest Practices Rules)** - Provides landowners an incentive to convert parcels of idle land or land in other uses to commercial forest use. Provides assurance that no state forest practices regulation will prohibit harvesting most of the planted timber established and grown as the first crop rotation. Contact the local ODF Stewardship Forester for more information.

>**Federal (10%) reforestation tax credit** --- federal tax credit on cost of most afforestation or reforestation projects is available for project work completed before October 22, 2004. For reforestation / afforestation work done after October 21, 2004, landowners can "deduct" a certain amount of project expenses. (Note: The 10% federal tax credit has been repealed but landowners will be able to deduct some reforestation / afforestation expenses going forward from now.) Landowners

need to contact the IRS or their tax professional to get the required forms and properly utilize this incentive. Additional Information can be found at: www.timbertax.org

>**Environmental Quality Incentives Program (EQIP)** -- can cost share a wide variety of agricultural and forestry practices. However, availability of funding for upland forestry practices depends on a number of woodland owners applying for EQIP funding and actively participating in local EQIP working group. Apply for EQIP funds at local NRCS (Natural Resource Conservation Service) office.

>**Watershed Improvement Grants (OWEB)** --- cost shares riparian (usually near stream or in-stream) work - check with local watershed counsel and / or SWCD (Soil & Water Conservation District). Grant applications are available on-line at OWEB or at the local SWCD office.

>**Wildlife Habitat Incentives Program (WHIP)** -- cost shares a variety of wildlife enhancement practices which can include forest establishment and thinning for wildlife purposes. Apply with local NRCS office.

>**Conservation Reserve Program (CRP)** -- cost shares a variety of conservation practices on agricultural land including forest establishment and thinning. Pays rental on acres enrolled for ten to fifteen years. Apply at local FSA (Farm Services Agency) office. ***Funding is available.***

>**Conservation Reserve Enhancement Program (CREP)** -- cost shares primarily riparian and wet land improvement projects on agricultural land. Practices include riparian forest buffer establishment. Pays rental on acres enrolled for ten to fifteen years. Apply at local FSA office.

Community Fire Assistance

Volunteer Fire Assistance (VFA): Assistance to Volunteer Fire Departments for equipment & supplies. Contact the local ODF office.

Rural Fire Assistance (RFA): Assistance to Rural Fire organizations for equipment and supplies. Contact the local ODF office.

Federal Excess Personal Property program (FEPP): Provides federal excess equipment and supplies to city & rural fire departments for firefighting purposes. Contact the local ODF office.

Other Programs

Special funding for Insect & Disease control. The cost share amounts varies depending on the acreage owned. It varies from 33% to 50%, with the larger landowners being eligible for only 33% of the costs. Contact the local ODF office.

Title III, funding is available from the county for projects to enhance forest objectives. Contact the county governing body for more information.

Additional Incentive Programs to assist Communities and Private Landowners

Cost Share Program	Objective	Contact Agency
Forest Stewardship Program (FSP)	Develop Stewardship/Management Plans for Private landowners	Oregon Department of Forestry
Forest Resource Trust (FRT)	Convert underproducing forestland or marginal agricultural land into conifer forest, high site 4 or better sites	Oregon Department of Forestry
Forest Land Enhancement Program (FLEP)	Cost share site prep, tree planting, non-commercial thinning, and release.	Oregon Department of Forestry
Oregon 50% Underproducing Forest Land Conversion Tax Credit	Convert underproducing forestland to well stocked forest.	Oregon Department of Forestry
Afforestation Incentive	Converts parcels of idle to commercial forest use.	Oregon Department of Forestry
Federal (10%) reforestation tax credit	Federal tax credit on cost of reforestation projects	IRS or tax professional
Environmental Quality Incentives Program (EQIP)	Wide variety of forestry practices	Natural Resource Conservation Service (NRCS)
Watershed Improvement Grants (OWEB)	Riparian work and protection of water quality which can include upland forestry work.	Soil Water Conservation District (SWCD)
Wildlife Habitat Incentives Program (WHIP)	Wildlife enhancement practices which can include forest establishment and thinning for wildlife.	Natural Resource Conservation Service (NRCS)
Conservation Reserve Program (CRP)	Conservation practices on agricultural land including forest establishment and thinning.	Farm Service Agency (FSA)
Conservation Reserve Enhancement Program (CREP)	Riparian improvement projects including forest buffer establishment.	Farm Service Agency (FSA)
Volunteer Fire Assistance (VFA)	Grant assistance to volunteer fire departments for equipment and supplies.	Oregon Department of Forestry
Rural Fire Assistance (RFA)	Grant assistance to city and rural fire departments in communities of less than 10,000 population for equipment and supplies.	Oregon Department of Forestry
Federal Excess Personal Property Program (FEPP)	Federal excess equipment and supplies to city and rural fire departments for firefighting purposes.	Oregon Department of Forestry
Special Insect & Disease Control	Cost share assistance to landowners to control insect and disease infestations.	Oregon Department of Forestry
Title II	Funding for forest health projects	County Government