Curry County Community Wildfire Protection Plan

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Available online at:

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Curry County
Community Wildfire Protection Plan

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Acknowledgements

After the 2002 Biscuit Fire, agencies and organizations across Curry County came together to understand the factors that put the county at risk and to identify strategies to help the county, its communities, families, and individuals reduce their risk to wildfire. Members of the Curry Wildfire Preparation Team (CWPT) met over a three-year period to collect data on structural vulnerability, identify risk throughout the county, and oversee development of this Community Wildfire Protection Plan. The development of this plan is a credit to the dedication of this group of people. Members of the CWPT include:

- Michael Brace, Curry County Emergency Services
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- Harbor RFPD
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- Port Orford RFPD
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Chapter 1: Introduction

1.1 Background

Curry County is one of the most dramatic and beautiful places in Oregon. Rugged mountains and towering forests meet ocean views and colorful sunsets. The natural forces that make Curry County a beautiful place to live also provide economic opportunities through recreation, tourism, agriculture, logging and mining, to name a few. But the Biscuit Fire of 2002 highlighted the fact that these same natural forces also bring inevitable risks that can only be mitigated through careful preparation and planning.

Following the Biscuit Fire, many people involved in land management and emergency response recognized a need to better prepare for the next wildfire event. Their efforts started with a project to identify vulnerable structures in southern part of the county that were most threatened by the Biscuit Fire. They also formed a collaborative team to address wildfire issues. Today, the Curry Wildfire Preparation Team (CWPT) includes representatives from the local fire protection districts, the Curry Fire Chief's Association, Curry County Emergency Services, Bureau of Land Management – Coos Bay District, Rogue River-Siskiyou National Forest, Coos Forest Protective Association, County GIS, municipal governments, the South Coast Watershed Councils, and the Lower Rogue Watershed Councils.

With funds from a National Fire Plan grant, the CWPT expanded the effort evaluate structural vulnerability to wildfire through the entire county and they initiated the process to develop this Curry County Community Wildfire Protection Plan. The original goals of the National Fire Plan grant included the following:

- Establish a collaborative process for public education and prevention opportunities.
- Create maps and information for emergency management services countywide.
- Identify and target high hazard structures and areas.
- Identify and prioritize defensible space and fuels projects that accomplish protection needs.

Additionally, the grant sought to provide Curry County and its communities a baseline of information on structural vulnerability within the wildland urban interface (WUI) in order to develop a Community Wildfire Protection Plan (CWPP.) This plan documents the efforts of local, state, and federal partners in Curry County to accomplish these goals and establish clear strategies for reducing wildfire risk throughout the county.

1.2 Plan Overview

The structural vulnerability study was the first collaborative effort of the newly formed Curry Wildfire Preparation Team (CWPT). The CWPT formed out of a recognition that wildfire is an integral and inevitable component of southwest Oregon's environment. Adequate preparation for wildfire events requires the coordinated efforts of local governments, public lands management agencies, community organizations, businesses and residents.

In February 2007 the CWPT initiated a comprehensive planning process to develop a Community Wildfire Protection Plan (CWPP). Over the course of the following year, the CWPT used

the analysis from the countywide structural vulnerability assessment and a comprehensive wildfire risk assessment to understand the biophysical factors that contribute to wildfire risk. The CWPT engaged community stakeholders through targeted interviews and public forums to better understand community concerns, priorities and preferences in developing the plan. And the CWPT used information from an analysis of vulnerable populations in Curry County to develop strategies to overcome the barriers of poverty, disability and social isolation that exist in the county.

This plan is a culmination and synthesis of the CWPT's work. Each chapter describes the process and the outcome of each effort to understand a biophysical or social component of wildfire risk and resiliency. Each section of the plan also includes a set of key findings and recommendations. The CWPT worked to identify clear actions to address these findings and recommendations, as well as the overall goals of the plan. The detailed set of actions is included in Chapter 9.

1.3 Purpose of the Plan

This CWPP applies to all of Curry County, but with a particular focus on addressing the challenges of managing wildfire risk within and adjacent to the Wildland Urban Interface (WUI), the areas where forests and human communities meet. Because wildfire knows no jurisdictional boundaries, this plan is intended for everyone with a role in preparing for wildfires, including residents, land managers, emergency responders and elected officials. It is our hope that this document is an accessible resource for all to use.

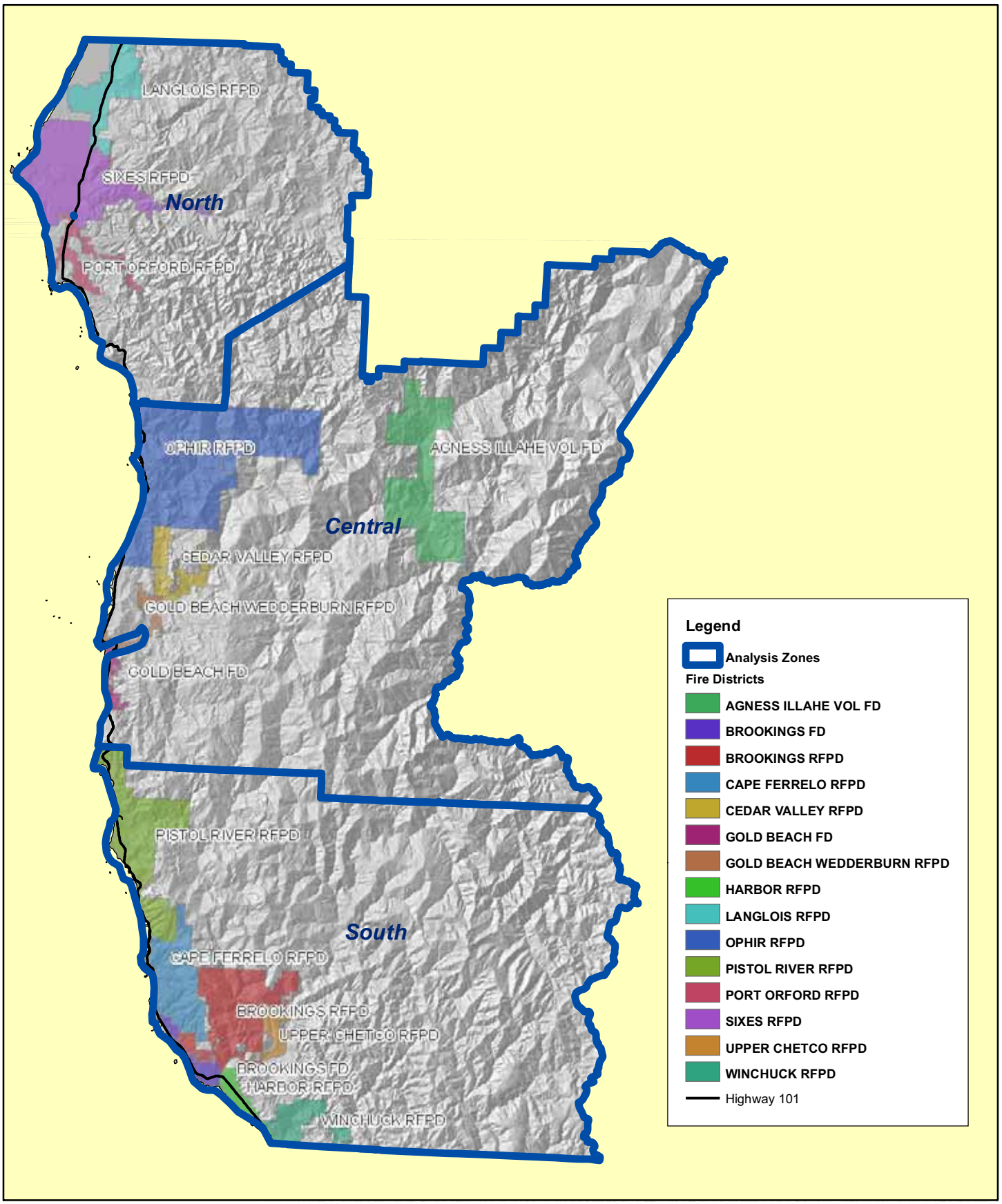
This CWPP is intended to compliment and support other efforts and plans throughout the county. As a non-regulatory plan, the actions and strategies described herein are consistent with current regulations and existing planning guidelines described in the Curry County Comprehensive Plan, Curry Natural Hazards Mitigation Plan, and other relevant plans.

1.4 Plan Mission

The mission of the Curry County Community Wildfire Protection Plan (CWPP) is to protect life, property, and natural and cultural resources from wildfire by reducing structural vulnerability and increasing the ability of local, state, and federal agencies, community organizations, and the general public to manage wildfire risk through effective preparation, response and recovery.

Map - Communities (Jurisdictions) and Analysis Zones

The map on the following page shows the plan area. For the purposes of the Curry County CWPP, each community in the county is delineated by the boundaries of its Fire Protection District. The three analysis zones, North, Central and South, were used during the structural vulnerability assessment to organize data collection efforts.



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Curry County Communities (Jurisdictions) and Analysis Zones

0 1.5 3 6 Miles

Created by: Jim Wolf, February 5, 2008

1.5 Guiding Principles for the Planning Process

The CWPT adopted these guiding principles in developing the process and priorities that defined this CWPP planning process.

- Create a plan that addresses the needs of all populations in the county, including low-income, elderly, disabled, and minority residents, as well as those with other special needs.
- Create a multi-objective approach through the planning process and implementation that addresses other natural hazards that affect the county.
- Understand the key problems in the county and identify appropriate solutions.
- Meet state and federal requirements for wildfire planning to be competitive for grants.
- Create a plan that is useable by the public and partners involved with the plan.
- Develop plan actions and an implementation strategy that recognizes the capacity and limitations of the county and partners involved with the fire plan.

1.6 Plan Goals and Objectives

The diverse goals and objectives described in this plan reflect the complexity inherent in planning for wildfire disasters. These goals and objectives also underscore the intent to produce a plan that is collaborative, inclusive and proactive.

Goal 1. Foster partnerships and collaboration

- Foster active participation from public agencies, community organizations, fire districts, and the public through plan development and implementation.
- Devise a process that results in practical benefits and helps focus efforts by the county and partners.
- Prioritize activities given limited funding.
- Coordinate activities and use information from the Natural Hazard Mitigation Plan and other existing plans within the county.

Goal 2. Conduct a comprehensive risk assessment

- Integrate the structural vulnerability assessment within the risk assessment.
- Use good photos and maps to illustrate risk and communicate information to the public.
- Tie the risk assessment process to requirements for Senate Bill 360.
- Consider scenic and aesthetic values and the needs of vulnerable and Endangered Species Act listed species in the risk assessment.
- Ensure the fire risk from invasive, exotic species are included in the risk assessment.

Goal 3. Support Emergency Services

- Integrate the fire plan within the Emergency Operations Plan.

- Identify whether or not there are adequate services to meet needs in the county.
- Address evacuation issues and strengthen evacuation in the county.
- Ensure communication between agencies, emergency services, and the public is open and clearly outlined.

Goal 4. Conduct hazardous fuels reduction on public and private land

- Identify and prioritize hazardous fuels treatment projects on public and private land.
- Identify opportunities and incentives that encourage the public to create defensible space and increase the defensibility of their homes.
- Prioritize the use of local companies and labor when contracting out fuels reduction work to support the local economy.
- Promote the protection of large diameter, fire resistant trees in the county, especially in fuels reduction projects.

Goal 5. Address wildfire risk reduction in planning and development

- Develop and implement fire plan activities with the future growth and development of the county in mind.
- Identify population trends and areas of predicted growth in the county to better plan for wildfire.
- Identify and enforce existing county and city codes that address wildfire and identify opportunities to strengthen wildfire-related codes.

Goal 6. Increase public education and outreach

- Understand the public's perception of risks.
- Increase awareness among public agencies, community organizations, and the general public about roles of the fire agencies and the ways in which they are pro-active and working together.
- Target education on fire protection, safety, mitigation, and other issues to residents, visitors, developers, realtors, media, insurance industry, and other stakeholders. Coordinate education in plan development and implementation and use all forms of media, including the Internet to promote education.
- Identify which communication methods are best for diverse groups. *Curry County has a diverse population, including low-income and special needs residents, retirees, new residents, and seasonal recreators, among others, that affects social vulnerability.*
- Integrate existing materials and information in the public outreach process.
- Build on the energy and interested created by CFPA during the 2005 – 2006 structural vulnerability assessment by following up with residents.
- Coordinate public education efforts with the public information officers for the BLM and other agencies.

1.7 Collaboration and Public Outreach

The Healthy Forests Restoration Act (HFRA) recognizes the value of collaboration and community involvement in managing wildfire risk. The CWPP process outlined in HFRA directs community's to work collaboratively to identify key issues relating to structural vulnerability, to identify the community WUI and to come up with effective strategies that are tailored to local needs and capabilities. The CWPT acted as a steering committee through out the planning process, but also relied on public input to inform the plan. The CWPT engaged Curry County residents and community organizations through stakeholder interviews and public meetings.

Stakeholder Interviews

To identify key concerns and issues related to wildfire in Curry County, Resource Innovations conducted a series of stakeholder interviews early in the planning process. Stakeholders interviewed for the plan include local, state, and federal agencies, local businesses and industry representatives, environmental organizations, hunting organizations, and school districts, among other groups. The interviews solicited stakeholders' concerns about wildfire in Curry County, ideas and suggestions for the goals and objectives of this plan, and feedback about the planning process. The interviews also served as a first step in raising community awareness about the wildfire plan by informing stakeholders about the planning process. A complete summary of the stakeholder interviews is available in Appendix D.

Public Meetings

In August 2007, the CWPT hosted three public meetings, one each in the incorporated communities of Brookings, Gold Beach and Port Orford. The meetings provided information about protecting homes and property from wildfire, identifying the areas at risk of wildfire in Curry County, and opportunities for the community to share their concerns about wildfire risk and ideas on how to protect their homes and communities. Each meeting drew a committed group of participants, including elected officials, insurance agents, forest workers and citizens.

Members of the CWPT, helped to answer questions and talked about existing programs to identify and reduce wildfire risk, create defensible space, and increase emergency services' capacity. Through small group discussions, attendees expressed their concerns and suggested ways that the CWPP could address those concerns. The input from the public meetings contributed directly to the development of action strategies in the CWPP.

Public Meeting Outcomes

- Participants identified priority area to reduce hazardous fuels in the county. Their notes, drawn on maps at each meeting, were incorporated into the risk assessment.
- Participants drew attention to concerns about noxious weed infestations, specifically gorse, a highly flammable and invasive weed. As a result the CWPT added data on gorse infestations to the fuels layer used in the risk assessment. The action plan also includes a strategy to educate property owners about the problem of noxious weeds spreading along rights-of-way.
- Participants emphasized the importance of education to build awareness and teach people how to reduce their risk to wildfire. They suggested home visits and demonstration projects to engage people in one-to-one discussions. They also recommended working with the schools to reach the next generation and spread the message to parents in the communities.

- Participants supported recommendations to install visible and unambiguous address signage to aid in emergency response. They were also supportive of recommendations to install emergency water storage for residents who lack access to an adequate water supply.

1.8 CWPP Stakeholders

The Curry County CWPP targets strategies to assist households, communities, fire districts, and public agencies. Throughout the plan there are recommendations aimed at helping Curry County reduce its risk to wildfire. Chapter 9 of the full plan synthesizes these recommendations and describes specific actions to reduce wildfire risk and the goals of the plan. The action plan identifies agencies and community organizations that will take a leadership role in implementing the plan. Community groups, fire districts, social service agencies, businesses and individuals can contribute by participating in local efforts to implement strategies in the action plan. Following is a description of how stakeholder groups can play a role in implementing the CWPP.

Fire Districts

Local fire districts play a key role in implementing the CWPP because they are the most knowledgeable about wildfire risk factors specific to their community. As members of the community they are also connected through social networks providing opportunities for Fire District staff to support education and outreach efforts at a neighborhood level. Fire fighters are also in a natural position to provide organizational leadership and expertise to assist their communities in creating and implementing local action plans.

Local, State, and Federal Agencies

Agencies responsible for public lands management, emergency response, law enforcement and governance play an important role in supporting the CWPP. By setting priorities, allocating resources and establishing policies these agencies can facilitate the efforts of the communities they serve. Agencies representatives also bring their expertise and experience to communities through education and technical assistance to tap into state and federal grant programs. Finally, these agencies can build trust with the communities they serve by maintaining strong partnerships during implementation of the CWPP, and in emergency response and recovery.

Social Service Agencies

Social service agencies will be important partners in implementing actions in the plan that support vulnerable populations. Vulnerable populations include those who are at increased risk to wildfire such as the elderly, persons with disabilities and low income households. Specifically, social service staff can assist County Emergency Services in developing a database of vulnerable populations to aid in evacuation planning, provide education to their clients about wildfire risk, and connect their clients to resources to help them reduce their risk.

Businesses

Local businesses play a part in supporting the CWPP by providing products and services to help their communities prepare for wildfire. Contractors assist with creating defensible space or installing fire resistant building materials. Hardware stores provide the materials for residents to install water storage tanks and clear, visible address signage. Businesses in tourism and recrea-

tion educate visitors about wildfire risk. Real estate agents and insurance providers are also important educators by teaching people how to prepare a home to survive a wildfire. And many businesses will participate in the effort to explore opportunities to use woody biomass to produce compost, mulch, manufactured woods products or biomass generated electricity and heat.

Community Groups

Formal and informal community groups such as neighborhood associations, church groups and social clubs connect people providing natural opportunities for education and outreach. Community groups can also motivate members to organize events and implement local projects such as a free brush collection day, evacuation drill or tour of a fire resistant home.

Individuals

Finally, individual residents will play a critical role in the plan's success. By staying informed, attending community meetings and events designed to disseminate information about wildfire preparedness and asking questions, residents can make sure that they are getting the information they need. Residents can also talk with their neighbors and others in their community to share information, new ideas and spread the word about wildfire preparedness. Homeowners can also protect themselves and their neighbors by taking action to reduce the chances of their home catching fire. Simple and inexpensive steps such as clearing yard debris, cleaning gutters and installing a visible address sign for emergency personnel are just a few things that significantly reduce the chance of losing one's home to wildfire.

Chapter 2: Community Guide to Key Findings and CWPP Actions

Community Wildfire Protection Plans (CWPPs) are intended to help communities identify risk, prioritize projects to reduce wildfire risk, and promote collaboration that leads to long-term implementation of action items. The Curry County CWPP provides a broad set of action items aimed at reducing wildfire risk countywide. However, when it comes to implementing projects, success can only be achieved at a local level. Many of the actions in this plan relate to needs across communities. This chapter is intended to provide a summary of the plan's key findings, the action plan to address these issues and a useful guide for community members to participate in creating safer communities for Curry County residents.

Key Findings: Wildfire Risk in Curry County

The Curry County CWPP was developed using data from a variety of sources. One of those sources was a county-wide effort to evaluate homes for risk from wildfire. That information plus input from community stakeholders, public comments and recommendations from the Curry Wildfire Preparation Team (CWPT) was used to identify these key issues, which are addressed in the Curry County CWPP action plan.

Defensible Space – Only a third of homes at risk to wildfire have the minimum recommended buffer of 30 ft. Maintaining defensible space is one of the most significant steps a homeowner can take to reduce the risk that their home will be lost in a wildfire.

Water Storage – Many homes in Curry County that are at risk to wildfire lack access to an adequate water supply for defensive purposes.

Address Signage – A visible, unambiguous address sign helps emergency personnel navigate and locate residences in a wildfire or any other emergency situation, many homes have inadequate address signage.

Access – Fire fighters need a safe route to and from a home to be able to defend structures from wildfire. Many homes in Curry County have access ways that are hazardous due to encroaching vegetation, steep grades or long driveways without adequate space to turn around.

Evacuation and Transportation – Curry County's rugged topography limits road access to one or two routes in many communities. Elderly, low-income and other special needs residents may need assistance in an evacuation.

Communication and Emergency Response – The communication infrastructure in Curry County is vulnerable due to the lack of redundancy in facilities. Protecting these facilities and developing alternative communication strategies is important for all emergency responses.

Invasive Weeds – Gorse is an invasive weed in Curry County that is also highly flammable. Controlling the spread of gorse will help reduce wildfire risk, especially in the northern portion of the county where it is more common.

The information in this community guide can serve as a tool for communities to create local action plans that reduce the risk from wildfire. The first section of this guide provides step-by-step guidance on planning and implementing community projects. The second section describes current Curry County wildfire education and outreach activities and provides a list of education resources such as publications, brochures and Internet sites.

2.1 Action Plan Matrix

This action plan matrix lists all of the actions in the Curry County CWPP as a reference for all stakeholders interested in implementing actions within their communities. Lead organizations are identified to manage implementation of the action at a county-level, but a local entity may take on a leadership role within their community. Opportunities for various stakeholder groups are suggested in the action plan matrix below. Chapter 9 of this plan provides detailed information about each action item.

Table 2.1 Action plan matrix.

Action	Participants	Action Strategy	Lead
Goal 1 - Foster Partnerships and Collaboration			
1.1	Businesses, community groups and agencies	Establish a Curry County Biomass Coalition to collaborate in developing opportunities for biomass utilization and economic development in conjunction with fuels reduction projects.	CWPT and RC&D
1.2	Fire Districts	Add information about resources from the Forest Service, BLM and other private fire entities to the CA/OR Mutual Aid Resource Inventory.	CA/OR Fire Chief's Association
1.3	Fire Districts Community Groups Social Services	Collaborate with local home insurance providers to participate in developing and disseminating information to property owners about how to reduce risk from wildfire. Work with insurance agencies to develop incentives that reward or encourage homeowners to create defensible space around their homes.	Curry County Board of Realtors and NW Insurance Council
Goal 2 - Conduct a Comprehensive Risk Assessment			
2.1	Fire Districts	Update risk assessment layers and review priorities for fuels reduction, as new data is made available.	County, FS and BLM
2.2	Fire Districts	Maintain and update data on structural vulnerability.	County GIS
2.3	Fire Districts Social Services	Maintain a database and map of vulnerable populations in the county to inform aid in planning emergency response, targeted education and grant assistance for creating defensible space.	County Emergency Services
Goal 3 - Support Emergency Services			
3.1	Fire Districts Community Groups	Create a countywide list for coordinating information distribution about current wildfire conditions.	County EM; BLM PIO; CFPA
3.2	Fire Districts Community Groups Social Services	Identify and map the principle evacuation routes and safe zones in the county.	County Sheriff
3.3	Fire Districts	Facilitate the installation of water storage systems by providing standard fixtures to make existing systems accessible to fire responders. Encourage residents with private wells to install water storage systems and provide technical assistance and grant funding.	CFPA Fire Chief's Association
3.4	Fire Districts Community Groups Social Services	Evaluate and enhance existing emergency call-down system by conducting periodic tests and strengthening outreach efforts to collect and update contact information.	County EM Services, County Health Dept.
3.5	Fire Districts Social Services	Provide CERT (Citizen Emergency Response Training) to home care providers.	County EM Services

Action	Participants	Action Strategy	Lead
Goal 4 - Conduct Hazardous Fuels Reduction on Public and Private Land			
4.1	All	Identify, secure resources for, and implement fuels reduction projects on public and private land.	FS, BLM, CWPT partners
4.2	Contractors, agencies, community groups	Explore opportunities to utilize stewardship contracting to accomplish fuels reduction work on public lands and provide local economic development opportunities.	USFS, BLM
4.3	Fire Districts Community Groups Social Services	Institute free brush collection days.	CFPA, Curry Transfer & Recycling
4.4	Community groups	Obtain funding to control gorse and other noxious weeds through partnerships with the Curry County Weed Board and South Coast Watershed Councils.	Curry County Weed Board
4.5	Fire Districts Community Groups Social Services	Provide education and assistance for vulnerable populations to create defensible space around homes in high-risk areas.	CFPA
4.6	Fire Districts Community Groups Social Services	Create and maintain a list of local contractors who do fuels reduction work. Make this list available to the public.	South Coast Watershed Councils
4.7	Community Groups	Develop a program to educate local contractors and landscapers about home wildfire preparation. Develop a list of trained contractors and make available to the public.	OSU Extension
Goal 5 - Address Wildfire Risk Reduction in Planning and Development			
5.1	Fire Districts Community Groups	Educate property owners about the hazard created by noxious weed infestation along right of ways.	Curry County Weed Board
5.2	Fire Districts Community Groups	Implement Senate Bill 360 using information from the CWPP risk assessment and in outreach strategy in coordination with the State Forestry Office.	ODF
5.3	Local government	Update the Curry County fire code to reflect state standards established by the Office of the State Fire Marshal.	Curry Fire Chief's Association; OSFM
Goal 6 - Increase Public Education and Outreach			
6.1	Fire Districts Community Groups Social Services	Develop a program that offers tours of homes that have well maintained defensible space, signage, access and fire resistant structures.	CFPA
6.2	Fire Districts Community Groups	Partner with schools to share information about wildfire risks and steps to effective preparation.	CFPA and RFPDs
6.3	Fire Districts Community Groups Social Services	Continue to offer free home evaluations to collect data on structural vulnerability and provide a one-on-one education about steps residents can take to reduce vulnerability.	CFPA
6.4	Fire Districts Community Groups Social Services	Create a program to distribute information to resident about how to install and maintain adequate address signage.	County Planning and RFPD
6.5	Fire Districts Community Groups Social Services	Conduct targeted outreach and technical assistance to residents with wood shake roofs to identify and overcome barriers to upgrading those roofs to more fire-resistant materials.	CFPA
6.6	Fire Districts Community Groups	Work with real estate agencies to educate realtors about structural vulnerability and wildfire risk.	Curry County Board of Realtors
6.7	Fire Districts Community Groups	Utilize local media to publicize successful implementation of the Fire Plan as opportunities arise.	CFPA, BLM, County

2.2 Create a Local Action Plan

Not all communities in Curry County are faced with the same issues and challenges. For example, communities to the north may see gorse infestation as a high priority while those in the south may be more concerned with improving access for fire fighters. The process of creating a local action plan will help each community identify key issues specific to that community. This five-step process will also help communities identify resources from within the community and opportunities to get assistance from local, state and federal agencies.

1. Convene Decisions Makers

The first step is to bring together a core group of people who can make decisions on behalf of the community. These individuals may be Fire District staff, leaders in community groups, non-profit organizations are simply someone willing to dedicate time and energy to creating a safer community.

2. Involve Local, State and Federal Officials

Identify those officials with jurisdictional authority in your community. These people may be able to provide resources, technical assistance and valuable information to help your community.

3. Engage Interested Parties

Look within your community, district or neighborhood to find out who can contribute to your efforts and who will benefit from your efforts. Create a list; a spreadsheet comes in handy to keep track of phone numbers and email addresses.

4. Map Your Community

Use maps in the Curry County CWPP to help your team establish your community boundaries and identify important issues facing your community. This map will be a useful tool in choosing priorities.

5. Establish Community Priorities and Projects

Using your community map as a guide, identify priority issues that your community would like to address. Then review the Action Plan (Chapter 9), to see which actions align with the needs of your community. List those actions that your team would like to act upon at a local level. If necessary, develop your own actions specific to your community. The next section offers step-by-step instructions for some specific community actions.

Tips to Energize Your Community

Neal Schaeffer, a resident of Glorieta Estates, New Mexico, offers these tips for building community support for wildfire preparedness projects.

- Having experts who make engaging presentations about relevant topics;
- Creating opportunities through which neighbors can share their values and concerns about the particular aspects of wildfire mitigation that need to be addressed;
- Offering effective activities, such as Chipper Days and providing the resources for a successful activity;
- Acknowledging that progress may take time and that setting realistic expectations for progress leads to successes large and small. Patience and acceptance can yield very productive results;
- Realizing that the group rules the day and there is no need to impose one person's agenda on the entire group;
- Maintaining communications while bearing in mind that most folks have limited patience for dreary meetings; and,
- Noting that the best events are those in which people sweat together.

Excerpt from *Firewise Communities – The How-To Newsletter. Summer 2006*.
(http://www.firewise.org/usa/files/how_to_guide_Summer_2006.pdf)

2.3 Implement Local Wildfire Preparedness Projects

Taking on a community project may seem daunting at first, but breaking it down into concrete steps makes the effort more manageable.

Coordinate a Neighborhood Fuels Reduction Project

Fuels reduction projects can include creating defensible spaces around homes, brushing back vegetation from evacuation routes and driveways, or landscape treatments that reduce fuel loads beyond the immediate vicinity of structures and roads. Each step listed below is described in detail in "*A Guide to Coordination a Neighborhood Fuels Reduction Project*." The document is available for download at: http://ri.uoregon.edu/publicationspress/Fuel_Reduction_Guide.pdf

1. Initiate the project.
2. Engage volunteers and secure funding.
3. Select project areas and define project objectives.
4. Determine applicable environmental rules.
5. Conduct public outreach.
6. Work with contractors.
7. Implement on the ground work.
8. Conduct project reporting and monitoring.
9. Maintain treatments.
10. Celebrate and publicize accomplishments.

Communities Taking Action

In Wilderness Ranch, ID residents have organized an annual "Firewise Week" each autumn. It includes chimney cleaning and the designation of a specific site for the dropping off of yard waste, with a community bonfire and potluck dinner rounding out the week. "Our fire chief credits Firewise as one of the main reasons we haven't had a catastrophic wildfire in our community," notes Wilderness Ranch resident and community organizer, Carrie Wiss. She adds that this year, the community will be initiating a project to thin and limb up trees, and to remove brush along stretches of private property that are adjacent to roads.

photo: Firewise.org

Excerpt from *Firewise Communities – The How-To Newsletter. Summer 2007.* http://www.firewise.org/usa/files/how_to_guide_summer_07.pdf

Become a Firewise Recognized Community

The Firewise Communities/USA program provides technical assistance to small communities to increase wildfire preparedness. The program is best suited to communities where neighbors are willing and able to work together on wildfire mitigation projects. For more details visit: http://www.firewise.org, or contact the Oregon Firewise Program Representative: Ms. Ann Walker, Oregon Department of Forestry, at (503) 945-7346, or by email to AWalker@odf.state.or.us

1. Contact the State Firewise Representative.
2. Schedule a site visit to the community.
3. A community assessment is performed, either by the state liaison or his/her designee.
4. Establish a local Firewise board or committee. Conduct a community assessment.
5. Adopt a community action plan.
   Plan and implement a community project, the first 'Firewise Day'.
6. Submit a Firewise Communities/USA application to the Firewise representative.
7. Maintain status by continuing at least one annual 'Firewise Day'.

Create a Neighborhood Evacuation Plan

Evacuating residents can be one of the most dangerous times during a wildfire. Prior planning can reduce unnecessary risks. The steps listed below are adapted from the Upper Deschutes Natural Resources Coalition Emergency Response Plan Guidelines.[1]

1. Develop a database of information on residents in the community.
2. Create maps with identified residences and potential safe zones.
3. Identify evacuation routes.
4. Conduct a neighborhood scale drill.

Evacuation Planning and Notification

The City of Ashland produced a wildfire evacuation map that is available to residents along with a Wildfire Evacuation Guide. During a wildfire, information about the fire and evacuation instructions are available through a telephone hotline, AM radio broadcast and community phone tree. The city's Community Emergency Response Team (CERT) is a group of trained volunteers that operate the phone tree system. The system has been activated twice, once in December 2005 and again in December 2006. CERT has produced a phone tree activation guide based on those experiences:
http://www.ashland.or.us/Files/Phone%20Tree%20Activation%20Guide.pdf

Communities Taking Action

In Lummi Island, WA, residents are reminded about cleaning up debris with the placement of signs that read "This lot has been 'Firewised'." These signs get moved around, notes Frankie Small, "so that community members can see that you do not have to clear cut to be Firewise." The community also has work parties, with chips from chipping provided for homeowners to use on their property. Ms. Small, also sends out a quarterly newsletter with helpful suggestions and reminders. Her favorite slogan is "Be Safe, Be Firewise." It is helpful to repeat and remind, she says.

photo: Firewise.org; Excerpt from *Firewise Communities – The How-To Newsletter. Summer 2007.*
http://www.firewise.org/usa/files/how_to_guide_summer_07.pdf

[1] http://www.udrnrc.org/neighborhood%20info/emergency%20response/index.htm

Planning a Free Brush Collection or Community Clean-Up Day

Removing debris from neighborhood fuels reduction work or other flammables from the community can be a major challenge to maintaining good defensible space. For more details on these steps visit: www.firefree.org

1. Develop a partnership with agency to receive debris or determine a location for debris drop off and pick up.
2. Set a date for the event.
3. Conduct education and outreach to publicize the date.
4. Survey participants to gather information to evaluate and improve next year's collection.
5. Work with local media to report on the event's success.

Obtain Grant Funding

There are a many grants available for funding wildfire mitigation projects. Many grant programs require that the applicant be an agency, organization or non-profit. But communities can partner with local, state and federal partners on grant applications (see Appendix C for a listing of grant opportunities).

1. Create a project description and budget.
2. Identify available resources (in-kind labor, volunteers, expertise, monetary).
3. Identify grant source and application timeline.
4. Write and submit grant.
5. Document project accomplishments.
6. Submit grant report.

Is it worthwhile for communities to seek nonprofit status?

"It really depends on the community's goals and whether the residents can get help from the local town or county government or other partners. While this status will allow a community to access resources independently of partners, it takes a serious, ongoing time commitment (as well as paperwork and, yes, money) to obtain tax-exempt nonprofit status. You can link to the IRS website that explains the details from our Grants and Resources page at www.firewise.org/usa."

Are there alternatives to grants for communities seeking to accomplish projects?

"Many excellent projects and programs have occurred in neighborhoods through partnership and collaboration. It's a good idea for communities to figure out who their neighbors are and see if they can get them to help out. If your "neighbor" is a state, national forest, park or a Bureau of Land Management area, for example, these entities are interested in reducing wildfire risk and managing their natural resources. Other communities have partnered with their local water districts (for help with equipment and disposing of green waste), their school districts (for Firewise education and outreach) and local contractors (for demonstration areas). Volunteer labor and in-kind services go a long way in small communities."

Excerpt from an interview with Michele Steinberg a Firewise Communities Support Manager, published in *Firewise Communities – The How-To Newsletter. Fall 2006.* (http://www.firewise.org/usa/files/how_to_guide_fall_2006.pdf)

Conduct Outreach with your Community

Working effectively with groups and individuals to build productive partnerships can be challenging, but is equally rewarding. Strategies to coordinate education and outreach include the following:

- One-to-one Communication with local residents.
- Outreach to Stakeholders with a stake in protecting their community from wildfire.
- Form Coalitions/Collaborations/Networks between groups that can leverage limited resources.
- Organize a Community Event to engage the public and kick-start local action.
- Coordinate a media event and draft a press release to raise awareness within the community.
- Focus on a collaborative partnership with diverse groups throughout the community to identify common goals, reduce conflict and achieve success in reducing wildfire risk.

Disposing of Yard Debris

Chipping

One of the several alternatives to burning is wood chipping tree limbs and branches. Wood chips make a great landscape mulch material. Benefits of using wood chips for mulch include conserving soil moisture, reducing weeds, and cooling the soil. In addition, wood chips make good yard pathways. An Oregon taxpayer that purchases a wood chipper for use in Oregon may apply for the tax credit within one year from the date of delivery. An approved tax credit may be used to reduce the amount of state taxes owed by 35% of the cost of the wood chipper and its shipping charges. For more details visit: http://www.deq.state.or.us/aq/burning/chippertc.htm

Composting

Using yard debris as compost enriches the soil with nutrients and helps soil retain moisture. For tips on how to compost contact the Curry County Extension Office in Gold Beach (541) 247-6672 or 1-800-356-3986.

Collection Sites

Curry Transfer and Recycling (541) 469-2425 accepts yard debris at three sites in Curry County. Charges apply except for free drop off days, one each in the spring and fall at the Port Orford and Brooking sites only. Call for rates and hours of operation.

Port Orford: 42750 Arizona St. off of Paradise Point
Gold Beach: 32450 Edson Creek Road
Brookings: Ridge Creek on Wilderness Road

Burning Regulations in Curry County

Burn permit requirements vary depending on where you live and the time of year. To obtain up-to-date info on requirements in your area, call the appropriate agency from the list below. Consider using an alternative to burning to reduce air pollution and minimize fire risk. Regardless of where you live the following regulations apply:

Fire Suppression Equipment: The permit holder must have fire suppression equipment ready for use as required by the burn permit.

Responsible Adult: A burning permit does not relieve the permittee from responsibility for the payment of costs for suppression or for damages if the fire escapes control. A capable, responsible adult must be present at all times until the fire is completely out.

Clear Debris: All flammable material adjacent to the site must be cleared to mineral soil or other fire-proof surface as specified by the permit issuing officer.

Prohibited Items: Department of Environmental Quality (DEQ) regulations prohibit open burning of the following materials at any time, anywhere in Oregon. Additional restrictions may apply in your area.

- Rubber products, plastic or wire insulation
- Automobile parts and tires
- Wet garbage including waste from food preparation
- Petroleum and petroleum treated products
- Asphalt or industrial waste
- Animal remains
- Any material that creates dense smoke or noxious odors

Within city limits these additional regulations apply:

- Burn permits are required all year round.
- Burning is restricted to specific times of day as specified in the permit.
- Burn barrels are not permitted within Brookings city limits.
- Only yard debris can be burned, no construction debris or burning to clear land.

To request an inspection and obtain a permit contact:

Port Orford Police Department	(541) 332-9013
Gold Beach Fire Department	(541) 247-6204
Brookings Fire Department	(541) 469-1140
Harbor Fire District	(visit the office in person Mon.-Fri. between 9:30-11:00 AM)

Outside of city limits these additional regulations apply:

- All outdoor burning requires a permit.
- All slash and some land clearing burning requires a permit and must conform to the Oregon Smoke Management Plan.
- All permit areas must be inspected by the Forest Officer.
- Open burning permits are only issued for the amount of time required to complete the burn.
- An incinerator may be approved for annual use if it meets specific requirements.
- Burning may be restricted to specific times during the day as specified in the permit.

To request an inspection and obtain a permit contact the nearest CFPA Office:

Port Orford	(541) 347-3400
Gold Beach	(541) 247-6241
Brookings	(541) 469-2302

2.4 Education and Outreach

Community members play a critical role in mitigating wildfire risk. At an individual level, choices about landscaping and yard maintenance to create defensible space have a direct impact on structural vulnerability. At a neighborhood and community level, residents can work together to assist in emergency communication, evacuation planning, and neighborhood cleanup-up projects. Residents can also work collectively by voicing support for local, state and federal efforts to mitigate wildfire risk. This chapter describes education and outreach objectives, the strategies to reach those objectives and provides a list of current programs and resources to support these efforts.

Education and Outreach Objectives

In 2005 and 2006, the Coos Forest Protective Association (CFPA) went door-to-door evaluating the structural vulnerability of homes throughout the county. With memories of the Biscuit Fire in the not too distant past, many residents welcomed the visits and expressed interest in how they could better prepare for a wildfire. The strategies in this plan will build on that interest and continue a public dialogue about wildfire and how residents, organizations and agencies can work together to reduce risk and increase preparedness. The specific strategies listed below support these three themes:

Creating Defensible Space

Good defensible space doesn't have to include a clear-cut. There are many inexpensive ways to create this critical buffer that are also preserve the wilderness character that draws people to Curry Counties forested communities.

photo: Firewise.org

Increase Awareness

The CWPP will increase awareness among individuals, organizations, and agencies about wildfire risk and lead to pro-active steps people can take to reduce risk and increase preparedness. Public agencies, community organizations, and the general public will also understand how to work together to achieve community goals around wildfire preparedness.

Provide Targeted Education and Outreach

The CWPP will provide targeted education on fire protection, safety, mitigation, and other issues to residents, visitors, developers, realtors, media, insurance industry, and other stakeholders. Everyone has a role in preparing for wildfire, but an effective education campaign must meet the diverse needs of the community and utilize the outreach methods and tools that are best suited for each audience.

Integrate Existing Education Materials

The CWPP will coordinate with local public agencies to disseminate existing education materials, many of which are available free or at a minimal cost.

Education and Outreach Action Strategies

The Curry Wildfire Preparation Team (CWPT) used input from the public outreach process, stakeholder interviews and countywide structural vulnerability assessment to develop the strategies listed below. These strategies reflect community input that called for an emphasis on one-to-one communication, promotion of incentives rather than regulation and a belief that residents will do the right thing with a little assistance and the right information. Chapter 9 provides a detailed description and implementation plan for each of these action items.

2.5 Current Education and Outreach Efforts in Curry County

The strategies listed above enhance and expand existing education and outreach efforts. In Curry County, the CFPA has held a lead role in coordinating and delivering wildfire education information in partnership with local fire protection districts, the U.S. Forest Service, and the BLM.[2] This section offers a brief summary of education and outreach activities in the county.

CFPA Website

The CFPA website: http://www.coosfpa.net houses information on burn permits, fire season restrictions, and links to information about how to create defensible space. During fire season months there is also a link to their electronic newsletter, "*The Hot Sheet*", which includes tips on fire safety and relevant fire news.

Public Presentations

In 2006 the CFPA worked with staff from U.S. Forest Service, BLM and local Fire Districts personnel to make approximately 3,000 prevention contacts through outreach efforts at schools, parks and youth organizations. Agency representatives also attend festivals, home shows, fairs and parades to distribute information and raise public awareness about the risk of wildfire.[3]

Safe Driveways and Evacuation Routes

A well maintained roadway free of encroaching vegetation such as the highly flammable invasive weed, gorse, greatly improves safety for evacuating residents and fire fighters battling a wildfire.

photo: Firewise.org

Signage and Press Release Program

The CFPA information officer coordinates with the U.S. Forest Service and other land management agencies to install information signs when conditions warrant restrictions or closures in certain areas. As well, the CFPA offices issue targeted press releases to bring pertinent issues to public attention throughout the year.

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[2] For additional info contact: CFPA Information officer, Tom Fields 672-6507 or Gold Beach liaison, Stan Hodney: (541) 247-6241.

[3] Coos Forest Protective Association. Annual Report. 2006. http://www.coosfpa.net/2006%20CFPA.pdf. (July 16, 2007).

Home Visits

During the summer months of 2005 and 2006, CFPA staff visited homes throughout the county to collect data for a structural vulnerability study funded by the National Fire Plan Community Assistance grant program. These visits provided an opportunity for CFPA staff to talk directly with residents about the things that make a home vulnerable to fire and how residents could take steps to reduce their risk. CFPA staff provided informational handouts, made suggestions for reducing structural vulnerability and answered residents' questions.

These visits were an educational opportunity for residents, but also for the CFPA staff. Through their conversations CFPA staff gained insights into residents' perception of risk and their receptiveness to different ways to mitigate risk.

The CFPA will continue to offer home visits to disseminate information, build trust with the community and to collect data on structural vulnerability for ongoing monitoring purposes.

OSU Extension

The OSU Extension office in Gold Beach is not currently offering education and outreach programs related to wildfire. However, the office does have access to programmatic resources and has been involved with wildfire education in the past. Most recently, following the Biscuit Fire, the extension office coordinated a public forum that brought together speakers to present information on wildfire preparedness. Other extension offices in central Oregon offer programs that include evening classes and a field trip to visit fire sites or examples of homes that are well prepared for wildfire. If there was sufficient interest in the community, the Gold Beach extension office could begin to offer these types of programs.[4]

The extension office also has a number of publications including "*Backyard Woodlands: A Landowners Resource Notebook*". This book includes a chapter on managing wildfire risk in addition to information about plant identification, plant ecology and how to manage wildlife habitat.

Fuels Reduction Projects

Thinning the buildup of forest fuels after decades of fire suppression reduces the risk of a catastrophic canopy fire. Educating communities about the benefits of these projects is the first step to working with residents to design thinning projects that protect the community, the environment, and maintain the aesthetics of Curry County's forested lands.

photo: Firewise.org

Other Education and Outreach Opportunities

Implementation of the education strategies in this plan will involve collaborative partnerships with other organizations in Curry County. The South Coast Watershed Councils, Lower Rogue Watershed Councils, and Curry County Weed Board have been active in outreach and education efforts related to natural resource management issues. Representatives of these organizations have expressed interest in supporting the educational objectives of this CWPP.

[4] Burris, Frank Curry County-OSU Extension Services. 541-247-6672 Frank.Burris@oregonstate.edu

Community Contacts

Coos Forest Protective Association
Stan Hodney
shodney@odf.state.or.us
(541) 247-6241

Rogue River-Siskiyou National Forest
Gold Beach Ranger District
Cobie Cavanaugh
ccavanaugh@fs.fed.us
(541) 247-3686

Bureau of Land Management – Coos Bay District
Megan Harper
Megan_harper@or.blm.gov
(541) 751-4353

OSU Extension Office – Gold Beach
http://extension.oregonstate.edu/curry/index.php
Frank Burris
(541) 247-6672

South Coast Watershed Councils/Lower Rogue Watershed Councils
www.currywatersheds.org
Chris John – Riparian Specialist
Chris.john@oacd.org
(541) 247-2755

Curry County Weed Board
Kean Flemming
kean.fleming@gmail.com
(541) 247-2755

2.6 Educational Resources

There area a number of resources available to residents, organizations and agencies that are interested in wildfire education. Many of these publications are inexpensive or free, and they include information on a wide array of topics such as fire resistant building materials, landscaping for defensible space and how to prepare for an evacuation.

Fuels Reduction Publications

These resources are useful for residents and land managers interested in reducing forest fuels and restoring healthy forests.

The Rural Homeowner's Guide
The South Coast Watershed Councils in partnership with the Curry County Soil and Water Conservation District produced this resource guide for rural landowners. The guide includes information about land management principles for forest health as well as contact information for contractors who are qualified to do fuels reduction work in Curry County. To obtain a copy visit the South Coast Watershed Councils Office at 98141 4th Street Gold Beach, OR 97444, or call (541) 247-2755.

2005 Forest Landowner Resource Guide
The Southwest Oregon Resource Conservation and Development (RC&D) Council and OSU Extension Service published this guide with support from a National Fire Plan grant. The guide describes steps to reducing fuels and improving forest health through selective thinning. It includes instructions for do-it-yourself projects as well as advice on finding and choosing a contractor. The guide emphasizes utilization of woody biomass generated as a by-product of fuels reduction or forest restoration work. For more information contact the RC&D Council at (541) 476-5906. The guide can be viewed on-line at: http://www.pacrimrcd.org/page.asp?navid=293

Preserving the Natural Beauty of the Southern Oregon Coast: Identifying and Controlling Invasive Weeds in Curry County. This guide provides information on noxious weed identification and control, and planting alternatives for seven of the Curry County's most common invasive weeds: (Knotweed, Ivy, Broom, Gorse, Himalayan Blackberry, Pampas Grass, and Butterfly Bush). To obtain a copy, contact the Curry County Weed Board at (541) 247-2755.

Homeowner's Guides

Living with Fire
This publication includes a step-by-step guide to creating defensible space, suggestions about thinning vegetation, and a description of fire's role in an ecosystem. Living with Fire is easy to understand with photos and diagrams. The original publication was produced by the Pacific Northwest Wildfire Coordinating Group and is available on-line at:
http://www.fs.fed.us/r3/publications/documents/livingwithfire.pdf

Is Your Home Protected from Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit.
The Institute for Business and Home Safety (IHBS) produced this free booklet, which is distributed through Firewise.org. The 25-page guide covers information about defensible space, fire resistant materials and how to assist firefighters in defending your home. It also includes a checklist of steps for before, during and after a wildfire.
http://www.firewise.org/resources/files/wildfr2.pdf

Oregon Forestland-Urban Interface Fire Protection Act Property Evaluation & Self-Certification Guide.
The Oregon Forestland-Urban Interface Fire Protection Act (Senate Bill 360) was passed by the Oregon legislature in 1997, but has not yet been implemented in Curry County. The intent of the legislation is to decrease structural vulnerability by directing property owners in at-risk areas to take voluntary action to make their homes less vulnerable to wildfire. The Oregon Department of Forestry produced a detailed guide for homeowners about the regulations and fire safety standards. The publication is available on-line at:
http://egov.oregon.gov/ODF/FIRE/SB360/sb360_forms.shtml

The Wood Shake and Shingle Roof Hazard.
This short paper describes how wildfires can ignite homes and the importance of installing a fire resistant roof. A brief summary of the available research on home losses attributed to wood roofs is included. The report is available to download from: http://www.livingwithfire.info/pdf/WEB-Wood_Shake_and_Shingle_Roof_Hazard.pdf

Fire Resistant Plants for Home Landscapes. Selecting plants that may reduce your risk from wildfire.
This publication from the Pacific Northwest Extension includes photos and descriptions of plants that are suitable for fire resistant landscaping. It is available online at: http://extension.oregonstate.edu/catalog/html/pnw/pnw590/pnw590.pdf

Fire-Resistant Plants for Oregon Home Landscapes.
Stephen Fitzgerald and Amy Jo Waldo, OSU Extension Service. This brochure describes the concepts of using landscaping to reduce fire risk and offers suggestions for fire resistant annuals, perennials and turf that are suited for different regions throughout Oregon. The publication is available online at: http://www.firefree.org/downloads/FireResPlants.pdf

Programs

The following web sites provide links to useful information as well as ideas and examples of how other communities have implemented education programs.

Firewise
The National Wildland Urban Interface Fire Program hosts the Firewise website. The site provides access to a variety of resources some free and others available for a fee. The publications and products catalog includes brochures, books, fliers, instructional videos and more. There are also links to downloadable information, and to web resources on all aspects of wildfire safety. The site also describes Firewise Communities/USA a program that assists small communities to implement projects to create defensible space and increase wildfire preparedness. www.firewise.org

Firefree
The Firefree Program was developed through a collaborative partnership of firefighters, businesses and Safeco Insurance in Bend, OR. The program provides education and outreach to local residents to reduce wildfire risk by creating defensible space. www.firefree.org

Living With Fire
The Living With Fire Program began in 1997 to provide education materials for communities in Nevada. The program website includes information appropriate to different regions and addresses steps to take before, during and after a wildfire. www.livingwithfire.info.

2.7 Priority Fuels Reduction Projects

The CWPT incorporated information gathered and synthesized during the planning process and countywide risk assessment to identify potential sites for fuels reduction work. The CWPT used three criteria in establishing the highest priority sites. Sites that are near critical communication infrastructure, such as those that are essential for 911 service, were assigned the highest priority. Next, the CWPT prioritized areas where gorse infestation increases wildfire risk. Third, the CWPT prioritized sites adjacent to communities that have high structural vulnerability ratings.

Table 2.2 is a list of priority sites by each zone in the county, plus a short description of the site. Chapter 6 describes the countywide risk assessment and provides a more detailed description of the prioritization process, list of grant opportunities for each project, and a county map illustrating project locations.

Table 2.2 Priority sites for fuels reduction work in Curry County by zone.

Project Name	Description	Jurisdiction*
NORTH		
Edson Butte	Non-911 site in BLM land, Very high risk.	County Unprotected
Stone Butte	Non-911 site on private land, Moderate risk.	County Unprotected
Blanco/Elk River	911 com site, low risk due to State Parks mowing, Large intense gorse area, extends into FS grounds so need to consider their management plan. Vulnerable homes along Elk River.	Sixes, Port Orford, none
Port Orford Airport	Moderate sized intense gorse area, low community risk.	Sixes
Rocky Point	Small limited distribution gorse area, however high community risk	Port Orford
Port Orford Water Supply	Moderate sized limited distribution gorse area, however high community risk due to vulnerable structures, limited access, and municipal water supply	Port Orford
Knapp Road	Moderate sized limited distribution gorse area, however high community risk due to N winds endangering structures to the south	Port Orford
Langlois Mountain Road	Moderate sized limited distribution gorse area, moderate-high priority due to potential to spread	County Unprotected
Floras Lake/Sea Wind Farms	High vulnerable of homes near Floras Lake. Adjacent to a large limited distribution gorse area that is a moderate community risk, but low priority due to fuels distribution being broken by cranberry bogs	Sixes
Bennett Butte	Small limited distribution gorse area, however high risk due to proximity to Coos County 911 site	County Unprotected
Cedar Terrace	High community risk due to vulnerable structures, limited access, and proximity to municipal water supply	Port Orford
Sixes River	Vulnerable structures adjacent to BLM land that is high risk	Sixes
CENTRAL		
Grizzly Mountain	911 site on BLM lands. Very high priority due to lack of redundancy (all other sites link to Grizzly) and risk rating. Also an area of scattered vulnerable homes	County Unprotected
Agnes/Oak Flat	911 site on FS lands. Adjacent to vulnerable structures in Agness/Oak Flat	Agness-Illahe
Iron Mountain	Non-911 site on USFS land	County Unprotected
Eighty Acre Rd	Small limited distribution gorse area, however with a very high risk rating adjacent to vulnerable structures with limited access	County Unprotected
Cedar Valley/ Ferguson Ranch/ Brushy Bald Mtn	Cedar Valley is a high priority area of vulnerable structures with BLM ownership on a ridgeline to the east. Ferguson Ranch to the west is a moderate sized limited distribution gorse area. Brushy Bald Mountain is a ridgeline far east that possibly could be a location of a strategic fuel reduction zone	Cedar Valley, County Unprotected
Jerry's Flat Rd	Small limited distribution gorse area, but in a critical area to control.	Gold Beach Wedderburn

Project Name	Description	Jurisdiction*
Agness Rd Corridor	Scenic corridor and important evacuation route with scattered vulnerable structures	None
Agness/Walters Cr	Scenic corridor and important evacuation route with scattered vulnerable structures	Agness-Illahe
Homestead Rd	Scattered vulnerable homes, limited access, but mostly north slope	County Unprotected
Hunter Creek	Concentrations of vulnerable structures	County Unprotected
SOUTH		
Red Mound	Non-911 site on private land immediately adjacent to BLM, high risk rating. High community risk due to NE winds endangering structures a concentration of vulnerable homes with limited access	Cape Ferrelo, Brookings
Bosley Butte	911 site on BLM land adjacent to private, high risk rating, outside WUI boundary, but a high priority to protect as community infrastructure	Unprotected
Black Mound	911 site on BLM land immediately adjacent to private, moderate risk rating, High community risk due to NE winds endangering structures a concentration of vulnerable homes with limited access.	Cape Ferrelo, Brookings, County Unprotected
Garner Ridge/ Palmer Butte	Non-911 site on BLM land adjacent to concentration of vulnerable structures.	Upper Chetco
Harris Beach	Moderate sized limited distribution gorse area with high risk rating and close proximity to vulnerable homes and state park	Brookings
Rainbow Rock	Moderate sized limited distribution gorse area with moderate risk rating and close proximity to condominiums.	County Unprotected
Mt. View	Heavy concentration of vulnerable structures, some limited access, south aspect and exposure to winds	Bookings
Harbor Hills	Heavy concentration of vulnerable structures, limited access, south aspect and exposure to winds	Harbor
Wilderness Retreat	Concentration of vulnerable structures. Adjacent FS lands have candidate Coastal Healthy Forest stands.	County Unprotected
Cate Rd	Scattered vulnerable structures, Adjacent USFS lands with candidate Coastal Healthy Forest stands to the north could have fuels treatment opportunities to help protect structures from prevailing winds.	County Unprotected
Carpenterville Rd	Scattered vulnerable structures along the north end of Carpenterville Rd	County Unprotected
South Bank Chetco/Mt. Emily	Scattered vulnerable structures, Adjacent USFS lands with candidate Coastal Healthy Forest to the north could have fuels treatment opportunities to help protect structures from prevailing winds.	Upper Chetco, County Unprotected
Winchuck River	Concentration of vulnerable structures. Adjacent USFS lands have candidate Coastal Healthy Forest stands to the north and east that could have fuels treatment opportunities to help protect structures from prevailing winds.	Winchuck

*County Unprotected refers to sites outside of a Fire Protection District.

Chapter 3: Curry County Profile

Curry County is located at the southwestern corner of Oregon, bordered by the Pacific Ocean to the west and California to the south. To the north, Curry County is bordered by Coos County and Josephine County lies to the east. The rugged slopes of the Southern Oregon Coast Range and Siskiyou Mountains characterize the landscape. The county covers six watersheds and is intersected by numerous rivers that lead to the Pacific Ocean.[5] The mix of topography and climate found in Curry County produces a region rich in biodiversity, natural resources and scenic landscapes. While these features continue to attract people to the region, population growth can put human settlements at odds with natural phenomena such as wildfire.

Curry County was established on December 18, 1855 from the southern portion of Coos County. Gold Beach is the county seat and was named after the precious mineral found in the area by explorers in 1852. In addition to mining, timber, agriculture and fishing have been important industries in Curry County since it was established.[6] Today the mild climate and scenic beauty draw visitors to the county making tourism a mainstay of the county economy. Despite growth in tourism and manufacturing, overall, economic activity and population growth have slowed during the last 50 years. Currently, immigration of the aging baby boomer generation is causing a shift in the county's demographic profile, which presents additional challenges and opportunities for the county in addressing wildfire risk.

3.1 Land Ownership

Like many western Oregon counties, the majority of lands in Curry County are managed by public agencies. The county encompasses approximately 1,042,00 acres of which, 66% are managed by public agencies. The U.S. Forest Service is the largest landowner in the county, managing 59% of land within the county.[7] All of the Forest Service land in Curry County is managed by the Rogue River-Siskiyou National Forest, which also manages lands in neighboring Josephine County, Coos County and small portions of Del Norte and Siskiyou Counties in Northern California.

In contrast to other counties in the region, the Bureau of Land Management manages a small percentage of lands in the county, all within the Coos Bay Administrative District, Myrtlewood Resource Area.[8] Oregon Parks and Recreation Department manages several state parks along the coast, and the US Fish and Wildlife Service administers the Oregon Coast National Wildlife Refuge Complex that extends along the Oregon coast and includes many small near-shore islands.

While there are no tribal lands in Curry County, the county is included within the service area of the Smith River Rancheria. The Smith River Rancheria is a federally recognized tribe of the Tolowa Indians. Their property is located three miles south of the Oregon-California border.[9] Other federally recognized tribes in Oregon, including the Coquille Indian Tribe and the Confed-

[5] Curry County Natural Hazards Mitigation Plan. (2.1.5).
[6] Oregon Historical County Records. http://arcweb.sos.state.or.us/county/cpcurryhome.html. (March 22, 2007).
[7] Curry County Natural Hazards Mitigation Plan. (3.1.10).
[8] Bureau of Land Mgmt. Coos Bay District. http://www.blm.gov/or/districts/coosbay/about.php. (April 3, 2007)
[9] Smith River Rancheria Website. http://www.tolowa-nsn.gov/introduction.cfm. (April 16, 2007).

erated Tribes of the Lower Coos, Umpqua, and Siuslaw Indians, may have ancestral lands in Curry County as well.

Table 3.1 Land ownership in acres and as a percent of the total area in Curry County, 2007.

Landowner	Acres	Percent
USDA Forest Service	614,243	58.9%
Privately owned land	350,546	33.6%
Bureau of Land Management	67,463	6.5%
Oregon Parks & Recreation Department	7,475	0.7%
Oregon Department of State Lands	2,389	0.2%
Local Government	165	< 0.1%
Total acres in the county	1,042,281	100%

Source: Jim Wolf, GIS Analyst

3.2 History of Wildfire in Curry County

The combination of topography, climate, and vegetation in Curry County contribute to wildfire risk. While wildfire has an important role in natural ecosystems, the cost of suppression has risen markedly in recent years. Population growth in the county places more homes at risk. At the same time, suppression activities and forestry practices have increased the risk of large, catastrophic fires by allowing forest fuel buildup.[10] Understanding the history of wildfire and the effects of human activities on wildfire frequency and intensity in the county will help communities reduce their risk to wildfire.

Local/Regional Fire History

The incidence of major wildfires impacting communities in Curry County dates back more than 100 years when the Coos Bay Fire destroyed the town of Port Orford in the fall of 1868.[11] Other notable fires in the region include the Bandon Fire that burned over 225,000 acres in Coos and Curry Counties in1936 and the Silver Fire that burned 97,000 acres in the Southern Oregon Coast Range. Most recently, the Biscuit Fire burned nearly 500,000 acres in two Oregon counties (Josephine County and Curry County) and part of northern California.[12]

Human activities have had a significant impact in changing the frequency and types of fires from historical patterns. Before intensive fire suppression efforts in the 1900's, natural wildfires were a significant factor that influenced the forests of the region. Wildfires thinned forests of dead and diseased vegetation, replenished the soil and stimulated new growth and biodiversity.[13]

On the west side of the region nearest the coast, the fire intervals typically varied from 100 to 200 years. Generally the fire frequency increases to the east towards the higher elevations of the Southern Oregon Coast Range and Siskiyou Mountains.[14]

[10] Curry County Natural Hazards Mitigation Plan. (3.1.12).
[11] Ibid. (2.1.23).
[12] Ibid. (3.1.8).
[13] Ibid. (3.1.3).
[14] Southwest Oregon Fire Management Plan. (73-74).

Table 3.2 Oregon's most destructive wildland/urban interface fires.

Year	Fire Name	Acres Burned	County	Structures Burned	Cost
2005	Deer Creek[15]	1,600	Josephine	12	$5 Million
2004	Redwood Highway	210	Josephine	3	Estimate unavailable
2003	B&B Fire	90,800	Linn/Jefferson/ Deschutes	0	$38 Million
2002	Eyerly	23,573	Jefferson	37	$10.7 million
2002	Cache Mountain	4,200	Deschutes	2	$4.3 million
2002	Sheldon Ridge	12,761	Wasco	8	$3.3 million
2002	Squire Peak	2,804	Jackson	6	$2 million
2002	Biscuit	499,965	Josephine/Curry	14	$150 Million
1996	Skeleton	17,700	Deschutes	17	$2 million
1994	Hull Mountain	8,000	Jackson	44	$10 million
1992	Sage Flat	991	Deschutes	5	$1.2 million
1992	East Evans Creek	10,135	Jackson	4	$8.2 million
1992	Lone Pine	30,727	Klamath	3	$500,000
1990	Awbrey Hall	3,400	Deschutes	22	$2.2 million
1987	Bland Mountain	10,300	Douglas	14	Unknown
1936	Bandon	225,000	Coos/Curry	484	Unknown
1868	Coos Bay Fire	300,000	Coos/Curry	(Port Orford)	Unknown

Source: Oregon Department of Forestry and Curry County Natural Hazards Mitigation Plan

Causes of Fire

Historically, lighting was the primary ignition source of wildfires in the region. Weather patterns from May through October are characterized by periods of drought separated by storms that produce dry forest fuels followed by frequent lightning strikes, a common source of ignitions.[16]

During the past two decades, fires caused by human activities were more frequent that those ignited by natural processes. Ignition sources attributable to humans accounted for 75% of wildfires recorded from 1984-2003. According to the Southwest Oregon Fire Management Plan, the annual occurrence of human caused ignitions has increased in recent years.[17]

[15] Resource Innovations, University of Oregon. 2006. Community Resilience and the 2005 Deer Creek Fire – Summary Report. http://orww.org/Wildfires/Deer_Creek/. (July 16, 2007).
[16] Southwest Oregon Fire Management Plan. (11).
[17] Ibid. (102-103).

Human activities are a preventable cause of wildfires. Activities such as smoking, debris burning, campfires and sparks from logging equipment and vehicles are some examples of human ignition sources.[18]

Fire Regime and Condition Class

The frequency of major fires often runs in cycles with predictable patterns of change and the interaction of variables such as temperature, wind, moisture and ignition. These cycles can be described by fire regimes. Fire managers and ecologists have developed fire regimes to characterize the historical fire patterns typical of Southwestern Oregon.[19] The forests of Southwest Oregon are typically in a low to moderate severity fire regime.[20]

- **Fire Regime I**
  <35 years non-lethal, low-severity (mostly forested areas). (Ponderosa pine, Oregon white oak, pine-oak woodlands, Douglas-fir and dry site white fir plant associations)
- **Fire Regime II**
  <35 years stand replacing (grassland and shrublands). (Shrub-steppe community)
- **Fire Regime III**
  35-100+ years, mixed severity. (Moist/high elevation white fir, tanoak, western hemlock series)
- **Fire Regime IV**
  35-100+ years stand replacing. (Shasta red fir and Port-Orford cedar associations)
- **Fire Regime V**
  200+ years stand replacement (Western hemlock, silver fir and mountain hemlock series)

The condition class scale is a rating that describes the landscape's current state relative to its historic or reference condition. According to the Southwest Oregon Fire Management Plan (SWOFMP), condition class varies throughout Curry County averaging a 2 with improvements coming primarily from timber harvest and silvaculture treatments.

> *Condition Class 1* = Fire frequencies are within or near the historical range, and have departed from historical frequencies by no more than one return interval; vegetation attributes are intact and functioning within the historic range**.** The risk of losing key ecosystem components is low.
>
> *Condition Class 2* **=** Fire frequencies and vegetation attributes have been moderately altered from the historical range, and fire frequencies have departed from historical frequencies by more than one return interval. The risk of losing key ecosystem components is moderate.
>
> *Condition Class 3* = Fire frequencies and vegetation attributes have been significantly altered from the historical range, and fire frequencies have departed from historical frequencies by multiple return intervals. The risk of losing key ecosystem components is high.

[18] Curry County Natural Hazards Mitigation Plan. (3.1.5).
[19] Southwest Oregon Fire Management Plan. September 2004. (12).
[20] Ibid. (11).

3.3 Forest Health and Restoration

Southwestern Oregon is a biologically rich region because of the complexity of the geography, topography and climate conditions. In terms of biodiversity, the forests in this region are one of the most species rich areas in the nation, second only to the Great Smokey Mountains in plant diversity. Southwestern Oregon marks the southern extent of the range of some species such as Alaska yellow cedar and Pacific silver fir, yet others including coastal redwoods that are found in Curry County are at the northern extent of their range. Of the 28 different coniferous species in the Siskiyou National Forest, 20 are used commercially.[21]

History

Fire suppression, the spread of noxious weeds, and diseases contribute to decreasing forest health and resulting increase in hazardous forest fuel buildup. Two diseases that affect the buildup of hazardous fuels in Curry County are Swiss Needle-Cast and Port-Orford-Cedar-Root Disease. These fungal infections severely weaken or kill their host tree increasing wildfire risk by contributing flammable fuel to the forest environment.[22] Human activities can contribute to the spread of these diseases by facilitating the dispersal of disease agents across geographic boundaries. Human activity can also aid dispersal of noxious weeds through facilitating seed movement and disturbing the native ecology allowing non-native species to gain a foothold.

Climate

During the winter, the climate is relatively warm and wet at the lower elevations along the coast and cooler in the mountains. Long periods of drought are common during the summer and electrical storms are common cause of wildfire. These types of storms are most frequent from May through October. Westerly winds are another factor that contributes to wildfire development. Stable air masses inland can push winds across the mountains becoming warmer and drier as they descend down the western slopes of the mountains.[23]

Long periods of drought during the summer months also create challenges for wildfire responders. Many small rural, communities lack the type of water systems that make water accessible for fire suppression. Instead fire fighters in these areas are often dependent on water from ponds, creeks and rivers. Often in the mid to late summer months, these sources are low or completely dry.[24]

Vegetation Patterns

Vegetation patterns on the coastal areas and lower slopes are characterized by spruce, cedar and hemlock. The upper slopes are typically mixed cedar, hemlock and Douglas fir.

Wildfires have played significant role in shaping the species composition and forest structure in the region. Intensive fire suppression has resulted in forest fuel buildup and changes in species composition and structure in the past 60 years.

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[21] Curry County Natural Hazards Mitigation Plan. (2.1.16-17).
[22] Ibid. (3.1.17-19).
[23] Southwest Oregon Fire Management Plan. (11).
[24] Curry County Natural Hazards Mitigation Plan. (3.1.18).

Invasive Weeds, Port Orford Root Disease and Sudden Oak Death

Gorse, a spiny evergreen shrub, was introduced in south coastal Oregon from Europe. It has become an established invasive weed that displaces native vegetation, significantly altering the native vegetation patterns. Because Gorse is highly flammable, it increases wildfire risk wherever it spreads. Infestations of Gorse are particularly common along the coastal area; these areas are a major concern for wildfire managers.[25]

Wildfire managers are also concerned with the spread of Port-Orford-Cedar root disease and Sudden Oak Death. Trees infected by these pathogens are at increased risk to wildfire and vegetation management activities need to be conducted in a way that minimizes the spread of disease pathogens. The Rogue River-Siskiyou National Forest, Bureau of Land Management, Oregon Department of Forestry and Oregon State Parks have implemented actions to manage the spread of these pathogens.

Port-Orford-cedar (POC) is endemic to southwestern Oregon and northwestern California. It is an ecologically and economically important tree species. POC root disease has a high mortality rate and is spread via spores, which can be transported through watersheds in streams, on vehicle tires or people's shoes. In addition to regulations aimed at reducing spore transport, the Rogue River-Siskiyou National Forest is planting root disease resistant seedlings to maintain POC in its ecosystems. [26]

First discovered in California in 1995, the pathogen that causes sudden oak death (SOD) is a fungus that infects a broad range of host species including tan oak, and coast live oak. The disease was first detected in Oregon near Brookings in 2001. Areas where SOD has been detected are subject to state and federal regulations restricting the movement of infested wood, bark, forest greenery and other wild material, soil, and host nursery stock. As of 2007, 21.5 square miles of forest in Curry County were subject to this regulation.

Threatened and Sensitive Species

Many of the streams and rivers in the region are important habitat for Coho and Chinook salmon, steelhead and coastal cutthroat trout. The Southern Oregon Northern California Coasts (SONCC) coho salmon is currently listed as threatened under the Endangered Species Act. Since the mid 1980's the Rogue River-Siskiyou National Forest has been engaged in a variety of restoration and monitoring projects to restore habitat for the coho and other anadromous fish species. Other sensitive species that the Forest is actively monitoring include populations of peregrine falcon, western pond turtle and the foothill yellow-legged frog. [27]

3.4 Population

The combination of topography and land ownership patterns has focused development along the coastal areas. In the decades following World War II, the region experienced a population surge, but more recently population growth rates have declined. Today, population growth in Curry

[25] Curry County Natural Hazards Mitigation Plan. (3.1.14).
[26] Rogue River-Siskiyou National Forest. Land and Resource Management Plan – Monitoring and Evaluation Report, Fiscal 2006.
[27] Ibid.

County is fueled by the in-migration of retirees producing a population that is predominantly older than the median age in the state and more likely to have been born in a state other than Oregon.

Most of the established communities in the county are located along the Highway 101 corridor. Of the 14 communities, three are incorporated; Gold Beach (the county seat), Port Orford and the largest, Brookings. Two small communities, Agness and Illahe are located within the Siskiyou National Forest.[28] According to the Portland State University population estimates, the 2007 population of Curry County was 21,365. The majority of the population, 11,380 people, live in unincorporated communities while the remaining 9,985 people reside in the communities of Gold Beach, Brooking or Port Orford.[29] (Table 3.3).

Table 3.3 Population estimates for Curry County and communities within the county, 2007.

Community	Population
Curry County	21,365
Brookings	6,315
Gold Beach	2,445
Port Orford	1,225
Unincorporated Communities	11,380

Source: Oregon State University Population Research Center

The county is predominantly White (95%). Other races include, Hispanic - 4.3%, Native American - 2%, Asian - 1% and African American - 0.2%. The Hispanic population is the most rapidly growing ethnic group, up from approximately 2% according to the 1990 Census.[30]

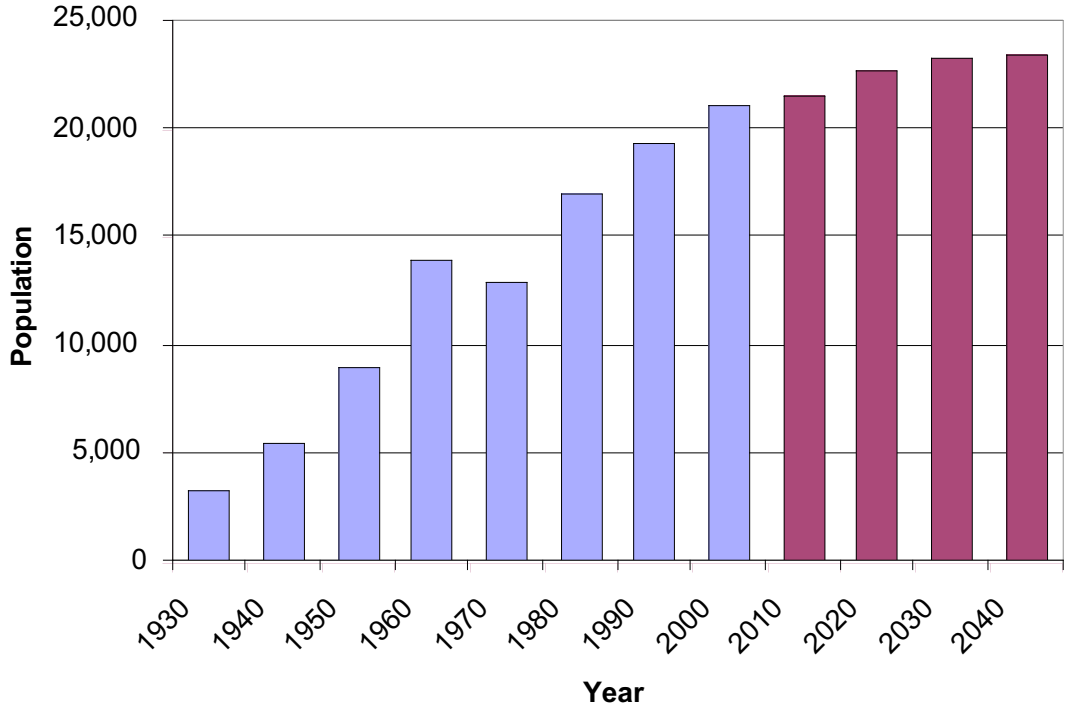
Following World War II, Oregon's Southern Coast experienced rapid population growth that continued until the 1960's. From 1950 to 1960 the population of Curry County grew at 131%, the fastest rate in the state. More recently, during the 1980's, the county's population grew at 14% compared to the state at 8.3%. During the 1990's, population growth in Curry County slowed to around 8%.[31] Projections developed by the Oregon Office of Economic Analysis predict a decrease in the annual growth rate in the coming decades (Figure 3.1).

Over a four-year period ending in July 1, 2004, Curry County ranked as the 12th-fastest growing county in Oregon, gaining 963 residents. At a growth rate of 4.6%, it trailed the state increase of 5.1%. During this time period, deaths exceeded births in the county, indicating that all of the

[28] Curry County Natural Hazards Mitigation Plan. (2.1.27).
[29] 2006 Oregon Population Report. Portland State University Population Research Center http://www.pdx.edu/media/p/r/PRC_Population_Report_06_web2.xls. (April 5, 2007).
[30] Tauer, Guy, Regional Profile – Population in Region 7 (Coos and Curry Counties). Oregon Labor and Market Information System. http://www.qualityinfo.org/pubs/population/r7pop.pdf (April 5, 2007).
[31] Ibid.

population growth occurred due to in-migration.[32] Brookings was the fastest growing city on the south coast since 2000, adding 13% to its population.[33]

Figure 3.1 Population change and future projection for Curry County, 1930-2040.

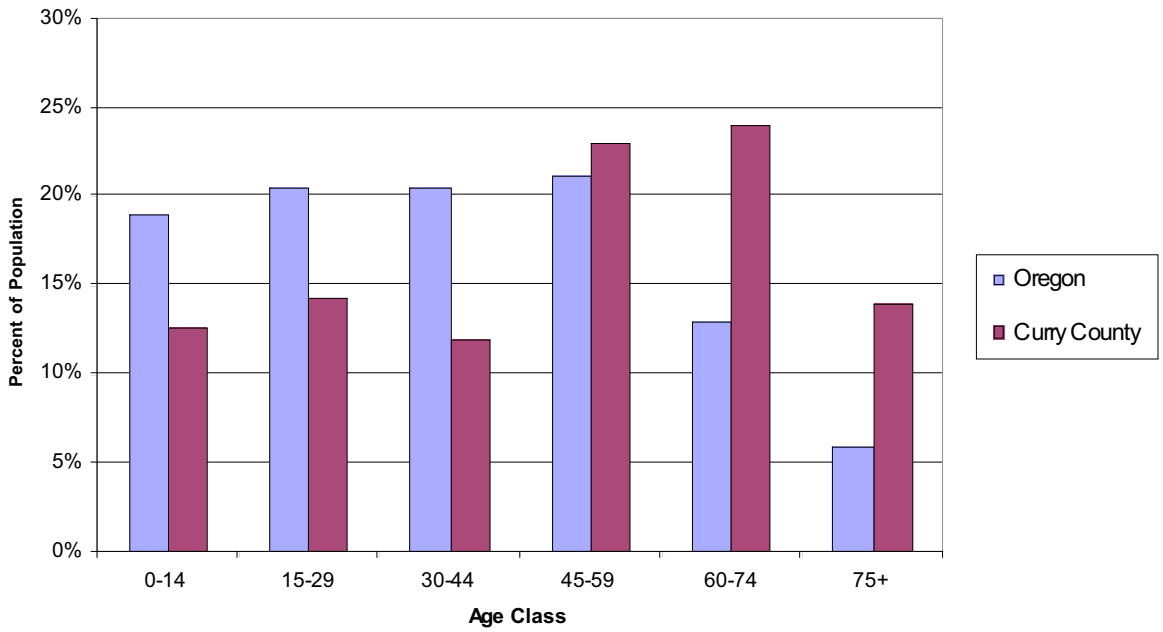


Source: US Census Counts for 1960-2000; Oregon Office of Economic Analysis for years 2010 –2040.

Data from the US Census and Portland State University reveal that the population of south coast communities is aging. Between 1990 and 2000 the median age in Curry County increased from 44.0 years to 48.1 years. According to 2005 estimates, residents 65 and older comprised 27.9 % of the County's population, the highest percentage for this age group among Oregon's counties.[34] Projections developed by the Oregon Office of Economic Analysis show a future population composed predominantly of retirees and relatively small numbers of people of working age (Figure 3.2.).

[32] Tauer, Guy. Coos and Curry Population Growth Outpacing Oregon. April 26, 2005. Oregon Labor and Market Information System. http://olmis.emp.state.or.us/olmisj/ArticleReader?itemid=00004304 (March 18, 2007).
[33] Ibid, Regional Profile – Population in Region 7 (Coos and Curry Counties). Oregon Labor and Market Information System. http://www.qualityinfo.org/pubs/population/r7pop.pdf (April 5, 2007).
[34] Ibid.

Figure 3.2 Age class distribution projections for Curry County and Oregon in 2010.

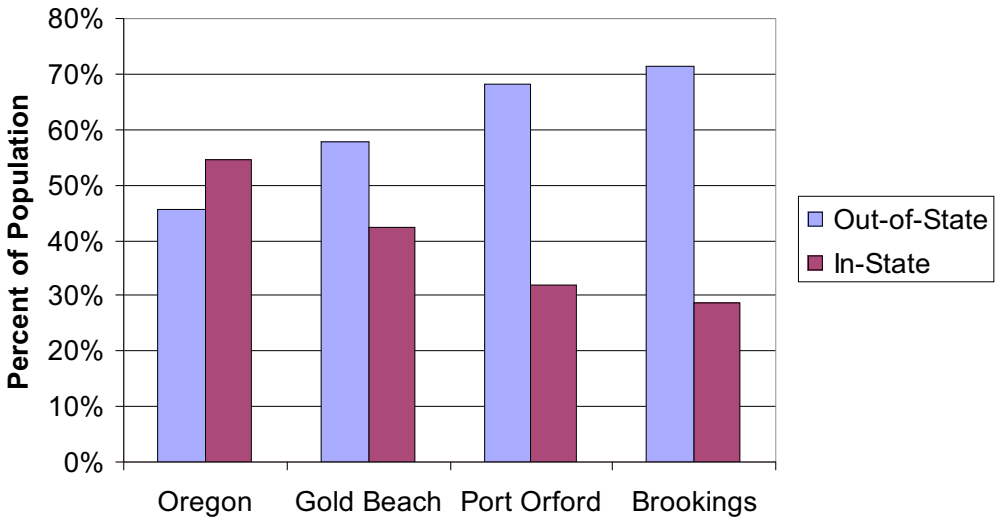


Source: Oregon Office of Economic Analysis

Many of Curry County's residents come from other states attracted by the south coast's reputation as a desirable retirement area. In Oregon 45.4% of residents were born out-of-state. In Gold Beach, non-Oregonians make up 57.8% of the population; Port Orford out-of-state residents comprise 68.2% of the population and 71.4% of Brookings residents were born out of state (Figure 3.3).[35] Such high percentages of people from outside the region suggest a population inexperienced in the history of wildfire in the county. They may be unfamiliar the potential risks and necessary precautions with living in the forestland-urban interface.

[35] Curry County Natural Hazards Mitigation Plan. (2.1.19).

Figure 3.3 Percent of population born out-of-state compared to in-state.



Source: Curry County Natural Hazards Mitigation Plan

3.5 Income, Poverty and Special Needs

In addition to an aging population, Curry County has a higher proportion of residents with special needs or experiencing poverty compared to the state.

The median household income in Curry County in 2003 was $31,333 compared to $42,593 for the state.[36] According to the most current Census data available for poverty rates, 12% of Oregonians lived in poverty in 2003. Poverty in Curry County exceeded the state average most years from 1993 through 2003 by an average of 1-2 percentage points. Statewide, transfer payments comprised 15.6% of total income for Oregon residents in 2003. By comparison, Curry County residents collected 28.6% of their income from transfer payments.[37]

The Oregon Economic and Community Development Department (OECDD) created an index to measure "economic distress" relative to the state. The county index is based on several indicators including unemployment rate, per capita income, average worker pay and percent of families living in poverty among. In 2005 the OECDD rated 16 counties as "severely distressed". Nine counties including Curry County were categorized as "distressed" and eleven counties were "non-distressed" Curry ranked 12th in the State, just below the "distressed/non-distressed threshold ".[38]

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[36] U.S. Census Quickfacts http://quickfacts.census.gov/qfd/states/41/41015.html (March 18, 2007).
[37] Knoder, Erik A and Michael K Wilson. Poverty, Wages and Income on Oregon's Coast. January 25, 2006. http://olmis.emp.state.or.us/olmisj/ArticleReader?itemid=00004728. (April 5, 2007).
[38] Oregon Economic and Community Development Department. March 2006. http://www.oregon4biz.com/p/DisCommOverview.pdf (April 14, 2007)

HUD Income Limits

Another indicator of poverty is provided by the Housing and Urban Development (HUD) income limits. HUD Median Family Income Limits are provided for family sizes of one to eight persons and a formula is provided to calculate income limits for larger family sizes. Figures are based on the U.S. Census Bureau median family income estimates with an adjustment using a combination of Bureau of Labor Statistics earnings and employment data and median family income (MFI) data. Fair Market Rents are also included within the adjustment. Table 3.4 lists the percentage of households in Curry County that are experiencing poverty (according to HUD income limits and 2000 Census data).

Table 3.4 Percent low income households by household size and tenure, Curry County, 2000.

	Elderly (1 & 2 Members)	Small Related (2 - 4 Members)	Large Related (5 +)	All Others	Total
Renters					
Very, Very Low Income	1.8%	1.1%	0.2%	1.8%	4.8%
Very Low Income	1.5%	1.5%	0.6%	1.0%	4.7%
Low Income	1.5%	2.6%	0.7%	1.2%	6.0%
Total Renters	**4.8%**	**5.2%**	**1.5%**	**4.0%**	**15.5%**
Owners					
Very, Very Low Income	3.9%	1.1%	0.1%	1.4%	6.5%
Very Low Income	6.3%	1.7%	0.1%	1.2%	9.2%
Low Income	8.2%	2.5%	0.8%	1.3%	12.7%
Totals Owners	**18.4%**	**5.3%**	**0.9%**	**3.8%**	**28%**
Totals	**23.2%**	**10.5%**	**2.4%**	**7.9%**	**43.9%**

Source: Department of Housing and Urban Development. State of the Cities Data Systems. CHAS Data, 2000.

Citizens With Special Needs

The U.S. Census indicates that as of 2000, 28% of Curry County residents ages five and older had a disability. The same year statewide disability status was at 18.8%.[39] According to the Census Bureau, citizens are considered to have a disability if they have one of the following conditions: a) a sensory disability such as deafness, blindness or significant impairment, or b) a physical disability that significantly limits their ability to perform basic physical activities, such as walking, lifting or carrying. As the median age in Curry County increases as the baby boomer generation ages, the number and percent of residents with a disability is likely to increase.

3.6 Employment and Industry

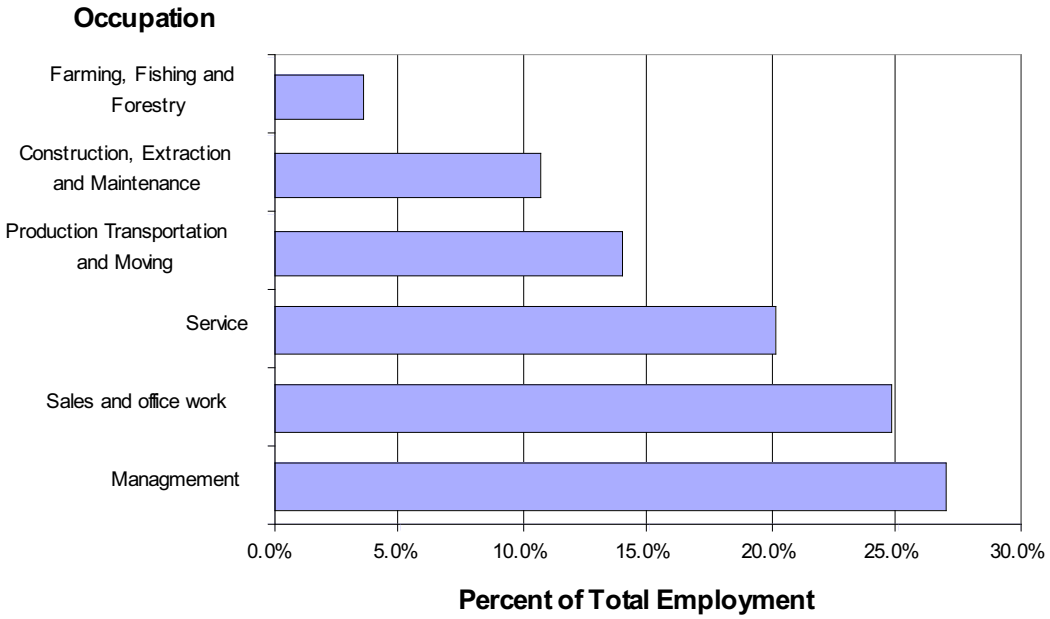
During the last few decades, Curry County has slowly transitioned from an economy focused on natural resources such as timber, fishing and agriculture to a more diversified economy including

[39] U.S. Census Population Finder Webpage. http://factfinder.census.gov/home/saff/main.html?_lang=en. (April 5, 2007).

tourism and services. According to the 2000 Census, most employees in the county were in occupations related to management, sales and office work, or services (Figure 3.4). More recent data from the Oregon Employment Department reveals trends in non-farm employment. In 2006, the top three employment industries in Curry County included trade transportation and utilities (18%), leisure and hospitality (15.6%), and local government (15%) (Table 3.5). Total employment patterns throughout the year demonstrate the importance of the tourism and hospitality to the local economy. The average monthly total employment from 1996-2005 peaked in the summer tourism months of July, August and September. At its low during January and February, total employment fell by 10 percent.[40]

The local chambers of commerce in Port Orford, Gold Beach and Brookings track the number of people that stop at their visitor centers providing a rough estimate of the number of people that visit Curry County. Between 2004 and 2006 these visitor centers counted an average of 83,778 visitors. However, many tourists don't stop at the visitor center so this number reflects only a portion of the total number of tourists who visit the county. In 2005 tourism accounted for $97.7 in travel related spending, 1,750 tourism related jobs and provided $2.7 million in tax revenue.[41]

Figure 3.4 Percent employment by occupation type, Curry County, 2000.



Source: US Census – General Demographic Characteristics – 2000. Geographic Area: Curry County.

[40] Tauer, Guy. Oregon Employment Department. Regional Profile-Labor Force, Employment and Unemployment in Region 7. December 2006. http://www.qualityinfo.org/olmisj/PubReader?itemid=00003874. (April 27, 2007).

[41] Dean Runyan Associates. *Oregon Travel Impacts, 1991-2006p: Statewide Preliminary Estimates Detailed County Estimates.* Report for Oregon Tourism Commission. Portland, OR. January 2007.

Table 3.5 Non-farm employment by sector, Curry County, 2006

Industry	Number of Jobs	Percent of Non-Farm Employment
Total nonfarm employment	7,060	100.0%
Total private	5,650	80.0%
Natural resources and mining	140	2.0%
Construction	690	9.8%
Manufacturing	650	9.2%
Wood product manufacturing	480	6.8%
Trade, transportation, and utilities	1,270	18.0%
Retail trade	1,060	15.0%
Information	100	1.4%
Financial activities	490	6.9%
Professional and business services	410	5.8%
Educational and health services	610	8.6%
Health care	500	7.1%
Leisure and hospitality	1,100	15.6%
Arts, entertainment, and recreation	60	0.8%
Accommodation and food services	1,040	14.7%
Other services	190	2.7%
Government	1,410	20.0%
Federal government	100	1.4%
State government	250	3.5%
Local government	1,060	15.0%
Local education	450	6.4%

Source: Oregon Employment Department

Unemployment

Like the rest of the state, Curry County experienced high rates of unemployment during the recessionary period in the early 1980's. During that time, the county's unemployment rate ranged from 11.6 % to 16.3%, varying from 2-4% higher than the state average. By the late 1980's unemployment rates declined to the single digits in Curry County and the state as a whole. In 2005, the unemployment rate was at 6.5 %, the second lowest of any year since 1990.[42] Annual average unemployment for 2006 in Curry County was at 7.0% compared to the state at 5.4%.[43]

[42] Tauer, Guy. Oregon Employment Department. Regional Profile-Labor Force, Employment and Unemployment in Region 7. December 2006. http://www.qualityinfo.org/olmisj/PubReader?itemid=00003874. (April 27, 2007).
[43] U.S. Department of Labor Bureau of Labor Statistics. http://www.bls.gov/lau/#tables. (April 27, 2007).

The aging of the population during the past few decades may be one factor contributing to a steady decline in the unemployment rate since 1990.[44]

Table 3.6 lists the major employers in each of the three incorporated communities in Curry County. Anticipated decreases in federal funding for county services with the expiration of payments to counties legislation will likely have a significant effect on local government employment, particularly in the Gold Beach.

Table 3.6 Major employers in Curry County, 2007.

Community	Employees
Brookings	
South Coast Lumber	450
Freeman Rock Enterprises	35
Gold Beach	
Curry County Government	235
Central Curry School District	140
Freeman Marine	90
USFS-Government	46
State Offices-Government	31
Port Orford	
NC Electronics	20
Premium Pacific Seafood	15

Source: Curry County Website (May 2007).

3.7 Housing and Development Trends

Most housing units in Curry County were constructed prior to 1990 mirroring rapid population growth from the 1950's through the 1980's.[45] According to the Curry County Economic and Community Development Office, there were 12,075 dwellings in Curry County as of 2005, an increase of 2.1% from 2000 Census figures. Of those units, 71.8% were owner occupied and renters occupied 28.2%.[46] Projections for housing in 2011 anticipate an increase of .06% to 12,790.[47]

Data from the 2000 U.S. Census provide a comparison between housing characteristics in Curry County and the state. In 2000, 11.3% of the housing units in Curry County were multi-unit dwellings compared to 23.1% in the state. Home ownership was more common in Curry County at 73% compared to 64.3%. Mobile homes were more common in Curry County making up

[44] Tauer, Guy, Regional Profile – Population in Region 7 (Coos and Curry Counties). Oregon Labor and Market Information System. http://www.qualityinfo.org/pubs/population/r7pop.pdf (April 5, 2007).
[45] U.S. Census Factfinder. Geographic Area: Curry County, OR. 2000 Census.
[46] http://www.co.curry.or.us/commissioners/EconDev/demographics.htm. (July 16, 2007).
[47] Oregonprospector.com. Community Resume: Curry, County, OR. http://www.oregonprospector.com/communityresumes.asp?cmd=demog2&p=5&selcounty=41015&report=Demographic_Report. (July 28, 2007).

26.1% of housing units compared to 10.3% in the state. And the median value of homes in Curry County was less than that in the state at $148,000 versus $152,100.[48]

Table 3.7 lists some housing characteristics for each of the three incorporated communities in the county according to the 2000 U.S. Census. Most of the housing units (63.2%) in Curry County are outside of an incorporated community. The Curry County Natural Hazards Mitigation Plan describes most housing as rural, although not on established farms.[49]

Despite the relatively low median home price in Curry County, equally low median wages make it difficult for some employers to attract and keep skilled employees.[50]

Table 3.7 Housing characteristics in incorporated communities, Curry County, 2000.

	Port Orford	Brookings	Gold Beach
Housing Units	656	2,569	968
Median Price	$92,400	$145,100	$132,700
Percent Single-Unit	75.3%	67.4%	60.1%
Percent Mobile Homes	8.2%	4.2%	17.8%

Source: 2000 U.S. Census.

3.8 Transportation

Curry County's geographic isolation and the rugged terrain focus development, as well as transportation infrastructure, along the coastal strip. In the absence of a rail line, the movement of goods and people throughout the county is largely dependent on county's road system. Waterborne and air transportation are also important to the county economy, but play less of a role in planning for wildfire response and evacuation.

Roadways

Highway 101 is the main transportation corridor in the Curry County linking each of the incorporated communities of Brookings, Gold Beach and Port Orford. It also connects the county to Bandon and Coos Bay to the North as well as Crescent City in California to the South. Through Curry County, Highway 101 is generally a two-lane roadway with a 55 mph speed limit. It is the only principle arterial in the county and a vital corridor for evacuation and mobilization of fire protection personnel.

The Curry County Transportation System Plan, August 2002 (TSP) includes an inventory of existing roads and projected traffic volumes to 2017. The TSP recognizes the need for alternative north-south routes paralleling Highway 101 and identifies several state, county and USFS roads that have potential to serve as alternatives to Highway 101 for emergency situations.[51]

Unincorporated communities, residential areas, recreation sites and forestry/agricultural areas that lie inland are connected to the Highway 101 corridor by roads that tend to follow drainages.

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[48] U.S. Census Quickfacts. Geographic Area: Curry County, OR. 2000 Census.
[49] Curry County Natural Hazards Mitigation Plan. (2.1.28).
[50] Tauer, Guy. Oregon Labor Department. Region 7 Industries Benefit from Housing Boom – at Risk with Housing's Decline. (http://www.qualityinfo.org/olmisj/ArticleReader?itemid=00005297) (July 16, 2007).
[51] Curry County Comprehensive Plan, Chapter 12 – Transportation. Attachment C. 2002. (21).

Of these the Jerry's Flat Road/Agness Road, is the only minor arterial route in the county. The other routes support lower traffic volumes and speeds and are classified as major or minor collectors.

The Jerry's Flat Road/Agness Road originates at the mouth of the Rogue River and continues upriver connecting Gold Beach to the communities of Agness and Illahe before continuing easterly to Josephine County. It is a two lane paved roadway with various speed limits depending upon traffic levels and adjacent uses along the various segments of the road. Presently this road is under County jurisdiction from Gold Beach to Lobster Creek and is a USFS road from Lobster Creek to Agness.[52] The TSP recommends improvement of an east-west connection between Curry County and the I-5 corridor and identifies this route as a potential corridor, but notes that the project is not feasible during the next 20 years.[53]

In addition to Highway 101 there are two other state facilities in the county. Carpenterville Road runs north-south just inland of Highway 101 between Brookings and Pistol River. And Meyers Creek Road, a short four mile, inland route near Cape Sebastian just north of Pistol River.

Airports

Three public airports serve Curry County, one in Brookings, one in Gold Beach, and on at Cape Blanco State, however none of these offer commercial air transportation. Additionally, there are seven private landing strips in the county, but these airstrips do not have support facilities or developed improvements. The closest commercial airports are located in Crescent City to the south in California and North Bend, Oregon to the north in Coos County.

Ports

Curry County has three ports, one at each of the main population centers Brookings-Harbor, Port Orford, and Gold Beach. These ports play an important role in the county's economy supporting commercial and sport fishing, visitor oriented commercial businesses as well as RV parks and some light industrial development. The Port of Brookings-Harbor, located in the southern part of Curry County at the mouth of the Chetco River, is the largest port in the county and one of the busiest ports on the Oregon Coast. The port also has a Coast Guard station.

[52] Curry County Comprehensive Plan, Chapter 12 – Transportation. Attachment C. 2002. (6).
[53] Ibid. (20).

Chapter 4. Resource and Capabilities Assessment

This section of the plan provides an overview of resources and planning documents that relate to wildfire mitigation and emergency response. The purpose of this section is to document the existing capabilities in Curry County that the Community Wildfire Protection Plan (CWPP) can build upon, while also identifying gaps in the current efforts to plan for, respond to, and recover from a wildfire.

The Curry County CWPP will help guide Curry County in wildfire protection activities and it will be integrated within the Curry County Emergency Operations Plan (EOP) and the Curry County Natural Hazards Mitigation Plan (NHMP). The Curry County CWPP will complement these plans by identifying and prioritizing areas for hazardous fuels reduction, recommending strategies to reduce structural ignitability in at risk communities, and engaging the community in education activities to build community capacity to reduce wildfire risk.

We reviewed the following plans for the resource and capabilities assessment:

- Curry County Emergency Operations Plan
- Curry County Natural Hazards Mitigation Plan
- City of Brookings Emergency Operations Plan
- Southwest Oregon Fire Management Plan (SWOFMP)
- Curry County on-line RAPID risk assessments (Winchuck River, Port Orford Watershed, and Agness)

Additionally, this report includes a brief summary of each of the county's fire district's capabilities from data supplied by the County Fire Defense Board. We worked with the Curry Wildfire Preparation Team (CWPT) to develop a set of review criteria in five broad categories including emergency management, fire protection services, planning/development issues, public education and outreach and grant programs. Each of these components is an important element of the Curry County CWPP. The remainder of this report is organized around these categories, the extent they are addressed in existing planning documents, and their relevance to the Curry County CWPP.

The information in the resource and capabilities assessment provides a baseline understanding of the resources and capacity of agencies and organizations in Curry County to address emergency management, education, risk assessment, fuels treatment and other issues related to wildfire. Understanding the current level of capacity in each category will help partners identify and implement action items and monitor changes over time. Each section of this report concludes with a set of recommendations that will be addressed throughout the CWPP in the appropriate chapters.

4.1 Emergency Management

Wildfire events have the potential to spread across multiple jurisdictions. An effective plan will provide a clear framework for how agencies, municipalities, and fire districts will operate in a coordinated emergency response. This section reviews the components of emergency management related to wildfire and the extent to which they are addressed in current planning documents. The Curry County Office of Emergency Services established a countywide Emergency Operations Plan (EOP) that provides a conceptual framework and organizational structure for

emergency planning and response. The Curry County EOP was adopted in February 2007 and will be reviewed periodically by the County Office of Emergency Services.

National Incident Management System (NIMS)

The federal government established the National Incident Management System (NIMS) in an effort to standardize the processes and language that agencies use in emergency situations. NIMS is a system required by Homeland Security Presidential Directive 8 for managing responses to multi-agency and multi-jurisdiction emergencies. ***To qualify for state and federal funding for disaster assistance programs, local governments must use NIMS.*** The Incident Command System (ICS), incorporated in NIMS, provides an organizational structure for individuals and groups to coordinate efficiently in an emergency situation. The four NIMS functions are: Management, Operations, Planning/Intelligence and Finance/Administration.

The NIMS and ICS organizational structure for the county are described in the Curry County EOP. The City of Brookings also crafted and adopted an EOP in 2006. Similar to the county EOP, the Brookings EOP incorporates NIMS and ICS. Gold Beach and Port Orford have not developed EOPs to date.

Incident Command

The Curry County EOP outlines and describes how the Incident Command System (ICS) will be implemented in the event of a major emergency. The Curry County EOP lists the members of the Emergency Management Organization, their roles and responsibilities and how an Emergency Operations Center (EOC) would be established. Similarly, the City of Brookings EOP describes how an EOC would be established.

The County EOC, when activated, will be located in the basement of the Curry County Sheriff's office. The Curry County EOP also identifies several alternate EOP locations in Brookings, Hunter Creek and Port Orford. The USFS Headquarters at Gold Beach is one of three alternate EOC locations in Gold Beach.

Figure 4.1 illustrates the EOC organizational structure from the Curry County EOP. The County Office of Emergency Services serves as the Incident Commander (IC) during large-scale incidents or will establish the proper command structure depending on what type of incident or emergency situation exists. During a wildfire emergency impacting their district, the fire chief or designee assumes the role of the IC. The Curry County Fire Defense Board takes on the role of lead agency and other fire districts, the Coos Forest Protective Association, and the Curry County Office of Emergency Services provide support. The Curry County Fire Chief will serve as the liaison to federal and state agencies in fire events on federal or state lands.

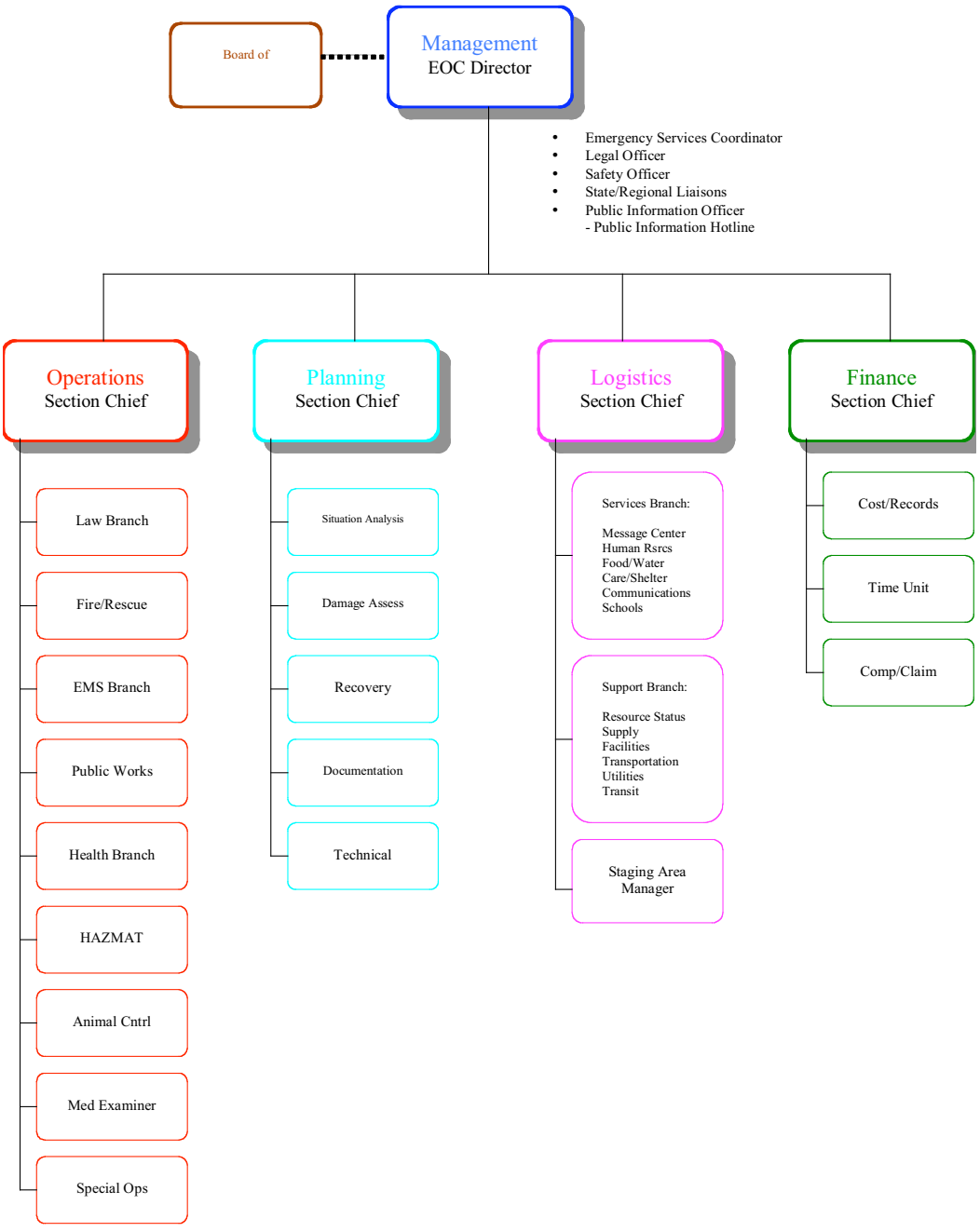
The Pacific Northwest (PNW) Mobilization Guide outlines the management response during multiple fire events that require the coordination of neighboring state and federal agencies. The PNW Mobilization Guide will serve as a reference for the management response including the possible formation of a Southwest Oregon MAC (Multi-Agency Command). Guidelines in the ODF and Rogue River-Siskiyou National Forest Mobilization Guides and local operating plans may also apply.[54]

Figure 4.1 Curry County typical emergency operation center organizational structure.

[54] Southwest Oregon Fire Management Plan. (105).

Curry County Emergency Operations Center

Incident Command System



Evacuation Plans and Escape Routes

The topography of Curry County and the distribution of populated areas complicate evacuation planning. The major urban areas are bordered by the Pacific Ocean to the west and rural forest to the east. Highway 101 is the only substantial north-south route and its capacity to move traffic is limited to two lanes in most places. Traffic speeds are also limited because it is a winding road. Besides transportation routes, a number of other considerations are also important in an evacuation plan.

The City of Brookings EOP describes these elements and their organization through the different phases of an evacuation. The Brooking EOP Evacuation plan could serve as a template for other community evacuation plans.[55]

Highlights from the Brookings Evacuation Plan

- **Coordination** - In an emergency threatening the City of Brookings, the Chief of Police will serve as the Incident Commander. (According to the County EOP the fire chief in the affected district is the Incident Commander.)
- **Information Distribution** – Communication with threatened residents occurs in two steps. During the first notification teams go door-to-door (time permitting) issuing a Pre-Evacuation Advisory. At this point of contact, information on residents with special needs is also gathered. Local media are also involved in announcing the Pre-Evacuation Advisory. In the second step, if necessary, an Evacuation Order is announced in the same manner as the Pre-Evacuation Advisory. Residents are directed to evacuate to safe zones and special needs teams act upon the information gathered during the pre-evacuation advisory phase.
- **Safe Zones** – The Brookings Fire Chief will identify safe zones within the city with the input and assistance from the USFS, CFPA, OLDF and State Fire Marshal Teams. Evacuated residents will relocate to the houses of friends, or family in safe zones, or shelters established by the American Red Cross.
- **Transportation** – Presumably, residents are responsible for their own transportation means as this is not addressed in the Brookings evacuation plan. Traffic control will be assigned to the Brookings Police Department, Curry County Sheriff's Office or the Oregon State Police.

The Curry County and Brookings EOPs establish the roles and responsibilities of those in charge of coordinating an evacuation. These include the following:

- The Board of County Commissioners has authority over evacuations and coordinates through the established EOC.
- The County Road Department will be the lead agency and receive support from other local and county agencies.

[55] City of Brookings Emergency Operations Plan. Annex 2.

- In a wildfire emergency, the County Fire Chief is responsible for coordinating the use of fire resources for evacuation.
- The Public Information Officer in the EOC will ensure evacuation information is disseminated in the media on a timely basis.
- The County Road Department is responsible for establishing evacuation routes, but none of the related plans describe specific evacuation routes for the entire county. The web-based RAPID assessments do identify the major roads connected to the community as escape routes.

Communication

Effective communication between emergency responders is critical in an efficient, coordinated wildfire response. Communication can be particularly challenging in a wildfire emergency, as those communities are often isolated. During a wildfire, telephone wires may be damaged and topography can limit radio communication. Key resources for communication in Curry County include:

- In 2007 the county updated its entire communication system consisting of five repeater towers spanning the entire county.
- The Curry County EOP describes the methods of common communication between the County EOC and the activated local EOC through telephone, FAX, cellular, amateur radio, and lo-band radio. Two-way radios will be used for communication with telephone use for administrative purposes and for coordination and control if radio communications are limited or unavailable. Common frequencies are the State Fire Net, an interagency fire net that is also known as the "State Fire Marshal frequency" or HAZMAT frequency, and the Curry County Fire Mutual Aid frequency. County police, fire and medical teams have project 25 radios with interoperable capability. These radios are programmed with common frequencies for adjacent counties' emergency response agencies. Also, Coos County has a communications trailer, which may be available during an emergency.[56]
- The Oregon Emergency Response System (OERS) is the primary point of contact by which any public agency provides the state notification of an emergency or disaster, or requests access to state or federal resources. OERS will be used to communicate with first responders, the community and key partners. The media will also play an important role in disseminating information.
- The Oregon State Police may provide upon request, a mobile home equipped with extensive radio communications equipment to facilitate communications.
- In Brookings the police chief is tasked with the responsibility of maintaining an inventory of equipment and personnel capabilities for the city.
- The county did some experimentation with a reverse 911 system, but found it to be unfeasible. The communities of Agness and Winchuck have neighborhood phone tree systems in place, but other communities may only have informal social networks.

[56] Curry County Emergency Operations Plan. (28-30).

Supplies and Services

During a major emergency the Curry County Emergency Management Organization has the authority to establish priorities for the assignment and use of all resources on a countywide basis. The EOC director is responsible for allocating resources with the support of the logistics section of the EOC.[57] Should additional resources be necessary, the county will utilize intergovernmental agreements with neighboring jurisdictions or by request to state and/or federal agencies.

The Brookings EOP identifies the Curry County Chapter of the American Red Cross as the responsible agency to provide emergency shelters, food, water, sanitation, medical, communications and other necessary items.

Residential Signage

According to the Curry County Natural Hazards Mitigation Plan (NHMP), intermittent rural signage and unmarked private residences are a significant issue for emergency responders. Accurate, visible signage in rural areas increases the ability of firefighters to locate and gain access to provide services and/or evacuations.

Hazard Mitigation

The Curry County NHMP includes an action item to identify roads and private drives on maps and make the information available to county emergency response agencies and emergency medical responders. Table 4.1 lists all of the action items for wildfire as described in the Curry County NHMP.

Table 4.1 Action items listed in the Curry County Natural Hazards Mitigation Plan, 2005.[58]

Action Item	Coordinating Agencies	Timeframe
Noxious Weed Eradication Through multi agency coordination, develop an abatement plan for control of Noxious Weeds, specifically Gorse, Scotch Broom and Butterfly Brush.	Natural Hazard Mitigation Committee Oregon Department of Forestry Coos Forest Protective Association U.S. Forest Service	1-2 Years
Public Education Public Education Program enhancing existing programs. Program to target residents, tourists enjoying area sport fishing and hunting in wildland areas, through multi agency coordination including local industry.	Natural Hazard Mitigation Committee Oregon Department of Forestry Coos Forest Protective Association U.S. Forest Service	2 Years
Mapping and Rural Signage Identify and map all roads, private drives, logging trails to increase the ability of firefighters to locate and gain access to provide service and/or evacuations.	Natural Hazard Mitigation Committee Oregon Department of Forestry Coos Forest Protective Association U.S. Forest Service Industrial Partners (logging companies) BLM	2 – 5 years

[57] Curry County Emergency Operations Plan. (33-34).
[58] Curry County Natural Hazards Mitigation Plan. (3.1.28).

Findings and Recommendations - Emergency Management

1. *The Curry County CWPP should include a description of priority escape routes and clear recommendations for maintaining those routes.*
2. *The Curry County CWPP should use data collected on special needs in the structural vulnerability assessment and conduct additional surveys of the special needs population and provide information to the special needs evacuation teams.*
3. *The Curry County CWPP should consider outreach efforts to educate at risk communities about evacuation routes, safe zones and how to prepare for an evacuation.*
4. *The data collected by the CFPA for the structural vulnerability assessment component of the Curry County CWPP will identify areas throughout the county where access and signage is inadequate.*
5. *The CWPT should work with the Natural Hazards Mitigation Committee and other coordinating organizations to ensure mapping and sharing of information related to roads and private drives in at risk communities, as well as other action items in the hazard mitigation plan that relate to the CWPP.*
6. *The Curry County CWPP should include an action item to develop public outreach campaigns to ensure that that signage is maintained and installed with new developments.*

4.2 Fire Protection Services

Fire protection services are available throughout the county from a variety of different organizations and agencies including municipal fire departments, rural fire protection districts, the Coos Forest Protective Association (CFPA), and state and federal agencies. Fire-protection services are typically more limited in rural areas than urban areas. Multiple ignitions in adjacent areas during the fire season can cause competition for their services, making it necessary to prioritize their use.[59] The capacity of fire response teams to provide fire suppression and structural defense affects emergency management processes. Many agencies and organizations throughout Curry County network to share information, work together on trainings, and have established mutual aid agreements in place to facilitate a multi-jurisdictional response to a large wildfire emergency.

Rural Fire Protection Districts

There are 14 rural fire protection districts within the county. These districts have the capacity to provide fire suppression and structural defense and coordinate through mutual aid agreements. The California/Oregon Fire Chiefs Association produced an updated Mutual Aid Resource Directory that provides an inventory of resources for each Fire Department and Rural Fire Protection District in Curry County. Most of the rural fire protection districts have wildland personal protective equipment, staff trained in wildland fire response and at least one wildland fire engine.

[59] Southwest Oregon Fire Management Plan (103).

Table 4.2 Resource inventory for Curry County fire protection districts, 2007.

Agency	Fire Fighters	Radios	Structural Engines	Wildland Engines	Water Tenders	Foam	Wildland PPE	Wildland Trained
Agness Illahe VFD	12	12	1	1	3	No	No	Yes
Brookings FD/RFPD	30	19	2	1	1	Yes	Yes	Yes
Cape Ferrelo RFPD	21	10	2	1	4	No	Yes	No
Cedar Valley RFPD	10	5	2	1	1	No	No	No
Gold Beach FD*	22	15	4	0	0	Yes	No	No
Harbor RFPD	20	14	4	0	0	Yes	Yes	No
Langlois RFPD	14	20	4	1	1	Yes	No	Yes
Ophir RFPD	12	7	2	0	0	Yes	Yes	Yes
Pistol River RFPD	10	12	2	1	2	Yes	Yes	Yes
Port Orford FD/RFPD	20	24	4	3	4	No	Yes	Yes
Sixes RFPD	12	11	2	0	3	Yes	Yes	Yes
Upper Chetco RFPD	3	6	2	0	1	Yes	Yes	Yes
Winchuck RFPD	8	10	2	1	1	Yes	No	Yes

*(Including Wedderburn RFPD)
Source: The California/Oregon Fire Chiefs Association Mutual Aid Resource Directory

Coos Forest Protective Association

The Coos Forest Protective Association (CFPA) serves a large area of Oregon's South Coast with fire protection services as well as community education and outreach. Local, state and federal agencies in Curry, Coos and the western corner of Douglas County rely on CFPA for fire protection services. In addition to their own resources, the CFPA have agreements in place with the Oregon Department of Forestry (ODF) and local contractors augment their capacity when necessary.

During a typical fire season the CFPA employs between 75 and 100 staff that are trained in wildfire suppression. In addition, two 10-person hand crews operated by a local firm are kept under contract for the duration of the fire season. The CFPA had a youth job-training program that employed teens to do fuels reduction work and occasional fire suppression activity. However, due to the limited availability of federal funding, this program has been discontinued in Curry County.[60]

In addition to passenger vehicles for administrative use, the CFPA manage a fleet of specialized fire suppression vehicles listed in Table 4.3. In the past when helicopter support is necessary, the CFPA has coordinated with Menasha Forest Products, Douglas Forest Protective Association and the ODF to augment their ground capacity.[61]

[60] John Flannigan, CFPA. pers. com.
[61] Coos Forest Protective Association. Annual Report. 2006. http://www.coosfpa.net/2006%20CFPA.pdf. (July 16, 2007).

Table 4.3 List of specialized fire response vehicles, CFPA, 2007.

Resource	Number	Notes
Wildland Engine	14	200 Gallon Capacity
Wildland Engine	6	1,000 Gallon Capacity
Water Tender	6	
Bulldozer	2	With trailer for transport
Boat	1	For equipment transportation

Source: John Flannigan, CFPA, pers. comm.

The CFPA also work to prevent wildfires through education and outreach. According to their 2006 annual report, CFPA staff made approximately 3,000 prevention contacts through outreach efforts at schools, parks and youth organizations. The CFPA also attend many festivals, home shows, fairs and parades to distribute information and raise public awareness about the risk of wildfire.[62]

Rogue River-Siskiyou National Forest

The Gold Beach District office is a headquarters for wildfire staff on the Rogue River-Siskiyou National Forest. The Division Chief and Battalion Chief (formerly Fire Management Officer and Assistant Fire Management Officer) are the two full-time staff positions responsible for supervising wildfire-related activities on the Gold Beach District of the Siskiyou National Forest.

The Gold Beach District office maintains two type 6 wildland fire engines for initial response to ignitions on Forest Service lands. Two captains and two assistant captains that are permanent, seasonal positions staff each engine. During fire season, the Gold Beach District has access to a Forest Service helicopter and rappel crew that is based out of Merlin in neighboring Josephine County. In addition, the district office operates a prevention patrol module staffed by two seasonal employees to conduct outreach to the public at Forest Service Campgrounds.

The Rogue River-Siskiyou National Forest operates two dispatch centers, one in Grants Pass and another in Medford. Through these centers, the Gold Beach District office is able to coordinate with private contract crews to augment capacity as necessary. Response times are limited by distance of resources ordered.

Currently there are no plans to adjust staff levels or increase resources for wildfire response and management at the Gold Beach District Office.[63]

Coos Bay District, Bureau of Land Management

The Coos Bay District, BLM receives fire protection services through a partnership with the CFPA. However, the district does maintain two wildfire engines and conducts regular wildfire training and certification for up to 50 BLM staff. During a typical fire season, these trained staff are available to lend support to other BLM districts throughout the region when fire danger is

[62] Coos Forest Protective Association. Annual Report. 2006. http://www.coosfpa.net/2006%20CFPA.pdf. (July 16, 2007).

[63] Ted Johnson, Battalion Chief, Rogue River-Siskiyou National Forest. pers. com.

high. Currently, the CFPA services are sufficient to meet the needs of the Coos Bay District BLM and there are no plans to increase BLM fire response capacity.[64]

Mutual Aid Agreements and Collaboration

According to the Southwest Oregon Fire Management Plan (SWOFMP), state and federal agencies coordinate annually during the spring preceding the fire season. The units discuss the qualifications of the personnel, anticipated availability, funding opportunities, interagency support for fire and fuels management and a critique of the previous operating season.[65]

Coordinated trainings involving the Oregon Department of Forestry (ODF), local fire chiefs, fire departments, and rural fire protection districts give local fire fighters experience in structural and wildland fire fighting, structural defenses and operations. Participants can obtain their red card (wildland fire training documentation) for completing these trainings. The ODF has also provided support to emergency managers during non-fire events and is working with private partners such as timber companies to share equipment in extremely large events. [66]

Oregon State legislation authorizes governing bodies to establish cooperative assistance agreements for the mutual use of supplies and services. These Mutual Aid Agreements can help augment the capacity of a local jurisdiction during an emergency. These agreements may be formal or informal. Agreements of this type that relate to fire protection services are listed below. *(The file of intergovernmental agreements is kept in the Curry County Emergency Services office)*.[67] Agreements with private companies are informal and more difficult to keep up to date, but are utilized. A list of these companies is available in the Curry County EOP resource directory annex. The following list describes the principle existing partnerships in the county.

- **Pacific Coast Cal-Or Fire Chiefs -** All fire service agencies in Curry County have mutual assistance agreements with fire agencies in Del Norte County, California, and with each other. These agreements cover an area approximately from Klamath, California to Bandon, Oregon.
- **Coos Forest Protective Association** - Has mutual assistance agreements with all other fire service agencies in Curry County, with the California Division of Forestry, and with the U.S. Forest Service.
- **Langlois Rural Fire Protection District -** Has a mutual assistance agreement with Bandon Fire Department in Coos County.
- **Southwestern Oregon Fire Chief's/Officer's Association –** Has agreements that include Port Orford RFPD, Sixes RFPD, and Langlois RFPD.

The Southwest Oregon Fire Management Plan (SWOFMP) describes state and federal agency coordination in a wildfire event. Coordination between agencies is required if at any time an ignition is managed within an adjacent Fire Management Unit (FMU), or any time an ignition begins to affect the neighboring agency with smoke or public concern. This will be accomplished by notifying the appropriate dispatch center. Formal requests for resources will also be made

[64] Megan Harper, Coos Bay District, BLM. pers.com.
[65] Southwest Oregon Fire Management Plan (104).
[66] Curry County Natural Hazards Mitigation Plan (3.1.21).
[67] Curry County Emergency Operations Plan. (29).

through the appropriate dispatch center. Neighborhood policy as outlined in the Pacific Northwest (PNW) Mobilization Guide and the local mob guides will be used. Pre-positioning of resources will be coordinated between the agencies. The resources will be used throughout the Fire Planning Unit (FPU) and used on priority fires. The need for these resources and additional requests shall be coordinated by the Unit Fire Management Officer (FMO) (or delegate) and/or Unit Forester.[68]

Insurance Services Office Ratings

The Public Protection Classification (PPC) program was established by the Insurance Services Office (ISO) to provide information to insurance companies, fire departments and others about a community's fire protection services. Table 4.4 lists ISO ratings for each fire district in Curry County based on a 2002 update to the Curry County Comp Plan. It should be noted that upgrades in capacity since then render this data obsolete for some communities.

Table 4.4 ISO ratings for Fire Districts in Curry County, 2002.

Fire District	ISO Rating
Brookings	7
Gold Beach	5
Port Orford	7
Agness Illahe VFD	9
Brookings RFPD	7
Cape Ferrelo RFPD	8
Cedar Valley RFPD	9
Gold Beach Wedderburn RFPD	5
Harbor RFPD	4
Langlois RFPD	7
Ophir RFPD	6
Pistol River RFPD	8
Port Orford RFPD	7
Sixes RFPD	8
Upper Chetco RFPD	9
Winchuck RFPD	9

Source: Curry County Comprehensive Plan, Chapter 11 – Public Facilities and Services, Attachment F – Revision – August 2002.

The PPC classification (or ISO rating) is an indicator of a community's structural fire protection service capacity. The PPC program utilizes a uniform set of criteria that incorporate nationally recognized standards. The PPC rating is calculated based on fire alarm and communications systems, the fire department and water supply systems. The classification values range from 1-10

[68] Southwest Oregon Fire Management Plan. (105).

with 1 being exemplary fire protection and 10 indicating that the community's fire protection program does not meet minimum ISO standards.[69] Areas that are outside of a fire protection district are rated a 10.

Findings and Recommendations - Fire Protection Services

1. *The Curry County CWPP should establish a method to track and maintain mutual aid agreements with private entities.*
2. *The Curry County CWPP should continue to support education and outreach efforts by fire protection staff.*
3. *The Curry County CWPP should include a resource inventory to track changes in fire response capacity over time.*

4.3 Planning and Development Issues

The Curry County Natural Hazards Plan identifies growth and development in the Wildland Urban Interface (WUI) as an issue: *"This mix provides a recipe for disaster with the varying housing structures, the age of these structures and applicable building codes limited developmental patterns outside of incorporated cities, and the natural vegetations providing fuels."* Fire protection resources in rural areas are limited leaving it up to the landowner to take responsibility for protective measures. City and County planning efforts can mitigate risk by guiding development in the WUI. One of the major challenges to these planning efforts is that the WUI area does not conveniently follow the political boundaries that are used in writing comprehensive plans, zoning ordinances and municipal codes.

Senate Bill 360: The Oregon Forestland-Urban Fire Protection act seeks to address this challenge in support of Oregon's land use Goal 7.

Oregon Statewide Land Use Planning Goal 7

Goal 7 directs local governments to protect communities from natural hazards by incorporating inventories, policies and implementation measures into their comprehensive plans. Goal 7 states that local governments are required to respond to new information as notified by the Department of Land Conservation and Development (DLCD). Goal 7 provides a list of guidelines for local governments to consider in their planning efforts. In regards to wildfire hazard, Senate Bill 360 establishes a process for identifying high-risk areas, which may require local governments to address the provisions of Goal 7.[70]

Senate Bill 360: Oregon Forestland-Urban Fire Protection Act

The Oregon Forestland-Urban Fire Protection Act of 1997 (SB 360) establishes a process to identify WUI areas through the state, provide standards for landowners to manage fire hazard and risk, and create a process to track compliance. Senate Bill 360 requires property owners in

[69] Insurance Services Offices, Public Protection Classification Program. http://www.isomitigation.com/ppc/0000/ppc0001.html. (April 10 2007).
[70] Oregon Department of Land Conservation and Development Website. http://www.oregon.gov/LCD/docs/goals/goal7.pdf. (April 22, 2007).

identified forestland-urban interface areas to create a buffer clear of flammable vegetation around their homes and driveways.

The Oregon Department of Forestry Protection from Fire Program Review recommended full implementation of Senate Bill 360 by 2011.[71] A committee composed of state and county officials use a standard process to identify forestland-urban interface areas throughout the county. The identification criteria include the following:

- Lands within the county that are also inside an Oregon Department of Forestry protection district.
- Lands that meet the state's definition of "forestland."
- Lands that meet the definition of "suburban" or "urban"; in some cases "rural" lands may be included within a forestland-urban interface area for the purpose of maintaining meaningful, contiguous boundaries.
- Lots that are developed, that are 10 acres in size or smaller, and which are grouped with other lots with similar characteristics in a minimum density of four structures per 40 acres.

The identified forestland-urban interface areas are rated from "low" to "extreme," and the classification is used by the landowner to determine the size of a fuel break that needs to be established around structures on their property. The public has an opportunity to comment on the findings of the committee before the maps are finalized and filed with the county clerk and the Oregon Board of Forestry. Then the Oregon Department of Forestry (ODF) notifies landowners in the forestland-urban interface of their responsibility after which the property owner has two years to comply. Landowners who have documented their compliance with the ODF are relieved from the act's cost-recovery liability. Non-compliant landowners may be liable for suppression costs if a fire originates on the owner's property, the fuel reduction standards have not been met, and ODF incurs extraordinary suppression costs. The cost-recovery liability is capped at $100,000. Every five years the committee reconvenes to review and update the forestland-urban interface classifications. As of 2007, Curry County has not implemented SB 360, but may do so in the coming years.

Comprehensive Plans

Curry County and the three incorporated cities within the county all have adopted comprehensive plans. With the exception of Brookings, each of the comprehensive plans was adopted in the 1980's and is due for revision. Each of these plans addresses state Goal #7 by adopting policies that call for limitations to development in areas of recognized risk. The Brookings comprehensive plan goes one step further by stating that the developer will be required to "show that property development will not be endangered by the hazard and that appropriate safeguards will be taken."[72]

[71] ODF Website. http://www.oregon.gov/ODF/FIRE/docs/PREV/WSFMODFFuelsStrategyGuidance.pdf. (April 17, 2007).
[72] City of Brookings Comprehensive Plan, revised December, 2000.

Ordinances and Codes

A review of zoning ordinances and municipal codes in Curry County reveals that there are few specific regulations relating to reducing wildfire risk. The county does have a zoning ordinance that establishes standards for reducing structural vulnerability in the Timber Zone and Timber Grazing Zone, but these standards do not apply to other zones that may be at risk for wildfire. The City of Brookings has municipal codes that require new developments to have adequate access to a water source for fire protection.

Curry County Fire-Related Zoning Ordinance

http://www.co.curry.or.us/publicservices/ZoneOrd/Zoning%20Ordinance.htm

These standards describe defensible space around homes and roads, access to water, access to structural fire protection services, and some structural vulnerability criteria; however, there is no standard for address signage.[73] The following list is a summary of the provisions of the ordinance.[74]

1. Access to fire projection services or approved alternative means of fire protection (e.g. on-site equipment and water source.
2. Dwellings may not be sited on a slope greater than 40%.
3. Primary Safety Area – 30 ft. around all structures cleared of vegetation except for low shrubs (less than 2 ft.) and downed material trees spaced a min. of 15 ft. apart and pruned to a min. of 8 ft.
4. Secondary Safety Area – 100 ft. in width from the primary safety area that meets the same standards except it does not need to be cleared of accumulated needles and other dead vegetation.
5. Dwellings shall have a fire retardant roof and chimneys shall have a spark arrestor.
6. Roads and Driveways shall have a drivable width of 16 ft., vertical clearance of 12 ft. and an all-weather surface of gravel or rock.
7. The average grade of the driveway shall not exceed 13.5% for any 1 mile of road length
8. Driveways shall have adequate turnaround surface for fire fighting vehicles
9. Culverts and Bridges shall support a minimum gross weight of 50,000 lbs.

Note: As part of our research for the fire plan, we compared the Curry County fire ordinance with other fire-related codes in Oregon and California. Results from this assessment can be found in Appendix 4.2.

Findings and Recommendations - Planning and Development

The implementation of Senate Bill 360 will decrease structural vulnerability by spurring property owners to take an active role in reducing vegetative fuels on their lots. Whereas zoning ordi-

[73] Curry County Natural Hazards Mitigation Plan. (3.1.24).
[74] Curry County Website. http://www.co.curry.or.us/publicservices/ZoneOrd/Zoning%20Ordinance.htm. (April 17, 2007).

nances and municipal codes are limited to specific jurisdictions, Senate Bill 360 will apply to any area of identified risk. However, Senate Bill 360 does not decrease or regulate development in the wildland-urban interface. Continued development in at-risk areas is an issue that will need to be addressed in future comprehensive plans.

1. *The Curry County CWPP should include recommendations to planners and the public to update comprehensive plans, ordinances and codes to reduce development and structural vulnerability in the wildland-urban interface.*
2. *The Curry County CWPP should investigate best practices that have been applied by counties that have implemented Senate Bill 360.*

4.4 Public Education and Outreach

An educated and engaged public can have a significant influence on reducing the incidence and severity of wildfires. There are many actions that homeowners can do to reduce the structural ignitability of their homes and assist emergency personnel in locating their home should they need assistance. Furthermore, there are steps that individuals who live, travel and recreate in the wildland urban-interface can take to decrease the chance that their behavior will be the cause of a wildfire. According to the Curry NHMP, the majority of ignition sources are from human activities.[75] The Curry County CWPP will be a tool to guide and coordinate education and outreach efforts.

The Curry County NHMP describes state and federal programs that provide training, information and technical assistance. This plan also describes an action item to *enhance existing programs to reach out to residents and visitors through a coordinated effort between multiple agencies and local industries*. This action item is for each of the three major communities in Curry County: Gold Beach, Brookings and Port Orford.

The Curry County EOP states that education materials to promote emergency preparedness should be disseminated and accessible to non-English speakers.

The RAPID Plans for the communities of Port Orford Agness and Winchuck list three strategies to engage the public in reducing wildfire risk, but don't identify who will implement the strategies. The strategies include:

1. Educate homeowners about reducing structural vulnerability;
2. Seek technical and financial assistance for homeowners to reduce structural vulnerability; and
3. Promote existing education and outreach programs to educate the community about wildfire mitigation activities including identifying community escape routes.

The Curry County NHMP lists existing outreach and education efforts:[76]

- 'Smokey' presentations for school grades K-3;
- County Park Fire Safety Presentations;
- Business Inspections;

[75] Curry County Natural Hazards Mitigation Plan. (3.1.19).
[76] Ibid. (3.1.21).

- School, church, and civic group fire safety education presentations;
- Teaching 'Fire Prevention' in schools;
- Teaching proper use of fire extinguishers;
- Woodstove installation inspections;
- New construction inspections pursuant to Oregon Goal 4;
- Checking smoke detectors;
- Fire prevention and safety information for Annual County Fair;
- Burn permit inspections, during fire seasons;
- Coordinating educational programs with other agencies, hospitals, and schools; and
- Answering citizens questions regarding fire hazards.

The BLM, OSU extension, Curry County Weed Board and the CFPA are the principle agencies involved in these education efforts.

Community Involvement

Community involvement is an important component of planning for wildfire prevention and emergency response. Oregon Land use Goal 7 is supportive of public involvement and Senate Bill 360 requires community input in the identification of at risk-areas. The Curry County NHMP was developed with public input. A Natural Hazard Advisory Committee appointed by the County Board of Commissioners will conduct an annual review of progress on the action items listed in the Curry County NHMP. During this annual review the committee will also consider public feedback.[77]

Findings and Recommendations - Public Education and Outreach

1. *The Curry County CWPP should gauge the extent to which local agencies are utilizing available resources to promote wildfire education and mitigation activities.*
2. *The Curry County CWPP will take a comprehensive view of the available data on a variety of indicators of risk and vulnerability to identify efficient and effective steps that the community can take to mitigate risk.*
3. *The Curry County CWPP will establish priority fuels reduction projects that are matched to the capacity of the local workforce and congruent with applicable agency policies regarding fuels reduction work.*
4. *The Curry County CWPP should reference the action items in the Curry County NHMP where relevant to education and outreach.*

4.5 Grants Programs

In addition to funding public education and outreach, there are multiple grant programs to increase the capacity of fire protection services and accomplish fuels reduction projects. The Curry County CWPP will be a useful guide for directing grant funding to priority projects throughout the county. Some local organizations and agencies have already taken advantage of federal funds to accomplish fuels reduction projects and increase preparedness for wildfire response. This section describes some opportunities and challenges to capturing these external resources.

[77] Curry County Natural Hazards Mitigation Plan. (1.1.14).

National Fire Plan Community Assistance Grants

This grant program is a collaborative effort between multiple agencies to streamline the grant process and match appropriate funding sources with projects. Grant funding has been made available for WUI fuels treatment projects and fuels utilization and marketing projects. The total amount of funding has varied from $7 million in 2001 to $4.2 million in 2007. On average 30% of project proposals are funded. Eligible projects are adjacent to federal lands, identified in CWPPs and supported by a match of at least 50% hard cash or in-kind.[78]

From 2001-2004, $7.4 million in federal funds were allocated to community assistance projects across a four-county area in Southwestern Oregon. Two of those projects were for prevention and education efforts. Other 2005 projects included 17 ground-based hazardous fuels reduction projects, 2 fuels utilization projects, and 4 planning and risk assessment projects. The total request for federal funds for these 2005 projects is over $5 million.[79]

The CFPA and the Coos Bay District BLM have used grant funds available from the National Fire Plan for the benefit of communities in their jurisdictions. In 2004, Curry County received $250K from a community assistance grant in Curry County with the Emergency Services Program to continue the WUI assessment from the 2002 Biscuit Fire.[80]

Assistance to Firefighters Grants (AFG)

The primary goal of the Assistance to Firefighters Grants (AFG) is to meet the firefighting and emergency response needs of fire departments and nonaffiliated emergency medical services organizations. Since 2001, AFG has helped firefighters and other first responders to obtain critically needed equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards. The National Preparedness Directorate in the Federal Emergency Management Agency administers the grants in cooperation with the U.S. Fire Administration. For fiscal year 2005, Congress reauthorized the Assistance to Firefighters Grants for an additional 5 years through 2010.[81]

The Fire Prevention and Safety Grants (FP&S)

The Fire Prevention and Safety Grants (FP&S) are part of the Assistance to Firefighters Grants (AFG) and are under the purview of the National Preparedness Directorate in the Federal Emergency Management Agency. FP&S grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury. Examples of the types of projects supported by FP&S include fire prevention and public safety education campaigns, juvenile fire setter interventions, media campaigns, and arson prevention and awareness programs. In fiscal year 2005, Congress reauthorized funding for FP&S and expanded the eligible uses of funds to include Firefighter Safety Research and Development.[82]

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[78] PNW National Fire Plan site. http://www.nwfireplan.gov/CommunityAsst.htm#Background. (April 22, 2007).
[79] Southwest Oregon Fire Management Plan. (126).
[80] Ibid. (127).
[81] FEMA - Assistance to Fire Fighters Grants Program. http://www.firegrantsupport.com/afg/. (April 17 2007).
[82] FEMA – Fire Prevention and Safety Grants. http://www.firegrantsupport.com/fps/. (April 21, 2007).

Volunteer Fire Assistance (VFA) Funding

Both the Volunteer Fire Assistance (VFA) and Rural Fire Assistance (RFA) programs are administered by the Oregon Department of Forestry and are aimed at increasing the capacity of rural fire districts. Funding for the RFA program was cut for 2007 by the USDI and may not be funded in the future. The VFA program is funded through appropriations from the USDA Forest Service and has been funded at similar levels in the past. (The VFA program was formerly the Rural Community Fire Protection Program.) In 2007 the Cape Ferrelo RFPD was awarded $20K for equipment and the Port Orford RFPD won a similar amount also for equipment.[83] A qualifying RFPD:[84]

- does not include incorporated communities with over 10,000 in population. (the largest incorporated community in Curry County is Brookings with approximately 6,300 people);
- plays a cooperative role in protecting rural communities near U.S. Forest Service Lands;
- has an established mutual aid agreement with the ODF and/or a cooperative fire agreement with the U.S. Forest Service; and
- is compliant with NIMS certification requirements.

Western States Fire Managers and Urban Interface Program

This money is allocated to the 17 Western states and Pacific Island territories and is distributed through a competitive process administered by the Western States Fire Managers (WSFM). This grant's source of funding is a federal appropriation to the USFS, State & Private Forestry Program. The WSFM is a working group established by the Council of Western State Foresters, a regional subcommittee of the National Association of State Foresters (NASF). A WSFM grant review committee meets in the fall to review and rank the applications. For 2006 funding, 204 applications for $30 million were received last year and the committee had an estimated $14 million to allocate. Each state is allowed only 15% of the available estimated dollars.[85]

In Oregon, grant applications are ranked by a committee of ODF staff prior to submission to the WSFM. To be eligible the project must benefit a community identified as high-risk in the statewide risk assessment and as a high priority in a completed community wildfire protection plan. Agness and Illahe are the only communities in a high-risk area according to the 2005 statewide assessment.[86]

Findings and Recommendations - Grant Programs

1. *The Curry County CWPP should seek to leverage funding opportunities by meeting multiple objectives (i.e. noxious weed eradication to reduce fuels adjacent to at-risk communities).*
2. *The Curry County CWPP should establish a process to coordinate stakeholder organizations to collaborate on grant applications.*

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[83] ODF Grant Opportunities. http://www.oregon.gov/ODF/FIRE/fire.shtml#Grant_Opportunities. (April 17 2007).
[84] ODF Grant Opportunities. http://www.oregon.gov/ODF/FIRE/docs/07VFARFAMan.pdf. (April 22, 2007).
[85] ODF Guidelines for the Western States Fire Managers Urban Interface Program. http://www.oregon.gov/ODF/FIRE/docs/PREV/WSFMODFFuelsStrategyGuidance.pdf. (April 17 2007).
[86] ODF Webpage. http://oregon.gov/ODF/FIRE/images/interimhighriskcommunities.jpg. (April 22, 2007).

Chapter 5. Structural Vulnerability Study

5.1 Introduction

In 2002, the Biscuit Fire burned over 500,000 acres in southwestern Oregon. In response Curry County initiated the development of a structural triage plan for southwest Curry County to locate vulnerable structures, identify and prioritize defensible space and fuels reduction projects, and develop strategies for public education and fire prevention. In 2003, the Bureau of Land Management – Coos Bay District, Coos Forest Protective Association (CFPA), and Curry County Emergency Services obtained a grant from the National Fire Plan Community Assistance Program to expand the planning effort through the county. Through the grant, Curry County GIS and the (CFPA) spearheaded a collaborative effort to design and implement a county wide structural vulnerability evaluation. This report analyzes the data that CFPA staff collected in 2005 and 2006 for over 5,700 structures.

The objectives of this analysis are to:

- Understand the nature and distribution of factors that affect structural vulnerability throughout Curry County.
- Create a structural vulnerability data layer to incorporate in the risk assessment for the Curry County Community Wildfire Protection Plan.
- Identify significant patterns to structural vulnerability issues.
- Prioritize actions to address structural vulnerability issues.

Summary of Key Findings

The structural vulnerability data set consists of multiple variables, including roof type, defensible space, and access to a water supply. We analyzed each of these variables and looked at combinations of variables using the National Fire Protection Association (NFPA) rating as a model to calculate an overall structural vulnerability rating. We also analyzed the data from a firefighter's perspective by using the Oregon State Fire Marshal (OSFM) triage checklist to evaluate each home in the data set. Finally we analyzed the data to investigate the types of issues that the county will encounter in implementing the Oregon Forestland-Urban Interface Fire Protection Act of 1997 also known as Senate Bill (SB 360).

According to established NFPA criteria to rate structural vulnerability, 40% of lots in the county are rated as a "high" risk. The principle factors contributing to structural vulnerability throughout the county are a lack of adequate defensible space (< 30 ft.) and poor access that would prevent fire fighters from defending a home. These issues are particularly acute in the southern portion of the county.

Our analysis based on the OSFM triage form indicates that many homes in the county (35%) are difficult for fire protection personnel to access. Driveways that are narrow, steep, obstructed by overhanging vegetation, or have inadequate bridges are particularly common in the south zone where 47% of homes may not be defensible due to these access limitations. In the north zone, only 9% of homes have access limitations.

Inadequate address signage also hampers the efforts of fire protection personnel. On average 11% of the lots in the county lack address signs or signs are obscured by vegetation. This percentage is slightly higher for lots outside of a fire protection district and peaks at 31% of lots within the Agness Illahe VFD.

An analysis using the SB 360 standards suggests that approximately 88% of the lots in the county are non-compliant with one or more standards. The most common issue is an inadequate primary fuel break (69%) followed by inadequate driveway clearances (43%).

Based on these findings, the CWPT developed a set of recommendations to reduce structural vulnerability and to improve future monitoring and evaluation efforts. These recommendations focus on high priority issues and suggest strategies that local, state, federal and community members can accomplish.

What is Structural Vulnerability?

Loss of life and property are principle concerns in wildfire planning. With this in mind, structural vulnerability is an integral component of a wildfire risk assessment. The potential for structure loss is particularly acute in the Wildland-Urban Interface (WUI) – the area where structures and other human development meet or intermingle with undeveloped wildland.[87]

Structural vulnerability is a measure of a building's chance of being destroyed by a wildfire. Many factors affect structural vulnerability, including: (1) structural characteristics, (2) fuels, and (3) fire suppression capacity. Research indicates that once a structure begins to burn, it is likely to be completely destroyed. Consequently, structural survival depends on preventing ignition or quickly suppressing ignitions (Figure 5.1).[88]

Given the speed a wildfire spreads and the limited capacity of fire suppression in most rural areas, it is important to understand how fire can spread to a structure.[89]

Fire can propagate to structures in multiple ways. Radiant heat from adjacent flames may be sufficient to ignite the structure, firebrands lofted by the wind can land on the structure or fire may spread directly from adjacent vegetation, wood fencing or other flammable material. The Structure Ignition Assessment Model (SIAM) is based on case studies and experiments conducted by the Fire Sciences Laboratory at the Rocky Mountain Research Station. SIAM predicts the ignition time based on distance from a flame and its radiant heat output. Findings from SIAM and documented observations of structural survivability indicate that ignition from flame exposure occurs at relatively short distances. There is a high occurrence of structural survivability with vegetation clearances of at least 10 meters. Firebrands that cause structural ignitions can travel a distance of 1 kilometer or more. In some instances wildfires have destroyed homes without ignit-

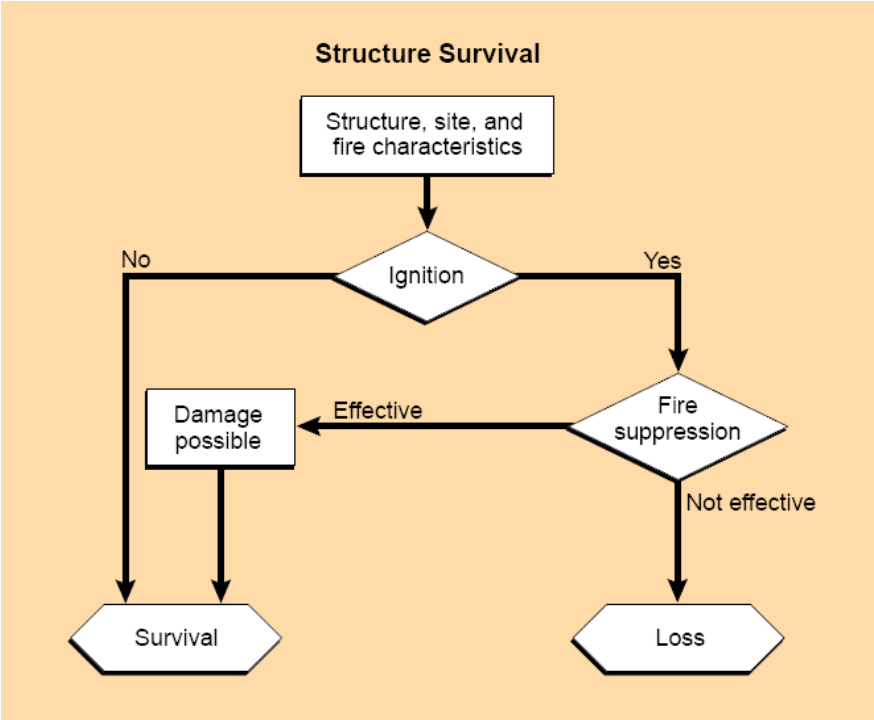
[87] SILVIS Lab, Forest Ecology & Management, University of Wisconsin – Madison, http://silvis.forest.wisc.edu/projects/WUI_Main.asp

[88] Jack D. Cohen and Jim Saveland. Structure Ignition Assessment Can Help Reduce Fire Damages in the W-UI. 1997. Fire Management Notes. 57:4 (19-23).

[89] Ibid.

ing the adjacent vegetation, suggesting that homes can be more flammable than the surrounding vegetation.[90]

Figure 5.1 Steps to structural survival or loss in a wildfire event.



Source: J. Cohen and J. Saveland. 1997. Fire Management Notes, Structure Ignition Assessment Can Help Reduce Fire Damage in the W-UI Vol. 57. 4:22.

A structure's building materials and design influence structure ignitibility. Both roofs and decks are vulnerable areas because of the large surface area to catch firebrands. Firebrands can also cause ignition after entering through exposed vents, soffits, or landing underneath decks. Enclosing these spaces with fire resistant screens reduces a structure's vulnerability. Finally, firebrands can also enter a home through open or damaged windows. Tempered double or single pane glass fractures at a much higher temperature than regular glass windows or skylights.[91]

While research indicates that structural survivability is largely a function of structural ignitability, the availability of fire suppression services can also reduce structural vulnerability. The ability to locate and access structures in the wildland urban interface is an issue identified in the Curry County Natural Hazards Mitigation Plan.[92] Specific limitations include inadequate or

[90] Jack D. Cohen. Reducing the Wildland Fire Threat to Homes: Where and How Much? 1999. USDA Forest Service General Technical Report PSW-GTR-173.
[91] Jack D. Cohen and Jim Saveland. Structure Ignition Assessment Can Help Reduce Fire Damages in the W-UI. 1997. Fire Management Notes. 57:4 (19-23).
[92] Curry County Natural Hazards Mitigation Plan. (3.1.13)

missing address signs and driveways that are long, difficult to negotiate or lack adequate space to maneuver an emergency vehicle. Once on site, fire response teams may be more effective if there is an available water supply.

Most wildfire risk assessment methodologies incorporate vegetation structure and condition at a landscape level to gauge risk over a large area. However, a structure's immediate surroundings have a direct impact on structural vulnerability. The topography of the surrounding area can influence the ability of a fire to propagate from the surrounding vegetation to the structure. Vegetation on south facing aspects tends to be more ignitable and fire can typically spread more quickly up steep slopes compared to across flat ground.[93] Vegetation near the structure, particularly overhanging branches can ignite a structure through the transfer of radiant heat or by firebrands falling on flammable building materials.

5.2 Data Collection

Methods

The methodology and survey design for this study was developed by Curry County GIS in partnership with the CFPA. CFPA staff collected data on multiple variables through an on-site evaluation of properties within Curry County with the goal of evaluating every property in high-risk areas. CFPA staff conducted surveys during the summer months of 2005 and 2006. Each of the CFPA staff involved in the survey collected data from a different zone in the county – North, Central and South. While staff initially focused on collecting information on areas outside of the Urban Growth Boundary (UGB) of the three incorporated communities in the county, they then included homes within the UGB along the edge of the city limits. CFPA staff estimate that they were able to sample approximately two-thirds of the lots countywide within the WUI.

Curry County GIS and CFPA staff developed an evaluation form to collect data and code information into a database (Appendix 5.4). When possible, CFPA staff met with the resident to obtain more detailed information for the survey and to ask permission to access the lot. While some information could be collected from a visual inspection of the property at a distance, the CFPA staff collected more data when the resident granted access to the lot. Once an evaluation was complete, CFPA staff coded the record as such. CFPA staff coded incomplete records with missing data as "not ascertained."

CFPA staff compiled the data in a database in three separate data files - one for structures, lots and driveways. The final raw data set includes nine sets of data (three for each zone, North, Central and South). We joined the data files into a single data table where each structure and driveway is linked to its correct lot.

Limitations and Assumptions

The data we analyzed represents a snapshot of the conditions at the time of the evaluation. Over time, some lots will improve as homeowners take steps to remove vegetation and otherwise reduce their home's vulnerability. Other lots may become more vulnerable if they are not main-

[93] Institute for Business and Home Safety. 2001. Firewise: A Homeowners Guide to Wildfire Retrofit.

tained. Our assumption is that an analysis of conditions in the recent past will be a valid representation of present conditions.

Some of the assessment questions are subjective and rely on the judgment of the CFPA staff evaluating the property. Each of the CFPA staff has a similar background and training and this analysis assumed that their ratings are consistent. After an initial analysis of findings, the CFPA staff involved in the study met to discuss the data quality and collection methods. Through these discussions, the group determined that CFPA staff did evaluate a few of the variables differently. These include "Roof Type," "Deck," "Debris Present," and "Vegetation Near Structure."

In some cases, the CFPA staff did not conduct a thorough evaluation if the resident was not at home or would not grant access to the property. Approximately 25% of the evaluations included in the data set are partially complete. Depending on the analysis methodology, the missing data was either imputed or incomplete records were omitted from the calculations. These circumstances are described in more detail below. Our assumption is that there is no significant difference between evaluations that CFPA staff completed and those not completed. Given the large volume of data, we are also assuming that our sample size is still large enough despite missing data to be representative of the area of analysis.

Consistency in data entry was another issue that we investigated. Most of the variables were coded in one of several ordinal categories. In some instances, an entry of "0" indicated "not ascertained." However, in other instances, a "0" indicated that the feature was not present and therefore not applicable. To distinguish between "not ascertained" data and "not applicable" data we assumed that all "0's" associated with completed surveys were in fact "not applicable" and all others were "not ascertained."

5.3 Analysis

Our analysis investigates individual variables to pinpoint specific issues in the county. We also combined sets of variables to measure different factors that contribute to structural vulnerability. The examples below illustrate some of the data in the analysis. (*Appendix 5.2 includes a complete list of the data aggregated by jurisdiction and zone.)*

Percent of homes with wood shake roofs

Curry County	6%
Agness Illahe VFD	11%

Percent of lots with defensible space less than 10 ft.

Curry County	15%
South Zone	23%

Percent of lots with no water supply

Curry County	44%
North Zone	54%

While these examples provide an indication of some of they key problems related to structural vulnerability, there are additional factors to take into consideration. Using SPSS, a statistical

software application, we applied three different methodologies to the data set to explore some of the relationships between multiple variables:

1. We used the National Fire Protection Association (NFPA) methodology to measure structural vulnerability for each lot.
2. We adapted the Oregon State Fire Marshal Triage form criteria to our data set to investigate defensibility for each home from a firefighter's perspective.
3. We rated each lot based on a set of standards described in Senate Bill 360: Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB 360) to explore the issues the county will need to address to implement SB 360.

The CFPA data set does not directly match the data used in the three rating systems described above. In the following sections, we describe the methods, limitations, and results for each analysis method separately.

NFPA Structural Vulnerability Analysis

The National Fire Protection Association (NFPA) developed a structural vulnerability rating system that is described on NFPA form 1144. It is a rating system that is widely used as a model for rating structural vulnerability and incorporates three elements: (1) structure characteristics, (2) surrounding vegetation, and (3) fire protection capacity. Firewise, a national program designed to promote wildfire safety education, incorporates the NFPA rating system into its materials. Many communities in Oregon that have completed wildfire risk assessments have based them in part on NFPA rating criteria. Table 5.1 shows a comparison between the NFPA 1144 classification criteria and the criteria used in this analysis.

Methods

While very similar to many of the NFPA criteria, the CFPA evaluation form was not designed to mirror the NFPA criteria. For example, the CFPA data used for this analysis do not include information on the history of fire occurrence, fire weather, or fire protection response. These landscape scale factors will be included in the Curry County risk assessment as separate data layers. Two factors within the NFPA methodology that are not in the CFPA evaluation are fixed sprinkler systems and separation of adjacent structures. Our assumption is that the omission of these two variables will not significantly influence the rating at the zone or county level of analysis.

A second limitation in a direct comparison to NFPA 1144 is that the data set used in this analysis does not have information on combustible eves, siding, or decks. Although CFPA staff did evaluate structures based on the presence of unenclosed spaces beneath decks, staff did not evaluate this variable consistently, so it was excluded from the analysis. Therefore, combustible building materials and unenclosed spaces may be significant issues that this analysis does not address.

The NFPA 1144 can be used for rating either individual structures or subdivisions. When rating entire subdivisions, the NFPA methodology scores the subdivision on the "predominant" characteristic (i.e. if class A rated shingles are the predominant roof material, then that roof type determines the subdivision score.) We calculated the structural vulnerability rating for each lot by taking the average score of all of the structures on that lot.

Not all of the structure records had complete data for every variable. Rather than omit these records from the data set, we calculated the average score for the county for each variable and assigned the appropriate average value in place of missing data.

Table 5.1 Comparison of significant differences between the NFPA method and information in the CFPA data set.*

NFPA 1144 Criteria	CFPA Data Set
Roof type rated for Class A, B, C	Rated for metal/tile, composition, wood shake
Fire resistant building materials	Not evaluated
Placement of Gas utilities	Not evaluated
Vegetation Fuel Models	Vegetation near a propane tank Vegetation near a woodpile Unpruned lower limbs within 30 ft. of a structure Vegetation overhanging a structure
Not evaluated	Driveway bridge adequate
Address sign meets standard (4" and reflective)	Address sign visible
Separation of adjacent structures	Not evaluated
Fixed fire protection	Not evaluated
Organized response resources	(included in a separate risk assessment for the Curry Community Wildfire Protection Plan)
Wildfire History	
Weather	

*See Appendix 5.3 for a detailed comparison for each variable in the index.

Findings

Our analysis indicates that the nearly all of the lots in Curry County have a "moderate" (49%) or "high" (40%) structural vulnerability rating. Lots with a "low rating make up 10% of the sample and only 1% of lots are rated "extreme". Since the overall rating is a composite score of multiple variables, it is useful to look at what factors increase vulnerability. Several factors stand out as key issues that are common throughout the county and contribute significantly to vulnerability.

Unpruned lower limbs within 30 ft. of a structure. 82% of the lots in the sample had unpruned lower limbs that can act as ladder fuel allowing fire to ascend into trees adjacent to structures.

Lack of defensible space (< 30ft.). 67% of lots lacked the minimum standard for defensible space and some lots had defensible space distances less than 10 ft.

No access to water supply. 44% of lots do not have access to a water supply source limiting the ability of fire protection personnel to protect structures during a wildfire.

Driveway clearance (<10 ft). Driveways crowded with vegetation pose a risk to fire protection personnel and may prevent access. Throughout the county, 36% of the lots had less than 10 ft. of driveway clearance.

Appendix 5.2 lists the frequencies for each variable in the data set by zone. Table 5.7 is a summary of key issues identified by zone and jurisdiction. A breakdown by geographic zone shows that on average, lots in the North Zone are more vulnerable than those in the Central Zone and lots in the South Zone are the most vulnerable in the county (Table 5.2).

In the South Zone, where over 50% of the lots have a high structural vulnerability rating, the following issues are high priorities:

- Driveways are more likely to be narrow (10 ft. or less), have overhanging obstructions, and be difficult to egress.
- Many lots have vegetation overhanging structures and inadequate defensible space.

In the Central zone, where 33% of lots are rated high vulnerability, the following issues are more common than in the county as a whole:

- The Agness Illahe VFD had the highest percentage of wood shake roofs at 11%.
- Fire protection personnel are more likely to encounter steep driveways in the Central zone than in other parts of the county.
- Inadequate address signage is a high priority issue in the Agness Illahe VFD.

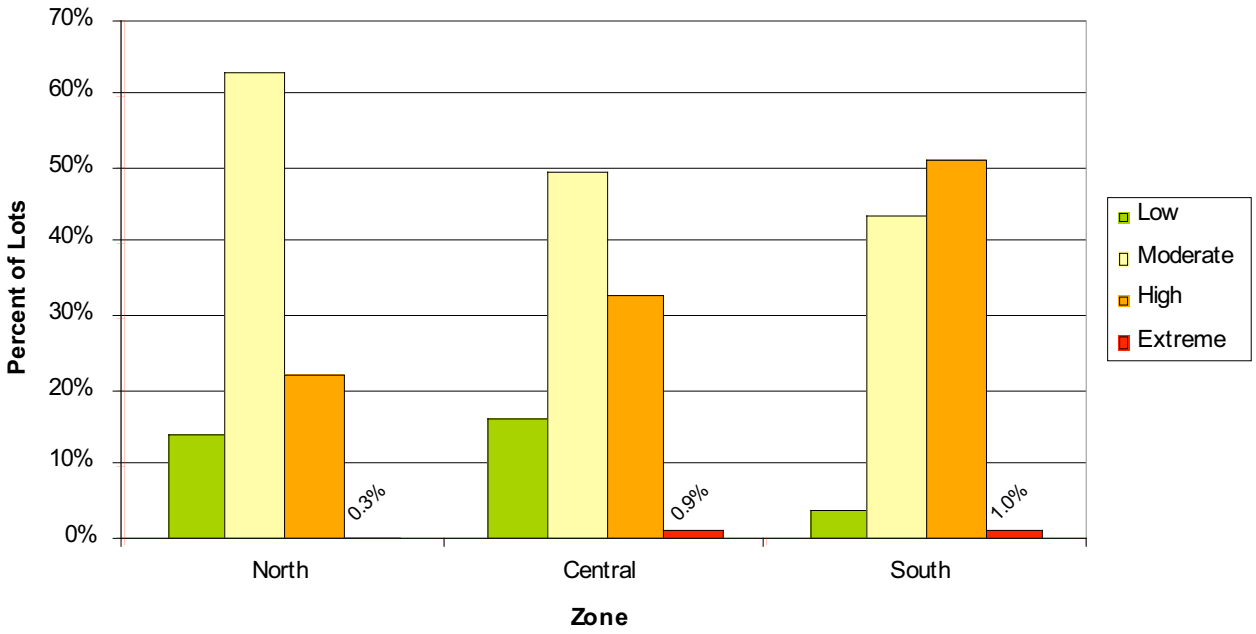
Overall the North zone has the lowest average vulnerability rating. However, these particular issues stand out:

- There is a higher percentage of homes with wood shake roofs in the North Zone compared to the rest of the county (except the Agness Illahe VFD).
- Lots in the North zone are more likely to lack access to a water supply than those in other parts of the county.

Table 5.2 Percent of lots by structural vulnerability rating for Curry County and geographic zones within the county.

	Low	Moderate	High	Extreme
North	14%	63%	22%	0.3%
Central	16%	50%	33%	1%
South	4%	44%	50%	1%
Curry County	10%	49%	40%	1%

Figure 5.2 Structural vulnerability rating for three geographic zones in Curry County.



Fire Protection Services Triage Analysis

OSFM Triage Rating System

The OSFM triage method consists of a series of "yes" or "no" questions designed to quickly assess the risk/benefit ratio of defending a home. Each "yes" response adds a point to the score.

Score	Rating
Limited Access	Automatic "*Write-Off*"
Already on Fire	Automatic "*Write-Off*"
0 - 2	"Doesn't Need Defending"
3 – 5	"Defend Aggressively"
6 – 7	"Defend Cautiously"
8 – 10	"*Write-Off*"

The Oregon State Fire Marshal (OSFM) triage form checklist (Appendix 5.5) is a tool for firefighters to use when evaluating the risk versus benefit of defending a structure during a wildfire event. The primary purpose of the triage method is to minimize danger to firefighters while focusing resources on structures that need protection and where suppression efforts are likely to succeed. Similar to the NFPA rating, structures receive a higher score for combustible materials, poor defensible space, overhead power transmission lines and other factors related to structural vulnerability. Structures with the lowest scores are rated not vulnerable and are therefore not defended. Those with the highest scores, the most vulnerable, are also not defended, because the chance of success does not balance out the risk. Firefighters defend the structures that score in the middle range.

The OSFM triage form puts a strong emphasis on firefighter safety. Firefighters will "write-off" structures that are too difficult or dangerous to access or escape from. Driveways that are too narrow or steep to back in, obstructed by overhanging branches, or lined with dead fuels are an automatic "write-off" and are not defended.

Methods and Limitations

This analysis uses an algorithm to apply the OSFM triage rating to all of the homes in the CFPA data set. The analysis uses homes rather than all structures based on the assumption that firefighters would focus their resources defending homes rather than other accessory structures.

The CFPA staff collected much of the same information required by the OSFM triage form. However, there are some key differences (Table 5.3.) Some of these differences could cause inconsistencies in the ratings. The OSFM Triage form checklist rating is based on a ten-point scale. Our rating is based on a nine-point scale. The CFPA staff did not collect data on the presence of vehicles within 30 ft. of the structure. Such vehicles pose a hazard to firefighters and add an additional point to the home's risk score. Omitting this variable could cause our ratings to be slightly lower than an OSFM rating.

Secondly, CFPA staff did not evaluate the "Deck" variable consistently; some staff scored each structure based on the presence of an unenclosed space beneath a deck, while staff in the Central Zone included all unenclosed spaces (soffits, vents, crawlspaces, etc.) in their evaluation. This inconsistency could cause the ratings in the Central Zone to be higher than those in the other zones.

Because the OSFM triage methodology codes each variable as a "yes" or "no" response, it is impossible to assume an average value for missing data. Therefore we chose to include only those records with complete data for this analysis. Of a total of 3,771 homes in the sample, 1,981 (52%) records had complete data for each variable. We are assuming that this sample is a ran-

dom subset of the total data set and is still a valid representation of conditions throughout the county.

Table 5.3 Comparison of OSFM triage checklist and data collected by the CFPA

OSFM Triage Form Checklist	Information in the CFPA Data Set
Driveway too narrow or steep to back in or branches overhanging driveway or dead, down fuels lining the driveway	Driveway > 30% grade (maximum) Overhanging obstructions Inadequate bridge Driveway width < 10 ft. (Driveways were not evaluated for dead or down fuels) Driveways less than 100 ft. were assumed to be accessible regardless of grade, width and obstructions
Driveway Dead End or Longer than 200 Feet	No egress or longer than 200 ft.
Vehicles – Parked outside within 30 ft. of structure	Not evaluated
Deck/Stilt – Not enclosed underneath (to ground)	North, South Zones – scored positive for unenclosed space beneath a deck Central Zone – scored positive for unenclosed deck, vents, crawlspaces and soffits.

Findings

Firefighter safety at the scene of an event is a hard and fast rule that is drilled into every emergency responder. This is evident in the OSFM Triage methodology, which instructs fire fighters to "write-off" any home that is already on-fire or is difficult to access or escape from. We found that 35% of homes in the county have limitations that would prevent fire fighters from defending them. The South Zone has a highest percentage of homes with access issues (47%), followed by the Central Zone (30%). Homes in the North Zone are the least likely to have access limitations (9%), as illustrated in Table 5.4.

For driveways longer than 100 ft., the most common factors throughout the county that limit access are: overhanging obstructions (26%) and narrow width (22%). Fewer driveways are limited by steep grades (6 %), but such driveways are more common in the Central Zone (13%).

These findings shed light on a serious issue for homeowners with limited driveway access. While it may be impossible to change the steepness of the driveway, clearing overhead obstructions and increasing the driveway width would significantly improve fire protection capacity for vulnerable homes in Curry County.

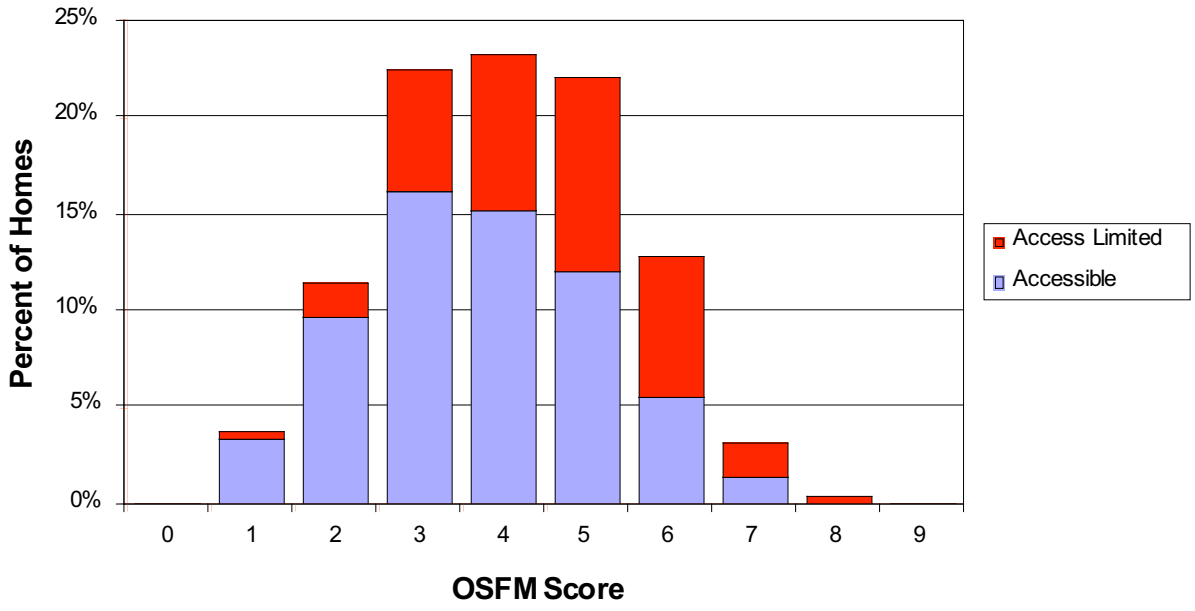
Of those homes that are accessible to fire fighters, the majority (68%) rated in the "defend aggressively category". Approximately 20% of the homes are in the "doesn't need defending" category and 11% rated in the "defend aggressively" category. Less than 1% of homes are rated as "write-offs" because of their high vulnerability (Figure 5.3).

Table 5.4 Percent of homes with an access limitation by geographic zone, Curry County.

Zone	n=	Percent of Homes with Access Limitations	Percent of Homes with Specific Access Limitations			
			Clearance < 10 ft.	Maximum Grade > 30%	Overhanging Obstructions	Inadequate Bridge
North	631	9%	4%	1%	4%	3%
Central	1,185	30%	11%	13%	23%	3%
South	1,765	47%	35%	4%	37%	1%
Curry County	3,581	35%	22%	6%	26%	2%

* Notes: 1. The sum of access limitations exceeds the percent of homes with limitations because many homes have multiple limitations.
2. Driveways less than 100 ft. are assumed to be accessible despite narrow width, steep grades or overhanging obstructions.

Figure 5.3 Percent of homes by triage rating and access limitations, Curry County.



Senate Bill 360 Analysis

Senate Bill 360, the Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB 360), establishes standards that property owners are required to meet to reduce structural vulnerability. Since SB 360 has not been implemented in Curry County, we analyzed the CFPA data to look for the types of issues that the county will encounter once the legislation is implemented.

Methods and Limitations

We created an algorithm that matches variables in the CFPA data set and the SB 360 criteria. Since the CFPA evaluation was not designed to specifically address SB 360 standards, there are some significant differences (Table 5.5). For example, SB 360 calls for a fuel break of at least 50' for some structures, but the CFPA data is coded in 10' increments with a maximum value of > 40 feet. We used the available CFPA data to come up with a measurable set of criteria that approximate SB 360 standards, which we will refer to as simply 'standards.' Despite such inconsistencies, our analysis is still useful for a general description of future challenges to implementing SB 360.

Records with "not ascertained" variables in this analysis were omitted. Of the total number of lots in the data set, 80% had complete data. We scored each structure on whether the standard was met or not met. If a structure met all of the standards it was rated compliant. We then rated each lot based on the maximum number of unmet criteria for any structure on that lot. Therefore, a lot was deemed noncompliant if any one structure on the lot was noncompliant.

Table 5.5 Comparison between SB 360 standards and information available in the CFPA data set.

SB 360 Standards	Information in the CFPA Data Set
Primary fuel break of 30' defensible space	Defensible space > 30' and minimal or moderate unpruned limbs within 30' of structure.
Secondary fuel break (additional 20' for a total of 50')– required for structures with wood shake roofs and in fire prone climates (Weather Hazard Factor 2 - areas inland from coastal weather effect).	Applied requirement to structures in the following districts based on available climate information: Agness Illahe VFD Ophir RFPD Brookings RFPD Upper Chetco RFPD Harbor RFPD Winchuck RFPD Note: The CFPA data is only coded up to > 40' Therefore structures with > 40' of defensible space and minimal or moderate unpruned limbs within 30' are assumed to be compliant
Driveway clearance 10' from centerline (20' total)	Driveway width > 15' total or less than 150' and there are no overhanging obstructions
No limbs within 10' of a chimney	Not evaluated
No dead vegetation overhanging a structure	No vegetation over the structure (live or dead)
No accumulated debris beneath a deck	Not evaluated – substituted with debris on the lot
No firewood within 20' of a structure	Not evaluated – substituted with vegetation within 20' of a woodpile.

Findings

Our analysis indicates that approximately 88% of the lots in our sample did not meet the SB 360 standards. Most lots met all but one or two criteria, as illustrated by the first column in Figure 5.4. The most common reasons that standards are not met include: 1) lack of adequate primary fuel break, 2) inadequate driveway access, and 3) debris and unpruned limbs on the lot (Table 5.6). These findings are consistent with our analysis of structural vulnerability using the NFPA criteria and the OSFM triage form and highlight the need to improve defensible space and driveway access throughout the county.

Lots in the South Zone are particularly problematic. Of the three geographic zones, the South zone has the highest percentage of lots with an inadequate primary fuel break (76%), overhanging driveway obstructions (58%) and unpruned lower limbs within 30' of structures (90%).

Figure 5.4 Percent of lots by number of unmet SB 360 standards, Curry County.

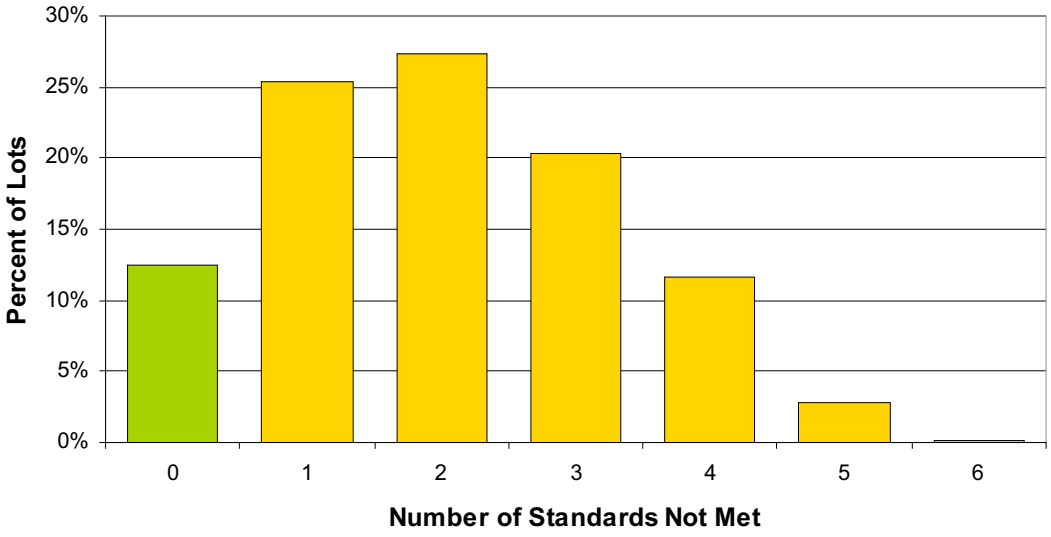


Table 5.6 Percent of lots that do not meet SB 360 standards in Curry County.

Standard	Percent of Lots That Do Not Meet Standard
Primary Fuel Break	69%
Secondary Fuel Break	3%
Vegetation Near Woodpile	23%
Vegetation Over Structure	26%
Debris Present	37%
Driveway Clearance	43%

5.4 Findings

The analyses above provide different perspectives on the problem of structural vulnerability. While each zone and jurisdiction has unique characteristics, this report demonstrates that there are common issues that can be addressed to reduce structural vulnerability throughout the county. Table 5.7 provides a summary of some of these issues and identifies jurisdictions where the issue is most prevalent. Our analysis shows that the following three issues are high priorities throughout the county and particularly in the South Zone.

1. Inadequate Defensible Space

Throughout the county a lack of defensible space is the most common issue. SB 360 calls for a fuel break of at least 30 ft. cleared of vegetation around structures, but only 31% of the lots in the county meet this standard. Many lots also have vegetation near a woodpile (15%), unpruned limbs (82%), and vegetation overhanging a structure (26%). Helping the public to understand the need to clear fuel away from structures and regularly maintain adequate defensible space could significantly reduce structural vulnerability throughout the county.

2. Access Limitations

The second most pressing issue for the county is adequate access for fire protection personnel to defend structures during a wildfire event. While the topography of some jurisdictions may necessitate steep or long driveways, regular maintenance to ensure adequate width and overhead clearance will help to reduce structural vulnerability. Countywide, 35% of homes have limited access according to OSFM triage form checklist criteria. Of those driveways longer than 100 ft., 26% have overhanging obstructions and 22% are crowded by vegetation to less than 10 ft. in width. Driveways crowded by vegetation put firefighters at risk and may prevent them from defending a structure.

3. Inadequate Address Signage

Inadequate or missing address signage makes it difficult for fire protection personnel to navigate during a wildfire response. Address signs should be clearly visible from the street, have reflective numbers and letters a minimum of 4" high, and be constructed of non-flammable material. CFPA staff rated an address sign as inadequate if it was missing or not visible from the street.

Throughout the county, approximately 1 in 10 address signs were not visible (11%). Inadequate address signs were slightly more common in the South Zone at 13%. Within individual jurisdictions, there was a wide range of variation from fewer than 2% lacking visibility in Port Orford to over 31% lacking visibility in the Agness Illahe VFD.

4. Access to a Water Supply

Many lots in Curry County that are at risk to wildfire lack a water source for fire protection. Approximately 40% of lots lack access to a water supply. Such a water supply, especially when connected to a sprinkler system could be a valuable asset in protecting structures during a wildfire event.

In addition to issues that have a direct bearing on structural vulnerability, we investigated burn barrel compliance and special needs populations. This information will help fire protection staff reduce the risk of human caused ignitions and anticipate the needs of citizens who may need extra assistance in preparing for, responding to and evacuating from a wildfire, and recovering after an event.

Burn Barrel Compliance

Human activity is an increasing source of wildfire ignitions. CFPA staff collected data on burn barrels to gauge the extent of compliance with regulations designed to minimize accidental ignitions from debris burning. To be compliant the resident must have a permit, a spark screen and nearby water source. In addition the barrel must be in an area cleared of combustible material.

Throughout the county, 5% of the burn barrels in the sample were not compliant. Non-compliant burn barrels were more common in the South Zone at 7%. Specific jurisdictions that had high percentages of non-compliant barrels are: Harbor RFPD (10%), City of Brookings (8%), Upper Chetco RFPD (7%) and 13% of lots outside of a fire protection district in the South Zone had non-compliant burn barrels.

Special Needs

Compared to the state, Curry County has a high percentage of people over the age of five with a disability. Providing assistance to these community members during an evacuation is an important task for emergency responders and knowing the location and number of residents in this population will help to plan for an efficient evacuation. CFPA staff interviewed residents and asked if anyone in the household would require assistance or medical services during an evacuation.

An important limitation to consider in this analysis is that the CFPA only collected information on special needs status when they had the opportunity to interview the resident. On average across the county, CFPA staff were able to ascertain special needs status for 74% of the lots in the data set. We assume that this is a representative sample of residents across the county.

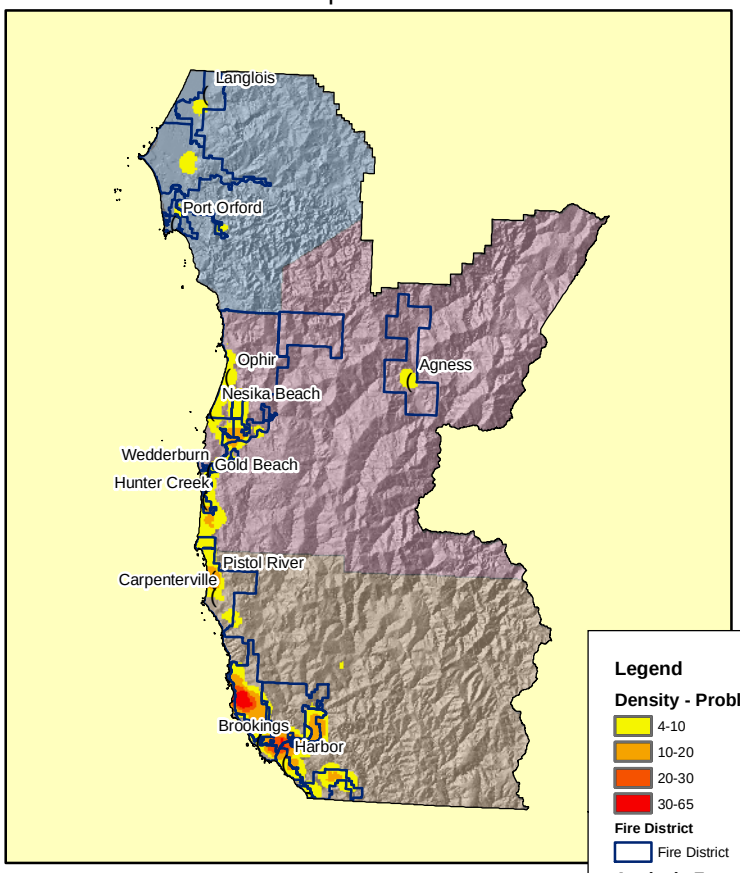
Across the county 8% of respondents identified a member in their household as a person with a special need. The South Zone had a higher percentage of people with special needs at 10% of respondents. All but four jurisdictions have identified special needs populations less than 10% except:

- Agness Illahe VFD 14% (n=42)
- Gold Beach Wedderburn RFPD 10% (n=237)
- City of Brookings 14% (n=90)
- Brookings RFPD 11 % (n=177)
- Harbor RFPD 11% (n=150)

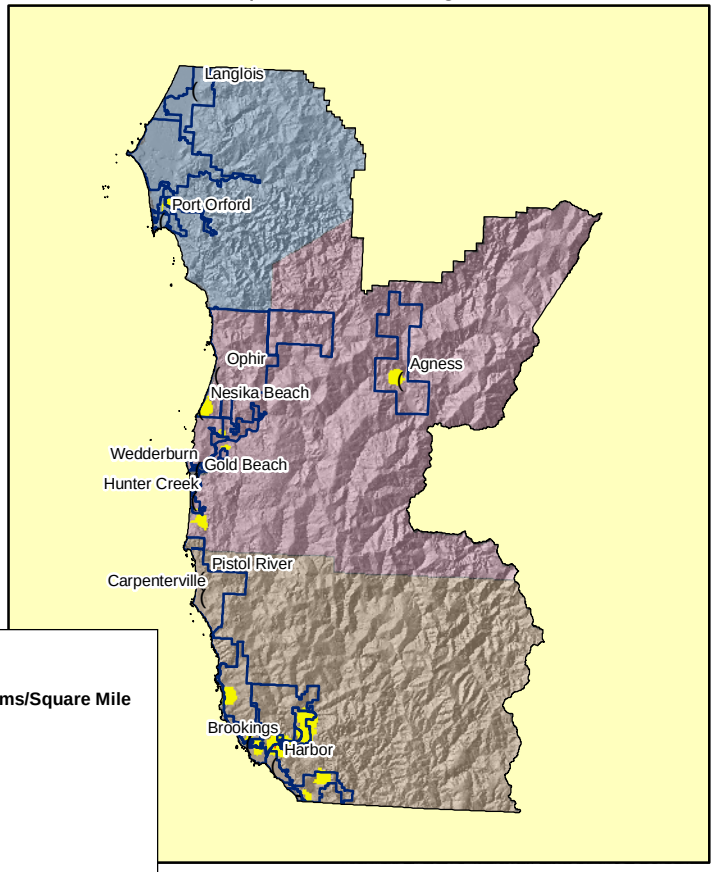
Maps - Structural Vulnerability Assessment (SVA) Maps 1 and 2

SVA maps 1 and 2 on the following pages illustrate where specific issues are most prevalent and can be used as a guide to targeted education and outreach efforts.

Inadequate Access



Inadequate Address Sign



Legend

Density - Problems/Square Mile

- 4-10
- 10-20
- 20-30
- 30-65

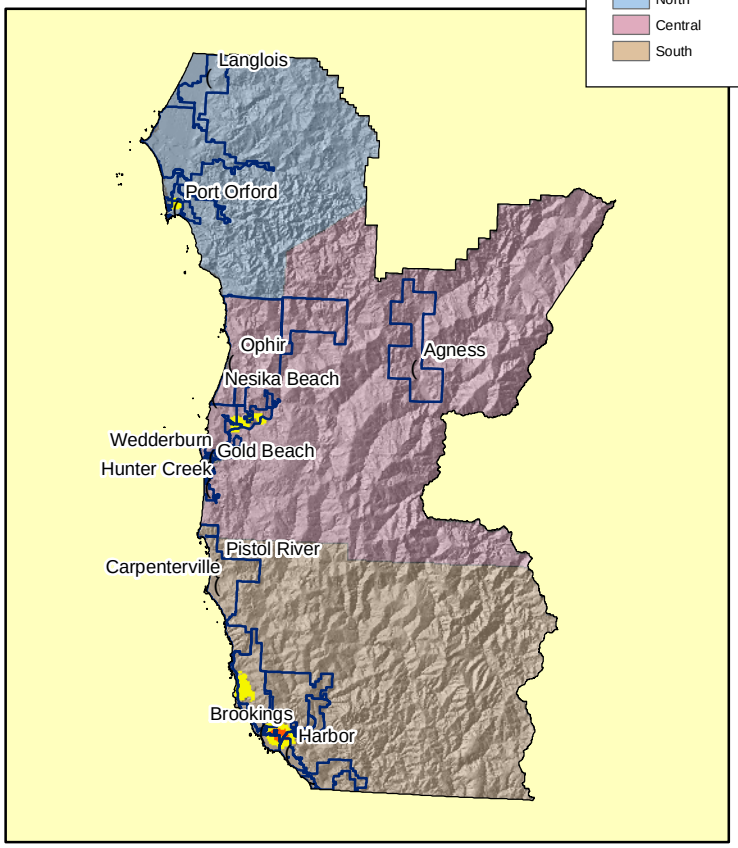
Fire District

- Fire District

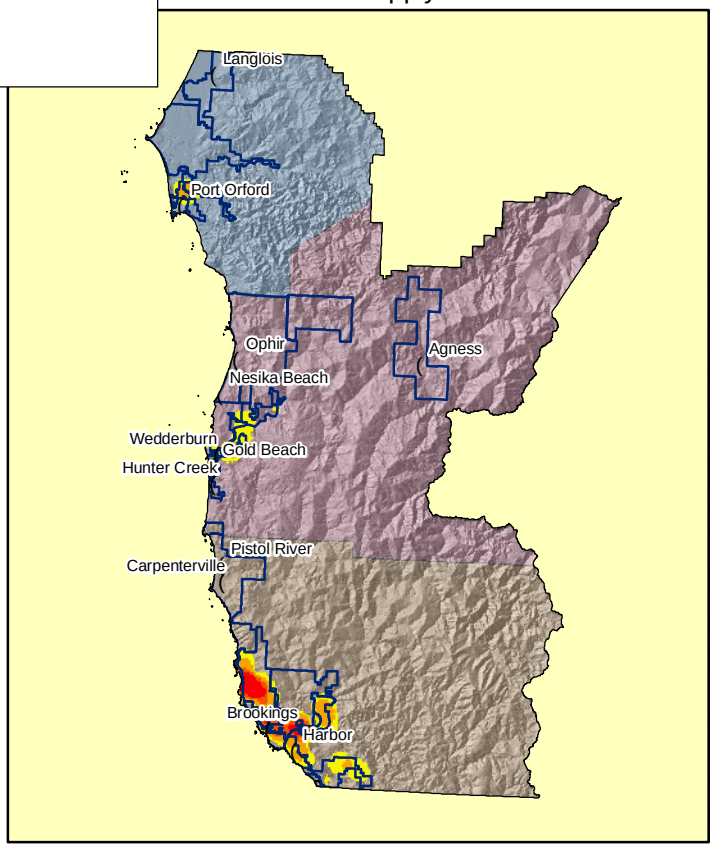
Analysis Zone

- North
- Central
- South

Wood Roof



No Water Supply

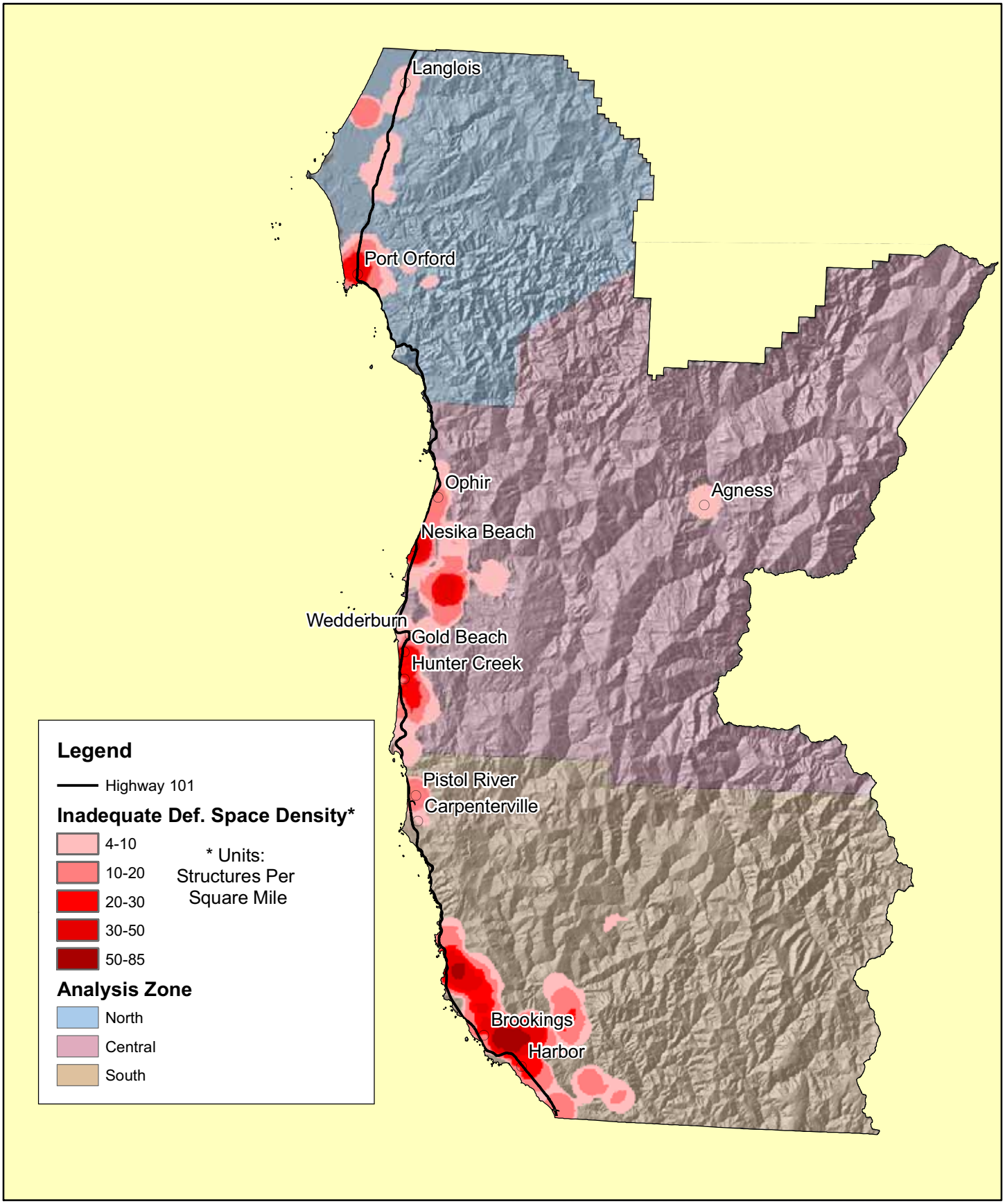


Structural Vulnerability Assessment Map 1
Inadequate Access, Address Signs, Water Supply, and Wood Roofing

0 3.75 7.5 15 Miles

Created by: Jim Wolf, February 5, 2008

CURRY COUNTY



Structural Vulnerability Assessment Map 2
Inadequate Defensible Space

N

0 2.5 5 10 Miles

Created by: Jim Wolf, February 5, 2008

Table 5.7 Issue summary by jurisdiction.

Jurisdiction		Structure Characteristics			Fuels Characteristics (percent of lots)				
		Buildings with decks with unenclosed space*	Buildings with unenclosed spaces including decks, vents, soffits, etc.*	Homes with wood shake roofs	Defensible space < 30 ft.	Unpruned lower limbs within 30 ft. of structure	Vegetation overhanging structure	Vegetation near woodpile (< 10ft.)	Vegetation near a propane tank (< 10 ft.)
North	LANGLOIS RFPD		-	XXX	X				
	PORT ORFORD		-	XXX	XX	XX			
	PORT ORFORD RFPD		-	XX	X				
	SIXES RFPD		-	X	X	X			
	Outside of a fire protection district		-		X	X			
Central	AGNESS ILLAHE VFD	-	XXX	XXX	X	XX	XXX	X	XXX
	CEDAR VALLEY RFPD	-		XX	X	XX	X	X	X
	GOLD BEACH FD	-		X	X	XX	X		X
	GOLD BEACH WEDDERBURN RFPD	-	XXX		X				
	OPHIR RFPD	-			X	XX		X	X
	Outside of a fire protection district	-	XXX	XX	X	X		XX	XX
South	BROOKINGS FD		-	XX	XXX	X			
	BROOKINGS RFPD		-		XX	XXX	X		X
	CAPE FERRELO RFPD		-		XX	XX	XXX	XX	
	HARBOR RFPD		-		XXX	XX		XX	X
	PISTOL RIVER RFPD	XXX	-		X	XXX	X	XX	XXX
	UPPER CHETCO RFPD		-		XX	XX	XX	XXX	XX
	WINCHUCK RFPD	XXX	-		XXX	XXX	XXX	XXX	XX
	Outside of a fire protection district	XXX	-	X	X	XX	XX	XXX	XXX
County	Curry County			6.2%	67.0%	81.8%	26.1%	15.1%	7.4%
Legend	X			> County	> 30%	> 75%	> County	> County	> County
	XX			> 7%	> County	> County	> 35%	> 20%	> 10 %
	XXX	Top 3	Top 3	Top 3	Top 3	Top 3	Top 3	Top 3	Top 3

Jurisdiction		Homes with driveways over 100 ft. with access limitations			Homes with driveway length > 300 ft.	Suppression Capacity		Other	
		Driveway grade	Driveway width	Overhanging obstructions		Lots with inadequate address signage	Lots with no water supply	Special needs occupant	Lots with non-compliant burn barrels
North	LANGLOIS RFPD						X		
	PORT ORFORD								
	PORT ORFORD RFPD						XXX		
	SIXES RFPD		X		XXX		XXX		
	Outside of a fire protection district				XX	XX	XX		
Central	AGNESS ILLAHE VFD	XXX	XX	XXX	XXX	XXX	X	XXX	XX
	CEDAR VALLEY RFPD	XXX	X	XX	X		X		
	GOLD BEACH FD			X				X	
	GOLD BEACH WEDDERBURN RFPD	X				X		XX	
	OPHIR RFPD	X	X	X		X			
	Outside of a fire protection district	XX		X	X	XX	X		
South	BROOKINGS FD	X	XX	X		XX	X	XXX	XXX
	BROOKINGS RFPD		XX	XX		X	XX	XXX	X
	CAPE FERRELO RFPD		XX	XX	XX		XXX	X	XX
	HARBOR RFPD	X	XX	X		XX		XX	XXX
	PISTOL RIVER RFPD		X	XX	XXX		X		
	UPPER CHETCO RFPD		XXX	XXX		XX	XX		XX
	WINCHUCK RFPD		XXX	XXX	X	XXX	XX		X
	Outside of a fire protection district	X	XXX	XX		XXX	XX	X	XXX
County	Curry County	5.9%	20.7%	25.0%		11.2%	43.7%	7.8%	4.8%
Legend	X	> County	> 10 %	> 10%	> Average	> 10%	> 30%	> County	> County
	XX	> 10%	> Average	> Average	> 30%	> County	> County	> 10%	> 6%
	XXX	Top 2	Top 3	Top 3	Top 3	Top 3	Top 3	Top 3	Top 3

* CFPA staff evaluated buildings for all unenclosed spaces (i.e. soffits, vents and decks) in the central zone, but only space beneath a deck in

5.5 Recommendations

Information in this report highlights the complex factors that can put a home or other structure at risk to wildfire. With this information, the county, CFPA, federal and state agencies, community groups, and the general public can begin to minimize these risks. This section focuses on specific recommendations to protect life and property in the wildland-urban interface (WUI). Finally, this report concludes with recommendations for future structural vulnerability evaluations, which could be a useful tool to monitor the success of wildfire mitigation strategies.

1. Strategies to Reduce Structural Vulnerability

1.a. Bring specific issues to the community through education and outreach efforts.

Landowners are the first and most effective in the line of defense against wildfire risk. CFPA, through door-to-door evaluations, have already started educating the community. CFPA staff and individual fire districts should continue to conduct outreach to residents throughout the county. Specifically community members should be informed about the high priority issues in their community and actions they can take to reduce their risk to wildfire.

1.b. Increase defensible space.

Research indicates that a minimum of 30 ft. of defensible space is enough to prevent structure ignition from the radiant heat of burning vegetation. Clearing overhead branches, vegetation around woodpiles and propane tanks reduces the risk further. Lack of defensible space is a high priority issue throughout the county; over 50% of the lots in all three zones lack a 30 ft. fuel break.

1.c. Increase access and improve address signage for fire protection personnel.

Findings from the NFPA structural vulnerability analysis and the OSFM Triage analysis underscore the importance of making lots accessible to fire protection personnel. While driveway lengths and grades may be fixed due to topography, annual maintenance of adequate width and height that is free of vegetation and downed fuel increase safety for firefighters and increase the chance that they will be able to provide fire protection. Bringing address signs up to recommended standards greatly increases fire protection personnel ability to navigate and locate structures at risk.

1.d. Install water supply particularly where access or response times are limited.

In places throughout the county where access is difficult due to steep or long driveways, or long response times, residents should consider installing on-site water capacity and sprinkler systems.

1.e. Provide grants/matching funds to target pockets of high vulnerability, or reduced community capacity.

The county should prioritize efforts to reduce structural vulnerability where it is particularly high by looking for funding sources to do fuels reduction work. Areas that have reduced community capacity because of socio-economic status or residents with special needs may require additional support to do this work. Research indicates that these at-risk communities have more difficulty than typical communities in preparing for, responding to, and recovering from wildfires.

1.f. Connect property owners with local contractors to accomplish fuels treatment work.

Local fire protection personnel can encourage fuels reduction work by making it easier for residents to find and hire local contractors to perform the work. This information could be distributed through a targeted mailing, bulleting board, newspaper ad, or public service radio announcement.

1.g. Provide targeted outreach to reduce the number of structures with wood shake roofs.

While often the least expensive option for roofing material, wood shake roofs significantly increase structural vulnerability. Outreach efforts to build awareness about the risk and grant opportunities for upgrading existing roofs will decrease vulnerability particularly in jurisdictions with a high frequency of this roof type.

2. Monitoring and Updating the Curry County Structural Vulnerability Assessment

The information in this report establishes a baseline for Curry County to continue to monitor efforts to reduce structural vulnerability. We recommend an ongoing monitoring effort to gauge the success of the fire plan in reducing risk and a periodic review of the strategies to make necessary changes.

2.a. Review accomplishments annually.

Conduct an annual assessment of accomplishments and challenges. Members of the CWPT can share information about successes and challenges and update their action plan for the next year.

2.b. Conduct a five-year evaluation and update.

Every five years the CWPT could conduct another structural vulnerability assessment and use the results to update countywide strategies to reduce structural vulnerability. Rather than attempting to evaluate as many lots as possible it would be more efficient to select a random sample of lots in the wildland urban interface and evaluate each for structural vulnerability criteria. This evaluation would give a basis for gauging progress over a longer time period, provide an opportunity to do community education and provide updated information to refine strategies.

3. Updating and Replicating the Structural Vulnerability Assessment

This assessment and report lays a foundation for future efforts to survey and evaluate structural vulnerability. This final section of the report highlights some of the lessons learned during this process and suggestions for future evaluations.

3.a. Identify an analysis methodology prior to the study.

One of the challenges with this analysis was adapting the information available in the CFPA data set to one of the existing structural vulnerability assessment methods. Being consistent with an existing method allows for comparisons across counties and states that could be informative, helps to establish credibility in the analysis and saves time in constructing an analysis method.

3.b. Establish a consistent unit of analysis

A unit of analysis is the item or object that is being analyzed. In this case it could be structures, homes, or lots. What is important about a unit of analysis is that it is consistent and compatible. It is difficult to analyze differences between two items that are not comparable. For example,

should a house have a different rating value than a wood shed? Or how should a lot with a single home be compared to a lot with two homes? Does the lot with two homes have twice the risk? Addressing the unit of analysis in the initial methodology will aid in designing a survey questionnaire that is easy to use and analyze.

3.c. Design a consistent evaluation form and data entry method

A simple, consistent, easy to use survey instrument will help to avoid inconsistencies and missing data. Traditionally entering a "0" indicates that there is not information. In some instances on the CFPA evaluation form "0" indicated, "not ascertained" but in other instances it indicated a valid response. Confusion and inconsistent data can be avoided by having a consistent value for "not ascertained" and "not applicable."

3.d. Ensure that data collection is consistent.

Another possible cause for data inconsistencies is caused by variation in the way that different staff evaluate the same criteria. Staff should receive consistent training and printed instructions to ensure that each variable is evaluated the same way. Having the staff collect data in teams where partners rotate would increase communication. Another tactic would be to have periodic check-ins during the data collection phase to each team is doing their evaluations consistently.

3.e. Use a random sampling strategy that produces representative results from a smaller sample

Using a smaller, random sample size than collected by the CFPA staff in 2005 and 2006 can still yield a valid sample and provide insight into structural vulnerability. This could decrease the time and resources needed to collect data and help staff to focus on pre-selected (random) lots to evaluate. This could lead to more complete data for each lot.

Chapter 6: Wildfire Risk Assessment

6.1 Risk Assessment Objectives and Definitions

A risk assessment is a key component of any Community Wildfire Protection Plan (CWPP). The *Healthy Forests Restoration Act* (HFRA) indicates that the risk assessment should:

"Identify the wildland urban interface (WUI), communities at risk, and high-risk areas in the county, and provide the basis for development of a prioritized list of fuel hazard reduction projects across the county that addresses both short-term (reduce fire hazards in the WUI) and long-term (forest health, ecosystem restoration, and landscape fire management) goals and strategies."

This Curry County risk assessment fulfills these requirements, as well as those in the FEMA Disaster Mitigation Act of 2000 and Oregon's Forestland-Urban Interface Fire Protection Act (Senate Bill 360). During the development of the Curry County CWPP, the Curry Wildfire Preparation Team (CWPT) used this risk assessment to identify priority fuels reduction projects and establish (WUI) boundaries in Curry County. Implementation of the Curry County CWPP will involve periodic revisions and updates to the Curry County risk assessment and fuels reduction project priorities.

What is a Wildfire Risk Assessment?

A meaningful wildfire risk assessment provides an understanding of the risk of potential losses of life, property, natural resources, and other values important to the community due to wildfire. Risk assessments can accomplish this by mapping the history of wildfire occurrence, fuel hazards, wildfire protection capabilities of the communities, and human and natural values threatened by wildfire.

Communities at Risk

A *Community-At-Risk* (CAR) is a geographic area within and surrounding permanent dwellings (at least 1 home per 40 acres) with basic infrastructure and services, under a common fire protection jurisdiction, government, or tribal trust or allotment, for which there is a significant threat due to wildfire.[94] The Curry County CWPP designates the fire districts as the communities at risk in the fire plan and provides each with a rating for overall risk and structural vulnerability (Table 6.13).

6.2 The Wildland Urban Interface (WUI)

The WUI is defined as the area or zone where structures and other human developments meet or intermingle with wildland or vegetative fuels.[95] Tactical wildfire protection actions within the WUI, along wildfire escape routes, and on strategically superior ground will help protect communities at risk from large wildfires coming from outside the WUI. Therefore, fuels treatment projects inside the WUI will usually offer the most protection for communities at risk. The im-

[94] Healthy Forests Restoration Act, 2003.
[95] State of Oregon Natural Hazards Mitigation Plan, 2004.

portance of effective fuels management on public and private land in this zone is reflected in forest policy at the federal level, with HFRA requiring federal land management agencies to spend at least fifty percent of their fuels reduction funds on projects within the WUI.

WUI Definition

The Healthy Forests Restoration Act (HFRA) defines the WUI as:

1. an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or
2. in the case of any area for which a community wildfire protection plan is not in effect-
   a) an area extending ½ -mile from the boundary of an at-risk community;
   b) an area within 1½ miles of the boundary of an at-risk community, including any land that-
      i) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;
      ii) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or
      iii) is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and
      iv) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.[96]

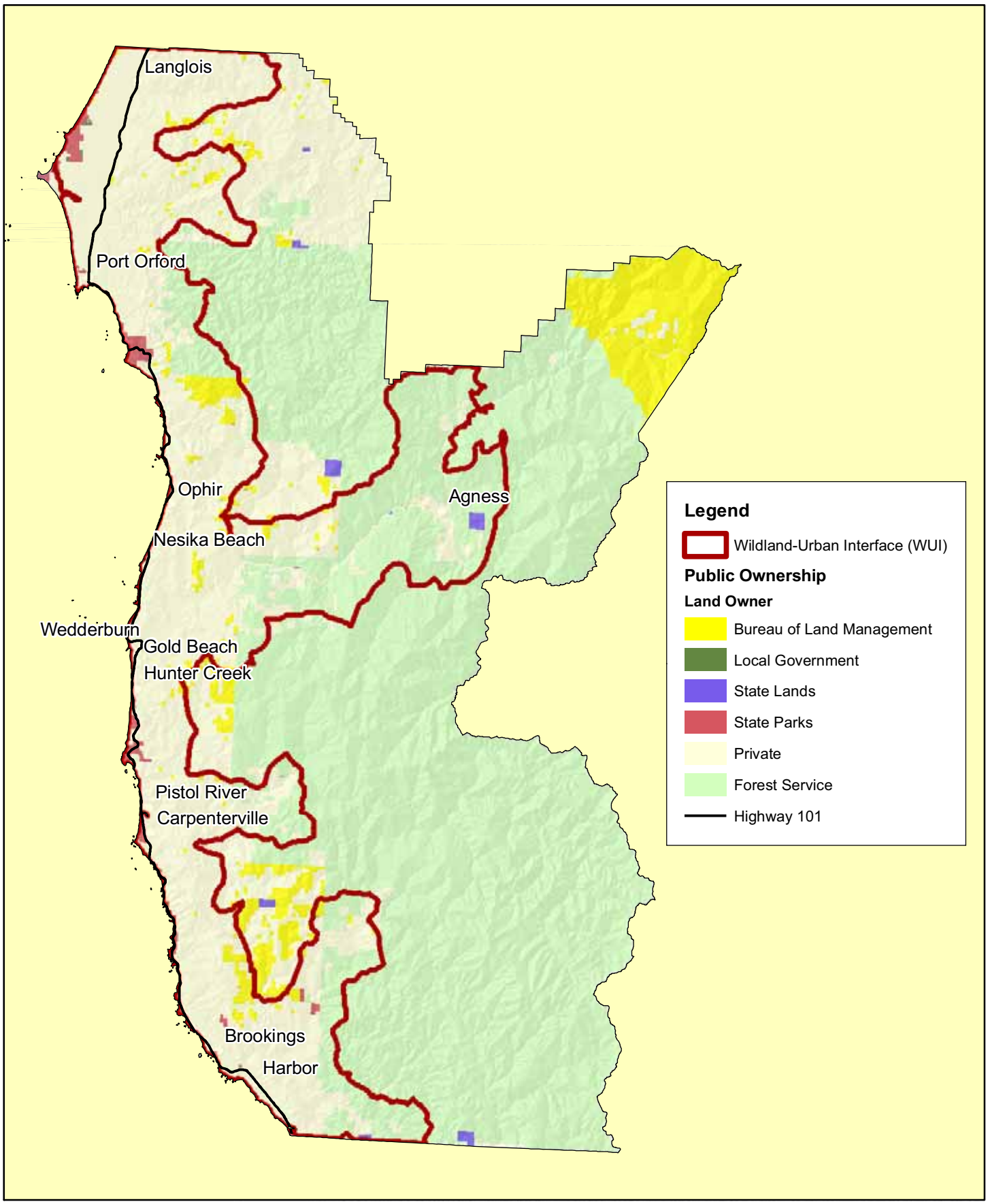
It is important to note that the WUI designation does not necessarily supersede other lands management objectives.

- No matter how large or small the WUI designation, federal agencies are still required to manage areas under their land designations in the Northwest Forest Plan. For example, if Late Successional Reserves are within WUI lines, the habitat is still managed for late successional values as outlined in the Northwest Forest Plan.
- In the Southwest Oregon Fire Mitigation Plan (SWOFMP), Late Successional Reserves, wilderness areas, and other special designation lands, although not withdrawn from the WUI classification, will need to have their objectives considered by firefighting resources and agency administrators during fire responses, but the protection of life over-rides these objectives.

Map – Wildland Urban Interface (WUI) Boundary, Curry County

The map on the following page shows public land ownership throughout the county and the WUI boundary established by the CWPT using the Curry County risk assessment.

[96] Healthy Forests Restoration Act of 2003.



N

0 2 4 8 Miles

Wildfire Risk Assessment Map 1
Wildland-Urban Interface (WUI) and Public Ownership

Created by: Jim Wolf, February 5, 2008

The Curry County CWPP Wildland Urban Interface (WUI) Boundary

The CWPT established the WUI boundary for the Curry County CWPP by integrating information from multiple sources. The 2004 Southwest Oregon Interagency Fire Management Plan (SWOFMP) describes a WUI boundary based on communities at risk and topographical features that serve as tactical locations for fire breaks. The CWPT used the SWOFMP boundary as a starting point, and then extended the boundary to include smaller communities particularly in the southern portion of the county and the Agness-Illahe Road, an important transportation corridor. In redrawing the WUI boundary, the CWPT relied on criteria established by the statewide Communities-At-Risk (CAR) assessment and local knowledge of appropriate ridgelines and watershed boundaries to serve as guidelines in establishing the WUI.

Prior to adopting the WUI boundary, the CWPT solicited comments at three public meetings; one each in the incorporated communities of Brookings, Gold Beach and Port Orford.

Lands within a designated WUI, as defined in an accepted CWPP, are eligible for National Fire Plan (NFP) grant funding to accomplish fuels reduction work. On private lands, federal agencies prioritize funds through the NFP for projects submitted by communities according to the designation of a Community at Risk, and adjacency of the proposed project to federal lands at high risk from wildfire. On federal lands, agencies prioritize fuels funds for projects, in municipal watersheds, near endangered species habitat, and on Condition Class III lands. Projects that link private and public fuels reduction efforts are also given high priority. Communities with an adopted CWPP can submit locations and methods for fuels reduction projects on adjacent federal lands, the Curry County CWPP WUI line includes federal lands adjacent to communities providing opportunities for targeting such high risk acreage for treatment.

6.3 Risk Assessment Methodology

The Curry County wildfire risk assessment used the state methodology developed by the Oregon Department of Forestry (ODF) as a guide for the local assessment. The methodology includes four factors typically used in assessments of wildfire risk: 1) the risk of wildfire occurrence; 2) fuel hazards; 3) wildfire protection capabilities of the communities; and 4) human and natural values threatened by wildfire. The structural vulnerability assessment data (Chapter 5) was used as a fifth factor to identify where the most vulnerable structures were adjacent to the highest risk areas. A data layer, or map, of each of these factors was created using GIS, then each layer was combined to create a map that displays the highest risk areas throughout the county.

This section describes how each of the data layers was created for the Curry County risk assessment. In total the assessment includes more than 20 different data sources. CWPT input was also essential to the process; they developed evaluative criteria and assigned weight, or importance, to each of the data layers that was used to calculate the overall risk score.

Ignition Risk

Ignition risk is the likelihood of a fire occurring in any given area, based upon historic wildfire ignition locations from the Oregon Department of Forestry (ODF), Bureau of Land Management, and U.S. Forest Service. The source to this data is from the Oregon Communities At Risk assessment. In that assessment, eighteen years of data (1986-2003) was used. A density grid was created using the ignition points and converted to fires per 1,000 acres per 10 years. Table 6.1 illustrates the rating assigned to historic fire occurrence.

Table 6.1 Risk rating based on historic fire occurrence.

Historic fire occurrence per 1000 acres per 10 years	Rating
(Low) 0-.1	1
(Moderate) .1-1.1	2
(High) 1.1+	3

Wildfire Hazard Map

Wildfire hazard refers to the resistance to control once a wildfire starts and is largely determined by weather, topography, and fuel that adversely affects suppression efforts. The hazard map identifies areas where the condition of vegetative fuels is such that, if ignited, they would pose a significant threat to the community, essential community infrastructure, or other resources. The three factors that represent the Fire Behavior Triangle - vegetative fuels, weather, and topography - were used to evaluate hazard.

The Curry County risk assessment used FARSITE and FLAMMAP software applications to calculate various fire behavior outputs needed for the assessment. Flame length and crown fire activity were used to assess hazard due to their relationship with fire intensity, which is closely related to resistance to control and potential to damage values at risk. Flame length is represented in feet. Generally, fires with flame lengths less the 4 feet can be contained using hand tools. Flame lengths of 4-8 generally require mechanized equipment and water. Flame lengths of 8 feet or more generally require helicopter, air tanker or indirect attack tactics. Fires that burn the canopies of trees (crowning) create intense heat and produce embers that can start spot fires a mile or more ahead of the main fire. Crown fire activity is represented as either surface (1), passive crowning (2), or active crowning (3). Table 6.2 illustrates the values assigned to the hazard from the fire behavior outputs.

Table 6.2 Hazard rating based on potential fire severity.

Crown Fire Activity		Flame Length	Additional criteria	Rating
-		0		(0) Very Low
1	And	1-4′		(1) Low
2	Or	4-8′	And Not Low or High	(2) Moderate
3	Or	> 8′		(3) High

Model Inputs

Vegetative Fuels: FARSITE and FLAMMAP require five vegetative inputs to run: fuel model, crown closure, crown bulk density, crown base height, and stand height. Recently released LandFire data was evaluated and found to not represent fuel conditions in Curry County as well as the data used in the Southwest Oregon Fire Management Plan (SWOFMP). LandFire data did not distinguish the evergreen hardwoods (tan oak, madrone, etc) that are a significant influencer or fire behavior. However, the SWOFMP data were inferred from 1996 satellite imagery and

needed to be refined and updated to represent current conditions. The following steps were taken by a group of subject matter experts and the CWPT to update the data:

1. Minor modification to the grass and brush fuel models to better represent current conditions.
2. Modified fuel conditions to reflect the areas of shore pine near Floras Lakes (higher intensity, greater crown fire activity).
3. Updated fuel conditions in the Blossom Fire using burn intensity data from the U.S. Forest Service Remote Sensing Applications Center.
4. Updated fuel conditions in harvest areas from 1995 to 2004 using change detection data from the Oregon Department of Forestry.

Areas of **gorse**, a highly flammable exotic invasive brush species, was not modeled in the hazard evaluation because the data was not available when the assessment was done. However, after infestations were mapped, the data was included as an overlay to the map that was used to identify priority fuels reduction sites.

Topography: FARSITE and FLAMMAP require three topographic inputs to run: slope, aspect, and elevation. These were included in the SWOFMP data set.

Weather: Weather and fuels conditions can vary significantly across Curry County. To account for this variation, fire behavior was calculated for three geographic zones derived from eco-region data for the State of Oregon.

Table 6.3 Eco-region and zone descriptions in Curry County.

Eco-region	Zone
Coastal Uplands, Coastal Lowlands	1 (wet)
Southern Oregon Coastal Mountains	2 (moist)
Redwood Zone, Coastal Siskiyous, Inland Siskiyous, Rogue/Illinois Valleys, Serpentine Siskiyous, Siskiyou Foothills, Umpqua Interior Foothills	3 (dry)

Weather stations were identified for each zone and data obtained and analyzed from the Western Regional Climate Center (WRCC). Below are stations and fuel moistures (based upon 90th percentile Energy Release Component (ERC) July-September) used for each zone.

Table 6.4 Fuel moisture data for zones in Curry County.

	Zone 1 - Wet	Zone 2 - Moist	Zone 3 - Dry
Station	Seven Mile, Gold Beach	Flynn Prairie, Red Mound, Bald Mtn	Quail, Agness
1-hr	8.9	6.2	4.7
10-hr	10.0	7.0	5.6
100-hr	16.1	10.2	9.2
Herb	140	60	46
Woody	130	96	82

The weather analysis found that there was not a significant variation of wind between these zones. Data from the WRCC was used to identify wind direction for the strongest winds (see the example for Flynn Prairie weather station). The strongest winds occur from the north to north-east. Some stations showed moderate winds from the south. Wind speed was determined by downloading hourly wind speed data, calculating an average of the *10-minute speed* and *gust* for each record, then determining the 90th percentile (August – September) value for each station. An average of the stations was used (see below).

Table 6.5 Wind speed data for Curry County.

Wind Speed (mph)	Agness	Quail	Red Mound	Flynn Prairie	7 mile	Average
90th percentile average of 10-minutes average and gust	12	13.5	19	13	17	14.9

Protection Capability Map

This data layer illustrates the capability of fire districts or communities to provide an effective response to wildfires based on the wildland personal protective equipment and training, as well as distance from roads. Fire Department equipment and training levels were obtained from the Cal-Ore Mutual Aid Fire Resources Inventory. Table 6.6 lists the factors, ratings and weight for each factor.

Table 6.6 Protection capability rating criteria.

Factor	Rating	Weight
Capacity for Effective Wildland Response		60%
Within a district, has both wildland PPE and training	1	
With a district, lacking wildland PPE or training	2	
Outside a district	3	
Distance from Roads (feet)		40%
0	1	
1-300	2	
300-1,320	3	
1,320-5,280	4	

Values At Risk Map

The values-at-risk map illustrates human and economic values associated with communities or landscapes. This map identifies specific human improvements and other values within or adjacent to the community that would be adversely impacted by wildfire. Three factors are evaluated

and weighted (Table 6.7) as described below, and normalized to a 1- 4 scale (lowest to highest risk).

Residential Housing: This layer evaluates the density of residential structures. A density grid was created from point locations of residences (Centroids of improved lots, source: Curry County GIS) and converted to residences per square mile (source: Oregon Communities-At-Risk Assessment).

***Municipal Watersheds*:** This layer identifies the presence of watersheds important for municipal water supply. The Port Orford municipal watershed is mapped (source: Oregon Communities At Risk Assessment).

Commercial Forests: This layer evaluates potential economic loss of commercial forests based upon use (source: Oregon Communities At Risk Assessment).

Table 6.7 Factor weights and ratings for values at risk.

Factor	Rating	Weight
Residential Housing - Homes per 40 acres		50%
<1	1	
1-19.9	2	
20+	3	
Municipal Watersheds - Population per acre of watershed		30%
0-.9	1	
1-1.9	2	
2+	3	
Commercial Forests		20%
Non-Forest Or Reserve	1	
Multi-Resource Managed Forests	2	
Private Production Forests	3	

6.4 Analysis - Weighting and Ranking

The CWPT assigned the following weights for determining the overall risk of the four primary factors (risk, hazard, protection capability and values at risk). This layer is to be used when structural vulnerability is used as a separate overlay or when it is not a factor to be considered.

Table 6.8 Factor weights for the four primary risk assessment criteria.

Factor	Factor Weight
Ignition Risk	15%
Hazard	40%
Protection Capability	15%
Values At Risk	30%

When summarizing data for all five factors in a single layer, the CWPT weighted structural vulnerability equally with the other four combined.

Table 6.9 Factor weights for combined criteria.

Factor	Factor Weight
Overall Risk of Ignition, Hazard, Protection, and Values At Risk	50%
Structural Vulnerability	50%

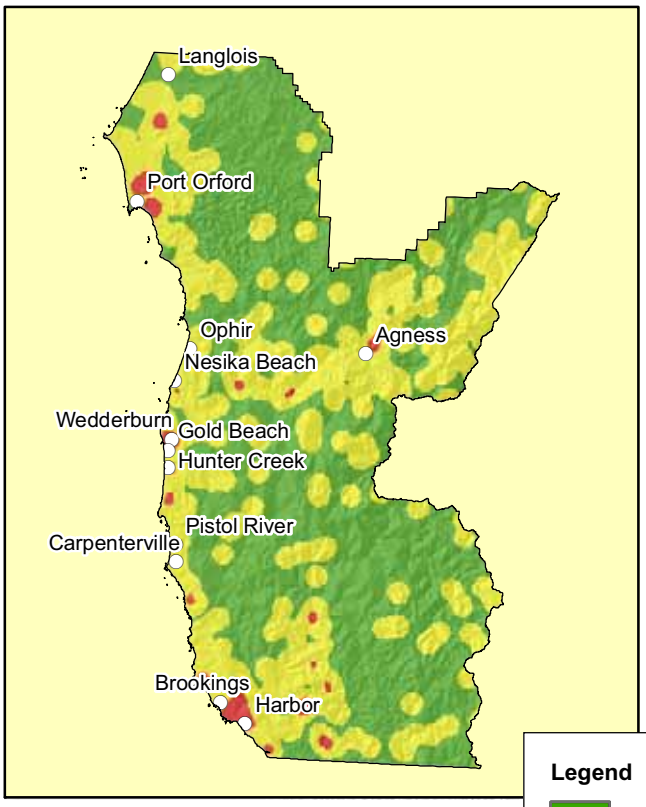
Maps - Wildfire Risk Factors , Structural Vulnerability, and Overall Risk

Map 2 on the following page shows separate maps for each of the four risk factors used in the Curry County risk assessment.

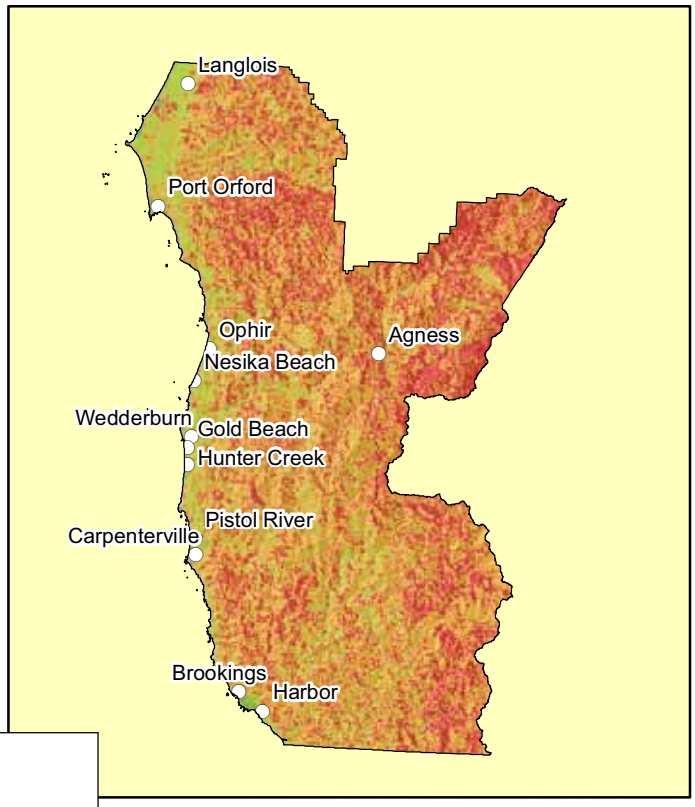
Map 3 shows the data layer for the structural vulnerability factor. The structural vulnerability rating determined in the structural vulnerability assessment (Chapter 5) was assigned to each lot. An interpolation process was used to convert the structural vulnerability rating data for each lot into a grid layer. The rating of each grid cell was determined by averaging the structural vulnerability rating of all rated lots within ¼ mile.

Map 4 displays the overall risk rating including all the factors used in the risk assessment.

Ignition Risk



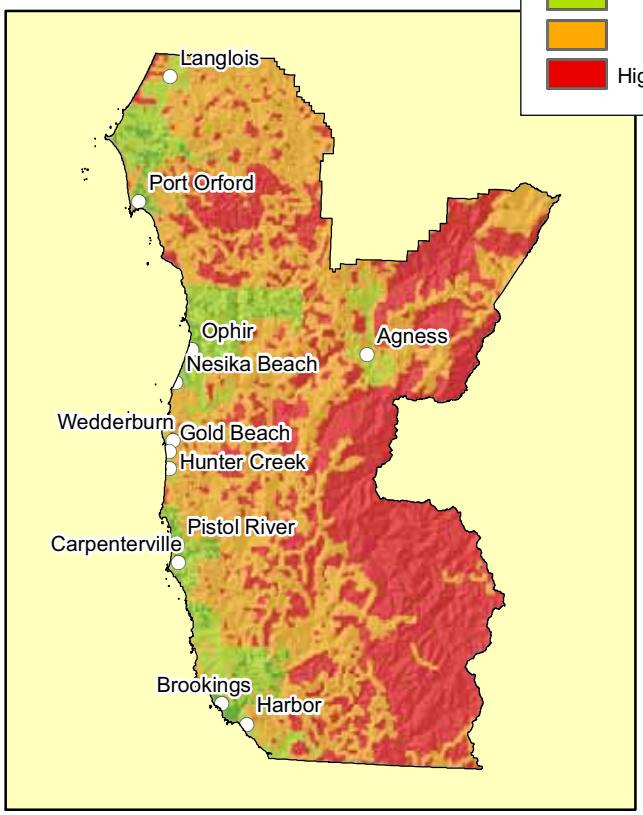
Hazard



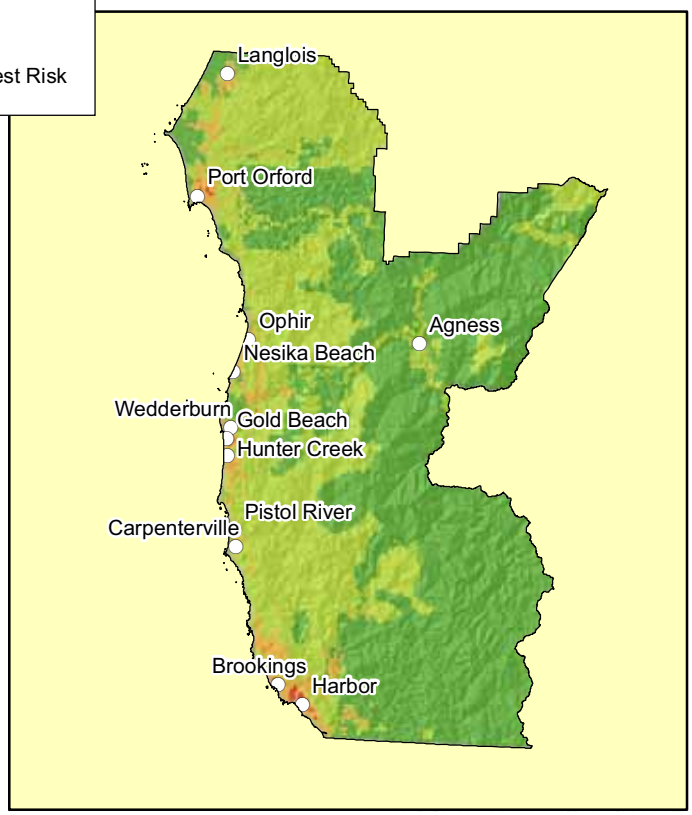
Legend

- Lowest Risk
-
-
- Highest Risk

Protection Capability



Values At Risk

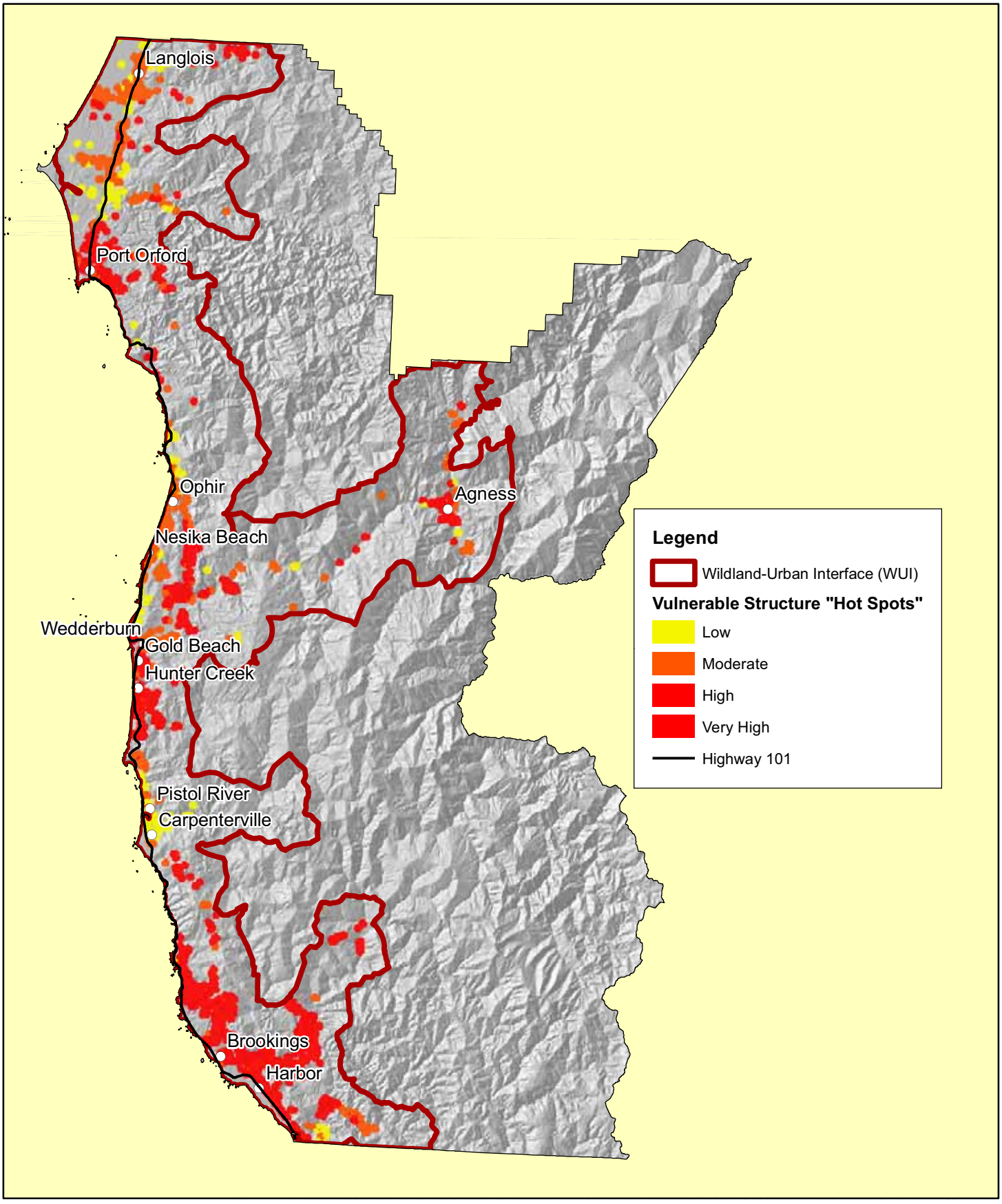


N

0 4.5 9 18 Miles

Wildfire Risk Assessment Map 2
Risk Assessment Factors

Created by: Jim Wolf, February 5, 2008

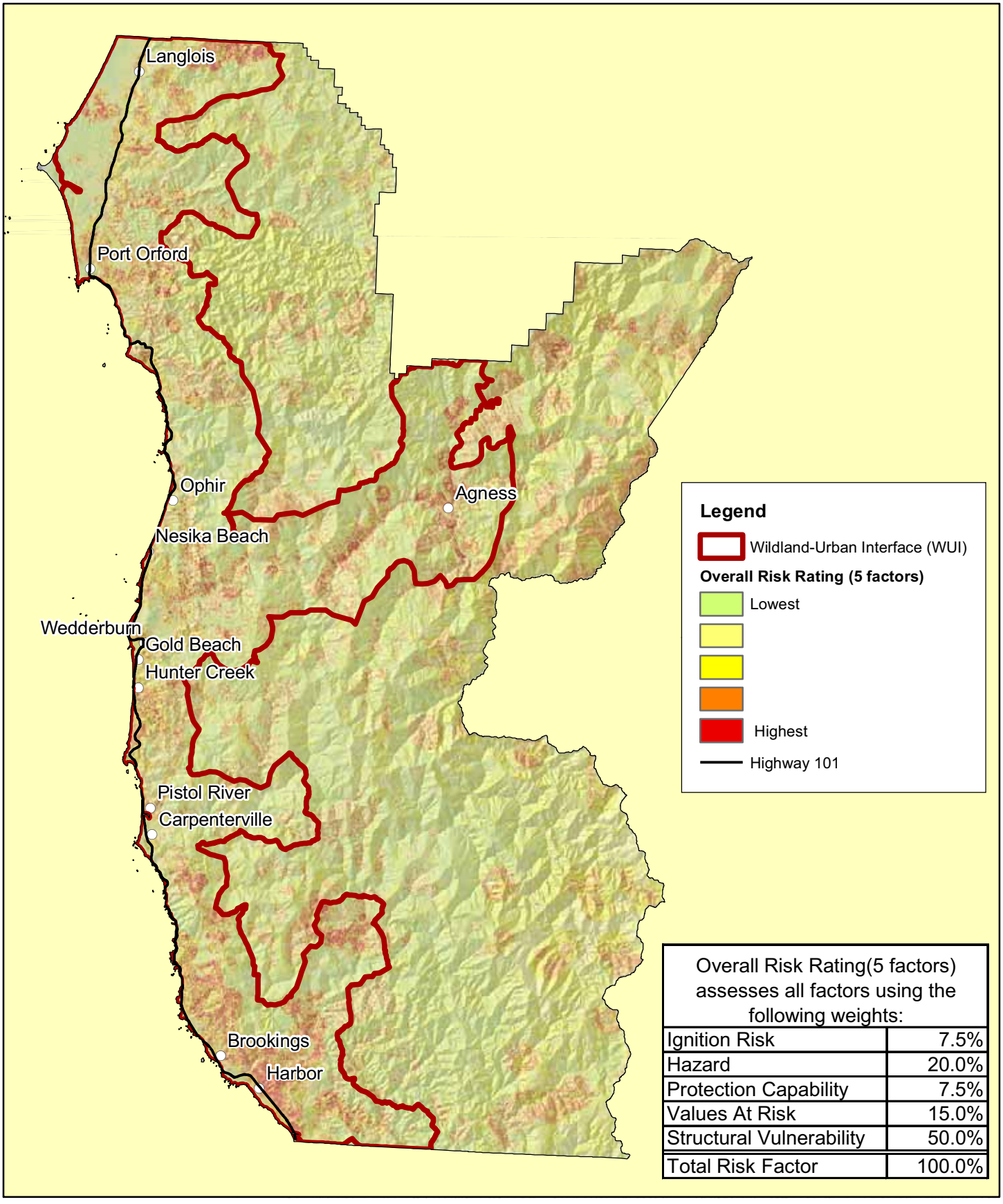


N

0 2 4 8 Miles

Wildfire Risk Assessment Map 3
Structural Vulnerability Assessment

Created by: Jim Wolf, February 5, 2008



Overall Risk Rating(5 factors) assesses all factors using the following weights:	
Ignition Risk	7.5%
Hazard	20.0%
Protection Capability	7.5%
Values At Risk	15.0%
Structural Vulnerability	50.0%
Total Risk Factor	100.0%

N

0 2 4 8 Miles

Wildfire Risk Assessment Map 4
Overall Risk Rating

Created by: Jim Wolf, February 5, 2008

6.5 Findings

This section is split into two portions. The first describes the community risk assessment according to the quantitative analysis of the risk factors described above. The CWPT used these finding, plus input from the public, and their local knowledge to prioritize potential sites for fuels reduction treatments. These findings are the first step in conducting fuels reduction work. Further work to scope the project on the ground, complete any necessary environmental assessments, and discuss treatment options with impacted community members will occur prior to implementing any of these projects.

Planning and Action

Conducting a comprehensive risk assessment is the first step to on-the-ground accomplishments. Doing the work will involve multiple partnerships with lands managers, community members, contractors and other stakeholders. As projects are completed, the CWPT will revise the Curry County risk assessment to identify new priorities and adapt to changes in wildfire risk.

photos: (left) public meeting participants identify high risk areas, Resource Innovations. (right) local contractors reduce wildfire risk and provide local economic opportunity, Firewise.org

Community Assessment

Risk assessment data is summarized for each community. For this assessment, community is determined by the boundary of the fire district. Only portions of the communities within the WUI boundary are considered.

Several factors are evaluated for each community. When planning potential mitigation actions, it's important to consider the factors appropriate to the mitigation. For example, a community may have a high *overall* score, but may have a low *hazard* score. In this case, planning fuels reduction projects may not be the most advantageous.

In the table below, each community is assessed for: 1) the average rating based upon overall risk (all 5 factors); 2) structural vulnerability only; and 3) hazard only. In addition, an estimate of the number of high risk homes was determined by counting improved lots within areas with moderate-high structural vulnerability AND high overall risks.

Ratings were then ranked for each factor based upon being in the highest 1/3rd of communities (shaded and bold font), middle 1/3rd (shaded), or lowest 1/3rd. For determining an overall com-

munity ranking, a score was calculated for each community by summing a value for each factor based upon being in the top 1/3rd (3 points), middle 1/3rd (2 points), or lowest 1/3rd (1 point).

Table 6.10 Community ranking based on overall risk, structural vulnerability and hazard.

Community	Mean of Various Ratings by Community			Estimated # High Risk Homes	Overall Priority Score
	Overall Risk (5 Factors)	SVA	Hazard		
North					
PORT ORFORD RFPD	2.97	2.23	1.32	342	6
LANGLOIS RFPD	2.58	2.00	1.47	33	6
SIXES RFPD	2.09	2.23	1.38	9	4
Central					
CEDAR VALLEY RFPD	**3.10**	2.39	1.71	143	9
GOLD BEACH-WEDDERBURN FD/RFD	**2.97**	2.15	1.08	**1167**	8
AGNESS ILLAHE VOL FD	2.64	**3.01**	**2.01**	39	9
OPHIR RFPD	1.92	2.44	1.65	6	6
South					
HARBOR RFPD	**3.59**	2.44	1.45	**793**	9
CAPE FERRELO RFPD	**3.49**	**2.57**	**1.85**	**614**	**12**
UPPER CHETCO RFPD	**3.47**	**2.95**	**1.84**	130	**11**
WINCHUCK RFPD	2.94	**2.53**	**1.79**	82	**10**
BROOKINGS FD/RFD	2.52	**2.69**	1.79	**1163**	9
PISTOL RIVER RFPD	2.25	2.44	1.60	43	7
County-No Structure Protection	2.55	2.50	**1.80**	**935**	**10**

Fuels Reduction Priorities

The CWPT determined the following fuels treatment priorities on public and private land based upon review of risk assessment maps and input from community meetings:

1. **Communications**: Protection of agency communications sites is the highest countywide priority. County communications systems (911) is non-redundant and the loss of a single site could disable several more. Table 6.11 includes a list of sites and their average overall rating (4 factors). Ratings were based upon being in the highest 1/3rd of sites (shaded and bold font), middle 1/3rd (shaded), or lowest 1/3rd.
2. **Gorse**: Treatment of gorse infestation areas is the second highest overall priority. Table 6.12 includes a list of sites, intensity of the infestation, approximate acres, and the average overall rating (5 factors). The intensity of the infestation is described as (1) limited or scattered distribution or (2) heavily infested, near monoculture. Ratings were based upon being in the highest 1/3rd of sites (shaded and bold font), middle 1/3rd (shaded), or lowest 1/3rd.
3. **Vulnerable structures**: Protection of vulnerable structures is the third overall priority. The priorities were assigned by the CWPT as shown in Table 6.13.

Table 6.11 Priority fuels projects adjacent to critical communications infrastructure.

Name	Mean Risk Rating (4 Factors)	Land Owner	County 911	Priority
North				
Edson Butte	**3.18**	BLM	N	
Stone Butte	2.88	PV	N	
Blanco	1.40	State	Y	
Central				
Grizzly Mountain	**3.61**	BLM	Y	Very High
Agnes	2.70	USFS	Y	High
Iron Mountain	2.37	USFS	N	
South				
Red Mound	**3.24**	PV	N	
Bosley Butte	**3.18**	BLM	Y	High
Black Mound	2.61	BLM	Y	Moderate
Palmer Butte	2.44	BLM	N	

Table 6.12 Priority fuels reduction projects that target gorse infestations.

Name	Intensity	Approx. Acres	Mean Risk Rating (5 factors)	Priority
North				
Blanco/Elk River	**2**	**7,368**	2.45	High
Port Orford Airport	**2**	**705**	1.84	Moderate
Rocky Point	1	65	**4.03**	Moderate
Port Orford Water Supply	1	**870**	**3.71**	High
Knapp Road	1	**936**	**3.42**	High
Langlois Mountain Road	1	544	2.67	
Sea Wind Farms	1	**2,205**	2.65	Low
Bennett Butte	1	44	2.15	High
Langlois Mountain RD - West	1	0	1.50	Mod./High
Central				
Eighty Acre RD	1	17	**4.25**	
Ferguson Ranch	1	240	2.28	Moderate
Jerry's Flat RD	1	40	1.97	High
South				
Harris Beach	1	144	**2.87**	High
Rainbow Rock	1	121	2.55	Mod./High

Table 6.13 Priority fuels reduction projects to communities with vulnerable structures.

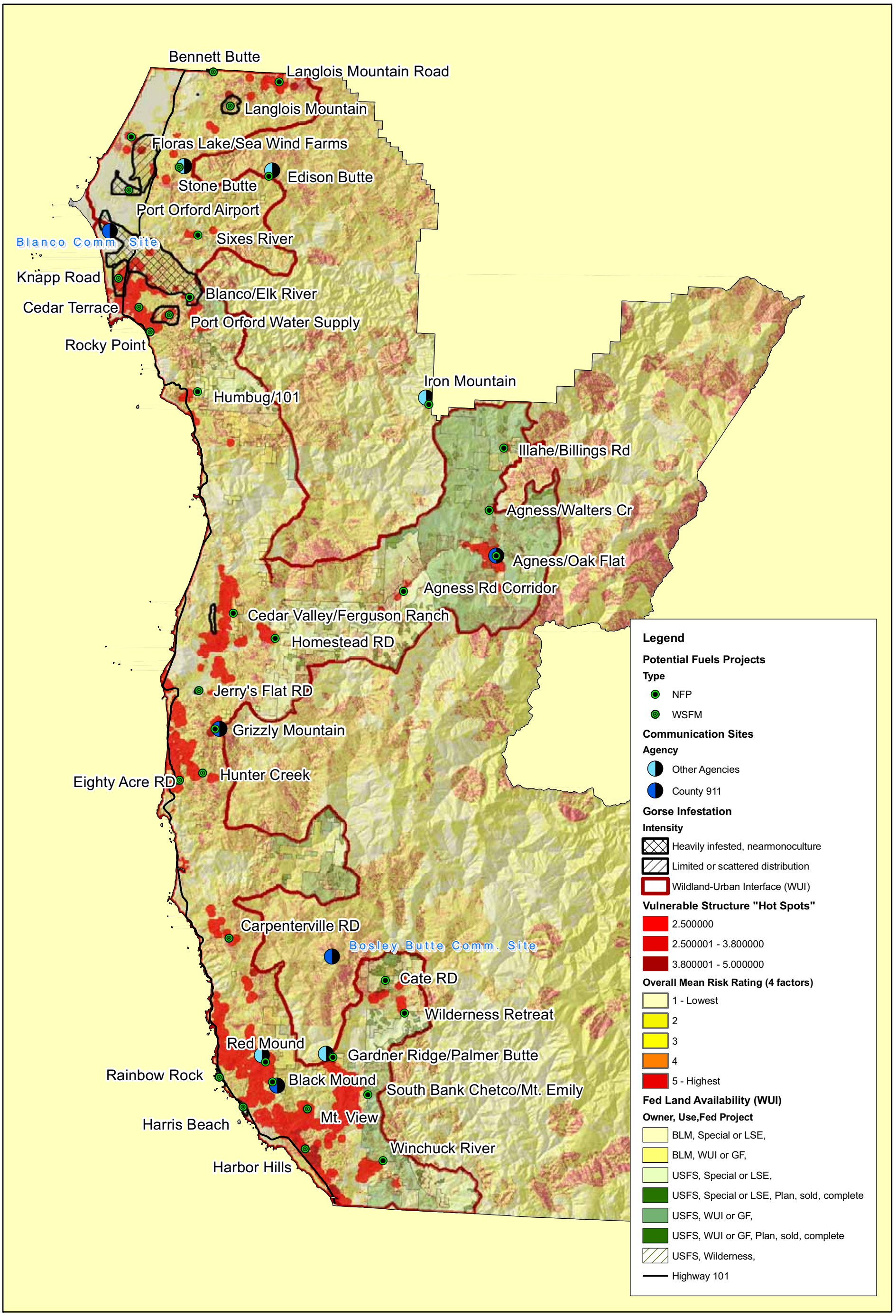
Name	Jurisdiction	Priority
NORTH		
Floras Lake	Langlois RFPD	High
Humbug/101	County Unprotected	Low
Langlois Mountain Road	County Unprotected	Low
Elk River	Port Orford RFPD	
Cedar Terrace	Port Orford RFPD	High
Knapp Road	Port Orford RFPD, None	High
Sixes River	Sixes RFPD	
CENTRAL		
Agness/Oak Flat	Agness Illahe Vol FD	High
Illahe/Billings Rd	Agness Illahe Vol FD	High
Agness/Walters Cr	Agness Illahe Vol FD	High
Cedar Valley	Cedar Valley, Ophir RFPD	High
Agness Rd Corridor	County Unprotected	High
Homestead Rd	County Unprotected	Low
Grizzly Mountain RD	County Unprotected	
Hunter Creek	County Unprotected	
SOUTH		
Mt. View	Brookings RFPD	High
Red/Black Mound	Brookings RFPD/Cape Ferrelo RFPD	
Harbor Hills	Harbor RFPD	High
Wilderness Retreat	County Unprotected	
Cate Rd	County Unprotected	
Carpenterville Rd	None, Pistol River and Cape Ferrelo RFPD	
South Bank Chetco/Mt. Emily	Upper Chetco RFPD, County Unprotected	High
Gardner Ridge	Upper Chetco RFPD/Brookings FD	
Winchuck River	Winchuck RFPD	

Priority Sites for Fuels Reduction Work

In order to meet the Healthy Forests Restoration Act (HFRA) requirement for prioritization of fuels reduction on both private and public lands, the CWPT used the priorities listed above along with adjacency to federal ownership, general land use allocation, and past/planned projects to identify and prioritized potential projects and funding sources. Table 6.14 is a list of projects including description, jurisdiction, and potential grant funding source.

Map – High Priority Sites for Fuels Reduction

Wildfire Risk Assessment Map 5 on the following page illustrates potential sites for fuels reduction work to reduce wildfire risk where there is a critical infrastructure facility, gorse infestation, or community with highly vulnerable structures.



N

Wildfire Risk Assessment Map 5
High Priority Sites for Fuels Reduction

0 1.25 2.5 5 Miles

Created by: Jim Wolf, February 5, 2008

Table 6.14 Priority fuels reduction projects list.

Project Name	Description	Jurisdiction	Possible Grant Sources	CWPT Priority *CS = Communication Sites* *GI = Gorse Infestation* *VS = Vulnerable Structures*		
				CS	GI	VS
NORTH						
Edson Butte	Non-911 site in BLM land, Very high risk.	County Unprotected	NFP	X		
Stone Butte	Non-911 site on private land, Moderate risk.	County Unprotected	WSFM	X		
Blanco/Elk River	911 com site, low risk due to State Parks mowing, Large intense gorse area, extends into FS grounds so need to consider their management plan. Vulnerable homes along Elk River.	Sixes, Port Orford, none	NFP, WSFM	X	High	X
Port Orford Airport	Moderate sized intense gorse area, low community risk.	Sixes	WSFM		Mod.	
Rocky Point	Small limited distribution gorse area, however high community risk	Port Orford	WSFM		Mod.	X
Port Orford Water Supply	Moderate sized limited distribution gorse area, however high community risk due to vulnerable structures, limited access, and municipal water supply	Port Orford	WSFM		High	X
Knapp Road	Moderate sized limited distribution gorse area, however high community risk due to N winds endangering structures to the south	Port Orford	WSFM		High	High
Langlois Mountain Road	Moderate sized limited distribution gorse area, moderate-high priority due to potential to spread	County Unprotected	WSFM		M/H	
Floras Lake/Sea Wind Farms	High vulnerable of homes near Floras Lake. Adjacent to a large limited distribution gorse area that is a moderate community risk, but low priority due to fuels distribution being broken by cranberry bogs	Sixes	NFP, WSFM		X	High
Bennett Butte	Small limited distribution gorse area, however high risk due to proximity to Coos County 911 site	County Unprotected	WSFM	X	High	
Cedar Terrace	High community risk due to vulnerable structures, limited access, and proximity to municipal water supply	Port Orford	WSFM			High
Sixes River	Vulnerable structures adjacent to BLM land that is high risk	Sixes	NFP			X

Project Name	Description	Jurisdiction	Possible Grant Sources	CWPT Priority *CS = Communication Sites* *GI = Gorse Infestation* *VS = Vulnerable Structures*		
				CS	GI	VS
CENTRAL						
Grizzly Mountain	911 site on BLM lands. Very high priority due to lack of redundancy (all other sites link to Grizzly) and risk rating. Also an area of scattered vulnerable homes	County Unprotected	NFP	Very High		X
Agnes/Oak Flat	911 site on FS lands. Adjacent to vulnerable structures in Agness/Oak Flat	Agness-Illahe	NFP	High		High
Iron Mountain	Non-911 site on USFS land	County Unprotected	NFP	High		
Eighty Acre Rd	Small limited distribution gorse area, Very high risk rating adjacent to vulnerable structures with limited access	County Unprotected	WSFM		High	X
Cedar Valley/ Ferguson Ranch/ Brushy Bald Mtn	Cedar Valley is a high priority area of vulnerable structures with BLM ownership on a ridgeline to the east. Ferguson Ranch to the west is a moderate sized limited distribution gorse area. Brushy Bald Mountain is a ridgeline far east that possibly could be a location for strategic fuel reduction	Cedar Valley, County Unprotected	NFP. WSFM		Mod.	High
Jerry's Flat Rd	Small limited distribution gorse area, but in a critical area to control.	Gold Beach Wedderburn	WSFM		High	
Illahe/Billings Rd		Agness-Illahe				High
Agness Rd Corridor	Scenic corridor and important evacuation route with scattered vulnerable structures	None	NFP			High
Agness/Walters Cr	Scenic corridor and important evacuation route with scattered vulnerable structures	Agness-Illahe	NFP			High
Homestead Rd	Scattered vulnerable homes, limited access, but mostly north slope	County Unprotected	NFP			X
Hunter Creek	Concentrations of vulnerable structures	County Unprotected	WSFM			X
SOUTH						
Red Mound	Non-911 site on private land immediately adjacent to BLM, high risk rating. High community risk due to NE winds endangering structures a concentration of vulnerable homes with limited access	Cape Ferrelo, Brookings	NFP	X		X
Bosley Butte	911 site on BLM land adjacent to private, high risk rating, outside WUI boundary, but a high priority to protect as community infrastructure	Unprotected	NFP	High		

Project Name	Description	Jurisdiction	Possible Grant Sources	CWPT Priority *CS = Communication Sites* *GI = Gorse Infestation* *VS = Vulnerable Structures*		
				CS	GI	VS
SOUTH (cont.)						
Black Mound	911 site on BLM land immediately adjacent to private, moderate risk rating, High community risk due to NE winds endangering structures a concentration of vulnerable homes with limited access.	Cape Ferrelo, Brookings, County Unprotected	NFP	Mod.		X
Garner Ridge/ Palmer Butte	Non-911 site on BLM land adjacent to concentration of vulnerable structures.	Upper Chetco	NFP	X		X
Harris Beach	Moderate sized limited distribution gorse area with high risk rating and close proximity to vulnerable homes and state park	Brookings	WSFM		High	X
Rainbow Rock	Moderate sized limited distribution gorse area with moderate risk rating and close proximity to condominiums.	County Unprotected	WSFM		Mod./ High	X
Mt. View	Heavy concentration of vulnerable structures, some limited access, south aspect and exposure to winds	Bookings	WSFM			High
Harbor Hills	Heavy concentration of vulnerable structures, limited access, south aspect and exposure to winds	Harbor	WSFM			High
Wilderness Retreat	Concentration of vulnerable structures. Adjacent FS lands have candidate Coastal Healthy Forest stands.	County Unprotected	NFP			X
Cate Rd	Scattered vulnerable structures, Adjacent USFS lands with candidate Coastal Healthy Forest stands to the north could have fuels treatment opportunities to help protect structures from prevailing winds.	County Unprotected	NFP			X
Carpenterville Rd	Scattered vulnerable structures along the north end of Carpenterville RD	County Unprotected	WSFM			X
South Bank Chetco/Mt. Emily	Scattered vulnerable structures, Adjacent USFS lands with candidate Coastal Healthy Forest to the north could have fuels treatment opportunities to help protect structures from prevailing winds.	Upper Chetco, County Unprotected	NFP			High
Winchuck River	Concentration of vulnerable structures. Adjacent USFS lands have candidate Coastal Healthy Forest stands to the north and east that could have fuels treatment opportunities to help protect structures from prevailing winds.	Winchuck	NFP			X

Recommendations for Ongoing Assessments

This initial Curry County risk assessment establishes a baseline and a template for ongoing risk assessments. New priorities will need to be established as high priority projects are completed or conditions change on the ground. Changes due to future fires, spread of noxious weeds, or new housing developments could trigger a re-assessment. At a community or neighborhood level, changes in structural vulnerability as residents take steps to reduce their risk could also affect fuels reduction priorities. The CWPT will need to monitor and evaluate project accomplishments periodically to ensure that project priorities are in-line with these changing conditions.

Many of the data sources used in the Curry County risk assessment were obtained from other agencies (i.e. Oregon Department of Forestry, Western Regional Climate Center, Curry County Weed Board, Cal-Or Fire chief's association, etc..). However, the data for the structural vulnerability assessment was collected through a partnership between the CFPA, BLM and Curry County GIS (Chapter 5). Maintaining fresh data on structural vulnerability for future risk assessments will depend on the efforts of the CWPT.

In the Curry County CWPP Action plan, Curry County GIS is identified as the lead on the action to maintain data on structural vulnerability, but there are opportunities for other partners to participate in data collection and maintenance during home visits and community outreach efforts. A simple, streamlined process will help ensure that data on structural vulnerability is collected in a consistent, systematic way. The structural vulnerability study conducted during 2005 and 2006 provides some useful lessons for developing an ongoing data collection strategy.

- *Study Design* – the first recommendation is to simplify the study design so that there is a single unit of analysis. Rather than collecting data on structures, lots and access ways. Using a single form for homes that includes questions about the property, driveway and structure will simplify the analysis and data collection.
- *Data Points* – reducing the number of data points will reduce the time it takes to complete an evaluation and help residents key into the most important factors that contribute to their home's vulnerability. The National Fire Protection Association's (NFPA) form 1144 provides a comprehensive list of criteria that is also used by some insurance agencies in evaluating structural vulnerability.
- *Data Entry* – a number of community based GIS projects have taken advantage of recent improvements in technology that allows users to input data into portable digital assistants (PDA). PDA's with Global Positioning System (GPS) capabilities allow users to capture information that can be readily translated into GIS layers using ArcPad, a GIS compatible software application. Adapting this technology for structural vulnerability evaluations would save time in data collection and minimize chances for error in translating data from paper forms to the computer database. To see an example of this technology applied to a similar type of study read: *The West University Housing Condition Assessment*. available online at: http://www.uoregon.edu/%7eschlossb/arcpad/housing/WUN_Housing_Assessment.pdf.[97]

[97] *The West University Housing Condition Assessment*. Community Service Center. University of Oregon. August 2004. available online at: http://www.uoregon.edu/%7eschlossb/arcpad/housing/WUN_Housing_Assessment.pdf

Chapter 7: Biomass Utilization and Economic Development

The Healthy Forests Restoration Act (HFRA) emphasizes forest fuels reduction as a primary goal in reducing the risk of catastrophic wildfire and provides opportunities for federal grants to support thinning projects to achieve this goal. But the available funding falls short of the amount needed to treat the acreage necessary. Furthermore, once these funds disappear, land managers and their communities will be forced to find other means to sustain ongoing fuels reduction work.

Many communities, land managers and businesses are interested in exploring the potential economic uses of forest biomass (defined as small diameter timber and woody debris from fuels reduction projects). Typically this byproduct of thinning projects is burned in slash piles releasing carbon dioxide and particulate matter into the atmosphere. Alternatively, this material could be used to manufacture a variety of value added products such as posts, poles, furniture, wood chips and compost. Biomass from thinning projects could also be used to produce energy as firewood, wood pellets or feed stock for plants that produce electricity, heat or liquid biofuels such as bioethanol.[98] Local residents looking for alternatives to burning to dispose of their yard debris would also benefit from programs that would receive and process biomass.

In addition to reducing fuel loads and providing economic opportunities, biomass utilization has potential environmental and social benefits. Selective thinning of overcrowded stands can restore historical forest stand structure, reduce disease infestations and improve wildlife habitat. Fuels reduction projects that target noxious weeds such as scotch broom and gorse restore native plant communities and also benefit wildlife. Biomass utilization projects have the potential to support sustainable, local industries in communities hard hit by the decline of the timber industry. Restored forests are also more aesthetically appealing, an important asset to communities that rely on tourism and outdoor recreation as a substantial part or their economy.

Despite these benefits, developing projects that utilize biomass involves risks and many unknown factors. The infrastructure to remove and transport biomass material is undeveloped. Markets for biomass products and biomass energy are still emerging. Researchers anticipate technological innovations that will yield more efficient processes to extract energy from biomass, but time separates hope from reality. Finally, there are concerns that the forests will not be able to produce a sufficient, sustainable yield of biomass without risking ecological harm.

7.1 Biomass Utilization and Economic Development Objectives

Reducing hazardous fuels on public and private land is one of the six goals addressed by the Curry County Community Wildfire Protection Plan (CWPP). To meet this goal, the Curry Wildfire Preparation Team (CWPT) is interested in supporting opportunities to use biomass utilization to fund fuels reduction work while promoting local economic development. Specifically the CWPT seeks to accomplish these objectives:

- Complete priority hazardous fuels treatment projects on public and private land.
- Support local economic development efforts.
- Enhance forest health and fire resiliency.
- Support efforts to develop renewable energy sources.

[98] Oregon Forest Resources Institute. 2006. Biomass Energy and Biofuels from Oregon's Forests.

7.2 The Curry County Biomass Forum

In September 2007, the CWPT hosted a forum to discuss the opportunities and challenges that biomass utilization presents to the county. The forum attracted representatives from local, state and federal agencies, woods products manufacturers, tribes, and the local media (see appendix A for a complete list).

Participants heard presentations about biomass utilization, biomass supply, federal and state incentives to promote biomass utilization and the preliminary findings from the Coquille Tribe's biomass feasibility study (see Appendix 7.1 for a brief summary of each presentation). During the discussion, the forum participants expressed interest in forming a biomass coalition to guide a collaborative effort to pursue biomass utilization opportunities. Following is a summary of the key issues discussed during the meeting.

Biomass Supply

There is likely to be a future market for biomass, but currently there is little to no demand. Investors are understandably concerned about expending capital to develop markets without assurances of an adequate biomass supply. The Rogue River-Siskiyou National Forest has conducted long-range environmental assessments (EA) on commercial and pre-commercial thinning of managed stands. The Coastal Healthy Forest Treatment Project EA (May 2007) applies to older, managed stands in both Powers and Gold Beach Ranger Districts.[99] An earlier EA from 2002 covers density management thinning on younger plantation stands on the Siskiyou side of the Forest. Combined, these assessments allow opportunities for thinning work on approximately 70,000 acres of forest. Key challenges to these projects include the difficulty in removing and transporting the material across rugged terrain and current conditions in the timber market.[100]

On BLM lands, many slash piles sit until timber companies decide whether or not it is feasible for them to haul it out. This presents an opportunity for small pellet businesses to sub-contract and take slash rather than burning the slash on site. Currently, as part of the contract, all by-products stay with timber companies until all aspects of the contract are completed. The Coquille Tribe circumvents this issue by retaining responsibility for slash piles.

Salvage timber is another potential source for biomass that may be viable up to 10 years after a fire, but the same challenges with removal and transport apply due to steep slopes on much of the terrain. Furthermore, the politics surrounding coastal fire management leans towards no salvage – in favor of natural recovery.

In Lane County, the Forest Service has funded a Coordinated Resource Offering Protocol (CROP) - which is used to forecast sources likely to produce biomass and to develop a diversified portfolio of potential options/opportunities for future biomass efforts. A similar analysis in Curry County could clarify some of the uncertainties around biomass supply.

Ecological Issues

Although using biomass to generate energy may not create as much opposition as a straight timber harvest, community concerns over the ecological impact need to be investigated and addressed. One concern is that biomass removal will have detrimental ecological effects. Work in Montana has helped

[99] Coastal Healthy Forests Treatments EA – Decision Notice and Finding of No Significant Impact. 2007. U.S. Forest Service, Region 6. http://www.fs.fed.us/r6/rogue-siskiyou/projects/planning/coast-health-forest-treat/dn-fonsi.pdf

[100] John Williams, supervisory forest, Gold Beach Ranger District. Rogue River-Siskiyou National Forest. pers. comm..

to inform guidelines that the Forest Service and BLM use, but further research on the potential impacts of biomass is needed.

Stewardship Contracting

Stewardship contracting on federal lands, which is explicitly focused on ecological restoration, may be a way to accomplish thinning projects, produce biomass and allay concerns over adverse impacts. However, a local stewardship contract didn't sell because so many acres are accessible only by helicopter. Another challenge is that potential purchasers don't want to deal with the government and all the challenges associated with working on federal lands. In other parts of Oregon, collaborative groups have been successful at working with the Forest Service to develop economically feasible stewardship contracting projects. An initial step would be to assess the local capacity to do stewardship contracting work. Educating contractors about stewardship contracting and involving contractors and industry representatives in the process is a key challenge for many of these collaborative groups.[101]

Air Quality

Community members in areas where biomass energy facilities have been proposed have expressed concerns over emissions. But the technology used at these plants is more efficient and less polluting that woodstoves and produce far less impact than burning the slash in the forest. Leaving the biomass in the forest may delay the smoke and pollution until the next wildfire.

Debris/Waste Disposal

A recent composting study showed a need for proper debris/waste disposal. Although people can obtain burn permits by meeting safety regulations, some still choose to illegally dump debris including invasive species on public lands. Currently, debris and compost is collected and burned at landfill or disposed of in White City, OR. A compost facility in Curry County would need to be supported by taxes or other revenue. A biomass energy facility for compost would potentially serve as a biomass utilization facility as well.

Next Steps

Discussions during the forum highlighted the complexity of establishing an economically viable and ecologically sound biomass industry. But forum participants voiced strong support for the effort and expressed interest in establishing a biomass coalition to take a lead role in pursuing biomass utilization opportunities. The CWPT will be a partner in this process to help foster collaboration and link these efforts to meeting the objectives of the CWPP. The CWPT adopted the following action strategy based on input from forum participants. Chapter 9 provides a more detailed description of this strategy and others in the CWPP action plan.

Action Strategy 1.1

Facilitate the formation of a Biomass Coalition to collaborate in developing opportunities for biomass utilization and economic development in conjunction with fuels reduction projects.

Forum participants identified the following priorities that should be included as recommendations to the biomass coalition:

- Seek community input early in the process to identify interests and concerns.

[101] 2005 Region 6 Stewardship Contracting Roundtable Report. The National Forest Foundation in Partnership with Sustainable Northwest. http://www.uoregon.edu/~cwch/publicationspress/2006scrrfinal.pdf

- Involve a diversity of stakeholders, particularly more environmentalists, conservationists and industry representatives.
- Consider a regional approach to include stakeholders and partners in areas outside of Curry County.
- Bring in experts to learn more about the issues and possible solutions.
- Examine feasibility and costs related to supply, technology, sites and infrastructure, transportation and biomass markets.
- Take advantage of state and federal incentives and grant assistance throughout the process.
- Identify and pursue grants for feasibility studies, and future capital costs.

Chapter 8: Vulnerable Populations Assessment

Vulnerable populations are those groups of people with a reduced capacity to prepare for, respond to, and recover from a natural disaster. Indicators of vulnerability can include income, age, language barriers and physical or mental disability. A comprehensive wildfire or emergency management plan should include an understanding of the vulnerable populations within the plan area and address those needs through specific actions and strategies. Planning for the needs of vulnerable populations can also help agencies obtain state and federal funding to strengthen disaster preparedness, response and recovery programs for all hazards, not just wildfires.

8.1 Purpose

This chapter examines vulnerable populations in Curry County to provide guidance to the Curry County Community Wildfire Protection Plan (CWPP) on how to reduce risk to these populations. Curry County is an isolated rural county with a high percentage of elderly citizens. There are also higher percentages of persons with disabilities and people experiencing poverty relative to the rest of the state. The findings from this study will inform strategies to assist these vulnerable populations to prepare for, respond to and recover from wildfire and other natural hazards. Specifically this study seeks to answer the following questions:

- What types of vulnerable populations exist in Curry County?
- What barriers and limitations might prevent these populations from preparing for, responding to, and recovering from a wildfire?
- What are the most effective strategies to addressing the needs of vulnerable populations?
- How can local social service agencies and organizations support the goals of the CWPP?

8.2 Methods

We interviewed staff from social service agencies and organization from Curry County using a set of open-ended questions (Appendix 8.1). The types of questions fall into several categories. We asked about the types of clients these organizations serve and the services they provide to understand the county's needs and assets. We discussed the particular challenges that might impact their clients' ability to prepare for or respond to a wildfire. We asked about the impacts of the 2002 Biscuit Fire and the organization's role during that event. Finally, we explored the opportunities for social service organizations to support wildfire preparedness planning, response and recovery.

We developed an initial participant list through an Internet search and consultation with the Curry Wildfire Preparation Team (CWPT). Then we queried participants to identify other potential participants. In total, we interviewed 17 individuals from county and state agencies, as well as several non-profit organizations. Table 8.1 is a list of participating agencies, which represent the breadth of social service offerings in the county.

Table 8.1 Participating social service agencies

Social Services Organizations List	Services Offered	Population Served
County		
Curry County Human Services – Mental Health, Drug and Alcohol Programs	Therapy, case management, education and outreach	General Population
Curry County Human Services – Disabled and Disability Programs	Therapy, case management, education and outreach	Physically or Mentally Disabled
Curry County Juvenile Department	Case management, education and outreach	General Population
Curry County Home Health & Hospice	Nursing, therapy, counseling	General Population
Retired Senior Volunteer Program (RSVP)	Volunteer placement	General Population
Curry County Commission on Children and Families	Education, outreach and advocacy	Youth and Families
State		
Department of Human Services – Self Sufficiency Program	Technical assistance, training	General Population
Department of Human Services – Seniors and Persons With Disabilities	Technical assistance, case management	Elderly and Persons with Disabilities
Department of Human Services – Vocational Rehabilitation Program	Technical assistance, training	General Population
Health Department	Medical care, immunization, health inspections, education	General Population
Non Profit		
Community Action – Brookings	Technical assistance, education and outreach	Low-Income
Oasis Shelter	Shelter, counseling	General Population
South Coast Resource Center	Prevention Programs, Education and outreach	Low-Income
South Coast Food Share – Brookings	Food assistance	Low-Income
South Coast Food Share – Gold Beach	Food assistance	Low-Income
The Outreach Gospel Mission	Food assistance, shelter, counseling	Low-Income
The Driftwood Lodge Residential Facility	Housing, daily living assistance	Mentally Disabled

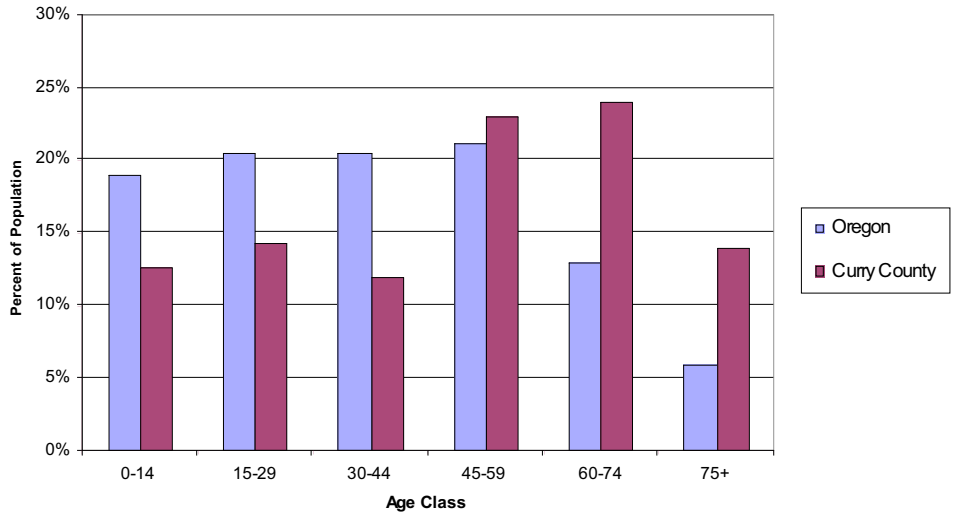
8.3 Vulnerable Populations Profile

According to public data sources such as the Census, there are several risk factors for vulnerability that are more common in Curry County than in the rest of the state. These include a high percentage of elderly citizens, households experiencing poverty, and persons with disabilities. Between 1990 and 2000 the median age in Curry County increased from 44.0 years to 48.1 years. According to 2005 estimates, residents 65 and older comprised 27.9 % of the county's population, the highest percentage for this age group among Oregon's counties.[102] Projections developed by the Oregon Office of Economic Analysis

[102] Tauer, Guy. Regional Profile – Population in Region 7 (Coos and Curry Counties). Oregon Labor and Market Information System. http://www.qualityinfo.org/pubs/population/r7pop.pdf (April 5, 2007).

show a future population composed predominantly of elderly and relatively small numbers of people of working age (Figure 8.1).

Figure 8.1 Age class distribution projections for Curry County and Oregon in 2010.



Source: Oregon Office of Economic Analysis

In addition to an aging population, Curry County has a higher proportion of residents experiencing poverty compared to the state. The median household income in Curry County in 2003 was $31,333 compared to $42,593 for the state.[103] According to the most current Census data available for poverty rates, 12% of Oregonians lived in poverty in 2003. Poverty in Curry County exceeded the state average most years from 1993 through 2003 by an average of 1-2 percentage points. Statewide, transfer payments comprised 15.6% of total income for Oregon residents in 2003. By comparison, Curry County residents collected 28.6% of their income from transfer payments.[104]

The Oregon Economic and Community Development Department (OECDD) created an index to measure "economic distress" relative to the state. The county index is based on several indicators including unemployment rate, per capita income, average worker pay and percent of families living in poverty among. In 2005 the OECDD rated 16 counties as "severely distressed". Nine counties including Curry County were categorized as "distressed" and eleven counties were "non-distressed" Curry ranked 12th in the State, just below the "distressed/non-distressed threshold ".[105]

The U.S. Census indicates that as of 2000, 28% of Curry County residents ages five and older had a disability. The same year statewide disability status was at 18.8%.[106] According to the Census Bureau, citizens are considered to have a disability if they have one of the following conditions: a) a sensory disability such as deafness, blindness or significant impairment, or b) a physical disability that significantly limits their ability to perform basic physical activities, such as walking, lifting or carrying. As

[103] U.S. Census Quickfacts http://quickfacts.census.gov/qfd/states/41/41015.html (March 18, 2007).
[104] Knoder, Erik A and Michael K Wilson. Poverty, Wages and Income on Oregon's Coast. January 25, 2006. http://olmis.emp.state.or.us/olmisj/ArticleReader?itemid=00004728. (April 5, 2007).
[105] Oregon Economic and Community Development Department. March 2006. http://www.oregon4biz.com/p/DisCommOverview.pdf (April 14, 2007).
[106] U.S. Census Population Finder Webpage. http://factfinder.census.gov/home/saff/main.html?_lang=en. (April 5, 2007).

the median age in Curry County increases as the baby boomer generation ages, the number and percent of residents with a disability is likely to increase.

8.4 Findings

This section describes the results of interviews with social service agencies and organizations. Interview participants responded to questions about the services they provide, the types of clients they serve, and their experience and perceptions about the role of social service agencies in natural disaster preparation and response.

Social Services and Their Clients

Participants' descriptions of their client populations mirror the demographics from the Census data. Their clients tend to fit into one or more of three categories: low-income, elderly, or persons with disabilities. Culturally, the county is fairly homogenous. Although language and cultural barriers may be an issue for some, participants did not use these risk factors to describe their clients.

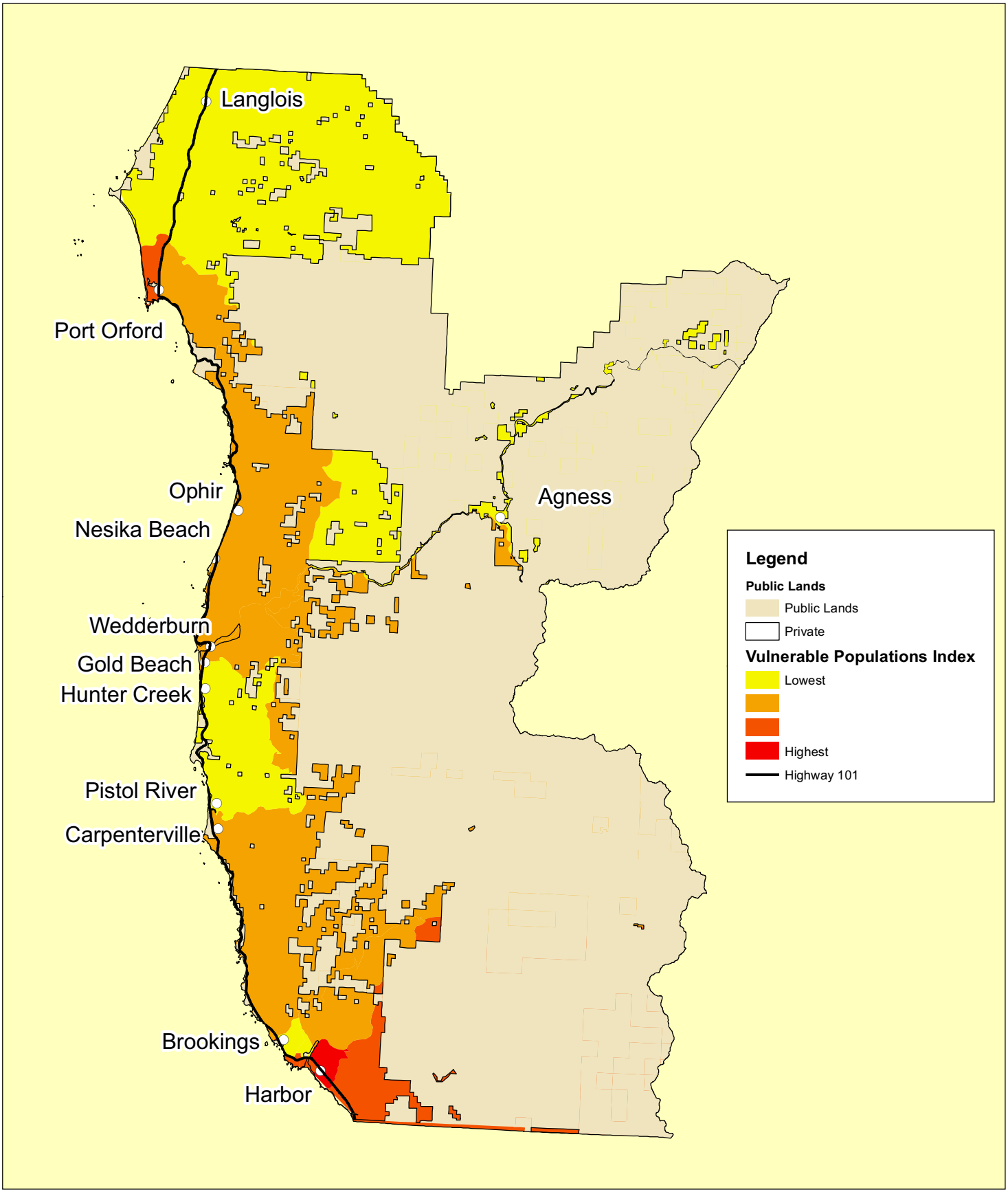
- Low-Income - Despite economic diversification and growth in manufacturing and tourism, Curry County still lags behind the state in employment, percent poverty, and median wage. A lack of living wage jobs drives many working age individuals to other regions while a mild climate and abundant recreation options and scenic coast draw aging retirees on fixed incomes. Many of the participants noted that problems with drug or alcohol addition are closely linked to poverty.
- Elderly - Many of the participants served elderly individuals that were also low-income or had some sort of disability requiring medication or assistance with their activities of daily living (i.e. meal preparation, household chores, shopping, etc..).
- Persons With Disabilities – Those participants whose agencies worked with this population served a range of people including those with physical, mental and developmental disabilities. They described a range of disabilities from those that require residential care to others who are largely self-sufficient.

Most participants indicated that the vulnerable populations that they serve are spread throughout the county. However, as Brookings is the county's population center, many clients served by social service agencies live in the southern part of the county. There are elderly and persons with disabilities living in outlying areas and require visits from home care providers to assist with some activities of daily living. A few participants suggested that a map of their clients would assist emergency personnel in planning for evacuations. Most county and state social service agencies maintain electronic records of their clients, but the information has never been linked to a mapping program such as GIS.

Interview participants indicated that the elderly, people with disabilities and people with low-incomes comprised the majority of their clients in Curry County. The map on the following page shows Census block groups with the highest concentrations of these vulnerable populations based on data from the 2000 Census and Department of Housing and Urban Development (HUD) data. Each Census Block Group was scored on an index of three equally weighted measures: age dependency ratio, percent disability, and HUD income limits.

Map – Vulnerable Populations

The map on the following page shows the distribution of vulnerable populations by Census Block Group. Each Block Group is assigned an index value based on an equally weighted combination of three measures – percent with disabilities, age-dependency ratio, and poverty (HUD Income Limits).



Vulnerable Populations Map

N

0 2.5 5 10 Miles

Created by: Ryan Ojerio & Jim Wolf, February 5, 2008

CURRY COUNTY

Risk to Wildfire

When asked about risk to wildfire, almost all of the participants said that their clients are at risk. However, many also noted that everyone in the county is at risk to wildfire. Some pointed out that other natural disaster, such as tsunamis or earthquakes might pose a greater risk, particularly for their clients living in coastal communities. Some participants cited specific situations where their clients are at a greater risk to wildfire. These situations are:

- People dependent on others for transportation – many clients of social service agencies lacked a car because they couldn't afford it or were physically or mentally unable to drive. These individuals would require assistance in an evacuation.
- Rural residents that lack communication – Some of the participants cited concerns about their clients' isolation. In some cases they don't have phones or Internet access. Lack of access to these resources makes it difficult to learn about resources for preparation and to be informed about an evacuation. They may also be far from neighbors who could assist with communication.
- People who lack the ability to create defensible space around their homes because of physical or financial limitations – The elderly and poor who live in the forestland-urban interface will need assistance to accomplish fuels reduction work on their property.
- The population of homeless and transients – A few participants noted that there is a significant number of homeless and transient people that live in forested areas and camp on public lands. This population increases during the summer months. Their activities like smoking or campfires could ignite a fire. During a fire it may be very difficult to communicate with this population to coordinate an evacuation.

Barriers to Emergency Preparation and Response

The barriers to preparing for an emergency, responding to, or recovering from a disaster tend to be the same as those that characterize the population: lack of financial means, physical or mental disability or a disruptive addiction to drugs or alcohol. A common response from participants was that their clients are simple focused on the challenges of everyday living. They don't have the capacity to prepare for a disaster and they will need additional assistance beyond what they already require should a disaster strike.

- Transportation – Access to transportation was brought up by almost every participant. The inability to own or drive a car was a common thread among all of the different types of vulnerable populations.
- Communication – People who lack phones, answering machines or nearby neighbors will have a difficult time hearing about an evacuation notice. Those with cognitive disabilities may not fully understand what to do in an emergency. Communication with the homeless during an evacuation will be difficult.
- Education –Linked to access to transportation was the issue of communication safe routes and zones. This was particularly pertinent to participants who served clients with mental disabilities that could be exacerbated by the anxiety of a disaster or inability to get their medication.
- Household Situation – Most participants said that their clients are renters rather than homeowners. Many clients that do own their homes live in RV's or mobile homes and rent space on another's property. These people will have may have difficulty creating defensible space or taking steps to reduce the structural ignitability of their homes.

- Medical Supplies – A few participants noted that their clients are dependent on medical supplies such as bottled oxygen or medications. During an emergency they were concerned that their clients may not have access to these resources.

Lessons From the 2002 Biscuit Fire

Biscuit Fire Impacts

Participants had mixed views about the impacts of the Biscuit Fire. Poor air quality caused by smoke from the fire caused problems for many clients according to over half of the participants. Smoke aggravated those with respiratory problems prompting some to evacuate and others to be confined indoors. A few participants mentioned the anxiety felt by people whose lives and homes were at risk.

About a third of the participants cited positive impacts from the Biscuit Fire indicating that there was a significant boost to the local economy. Participants said that hotels and restaurants did well; some people got temporary jobs fighting the fire or providing services to emergency personnel. One participant pointed out the positive social effects of the community pulling together to support the effort. A few participants said that the fire didn't have any impact on the vulnerable populations that they serve. However, there was the potential for a greater impact had the fire spread to urban areas.

Social Services and the Biscuit Fire

Only about a third of the participants said that their agency or organization played a role in responding to the Biscuit Fire. Those participants said that they mostly offered information to clients accustomed to turning to the social providers in times of stress or need. In some cases these staff didn't have all the information they needed and they coordinate with Emergency Services and fire responders to get the information to the their clients. Most of the participants said that their agency didn't play a role in responding to the Biscuit Fire. A few were not working for Curry County in 2002 and weren't aware of their organization's role. Of those that were involved in the response effort, they indicated that they weren't well prepared. They lacked the supplies, information, training and plans for a disaster response.

The Role of Social Service Providers

When asked what social service organizations could do to reduce wildfire risk, nearly half of the participants responded that they didn't know. They didn't think that their organization had the resources or knowledge to play a significant role. About the same number of participants suggested education and outreach to their clients as a way they could assist in reducing wildfire risk. A few said their organization could provide supplies such as clothing, food and shelter. One organization said they could assist in transportation, and another organization indicated they could coordinate volunteers during a wildfire response.

8.5 Recommendations

The following recommendations seek to address the needs of vulnerable populations in the CWPP. The action items in the completed plan will address these recommendations through one or more strategies. It is important to note that many of the challenges that vulnerable populations face with regard to wildfire also impact their risk to other natural and human caused disasters. Addressing these challenges in the wildfire plan will help the county to strengthen their efforts to prepare for all types of hazards.

The successful implementation of these recommendations will rely largely on the coordinated efforts of not only county emergency services and wildfire professionals, but also social service providers. Fortunately, participants consistently said that partnering with other organizations was a common prac-

tice. Several participants commented on how well connected their organizations were to other social service providers in the county. These networks of social capital will be important to the success of the Curry County CWPP. Toward that end, the Curry County Health Department is coordinating the formation of a Public Health Preparedness Advisory Committee, which could provide leadership or guidance in the implementation of some of these recommendations.

1. Emergency Services Recommendations

The response phase of a disaster is the point at which vulnerable populations will be most vulnerable.

1.a. Coordinate with local social service providers to create and maintain a vulnerable populations database to use as a resource for emergency planning and evacuation. The database could be used to map vulnerable populations in relation to wildfire risk and important evacuation routes.

1.b. Create and maintain a resource inventory for transportation resources including organizations and contact names in order to efficiently coordinate these resources in an emergency.

1.c. Evaluate the existing emergency call down systems and community phone trees to identify areas that are not being served. Work with social service providers to educate clients about emergency notification procedures and ensure that their clients are served by a notification system.

1.d. Provide Citizens Emergency Response Training (CERT) and to home-care providers who could then assist in an emergency.

2. Education and Outreach Recommendations

Participants noted that their clients are focused on the challenges of their daily lives. Education efforts about creating defensible space may be most effective if they are focused on those in a position to help vulnerable populations to reduce their structural vulnerability. Focus education for vulnerable populations on what to do during an emergency.

2.a. Provide packets with wildfire preparation and evacuation information to home care providers to distribute to their clients during their home visits.

2.b. Provide packets with wildfire preparation information to rental property owners, RV parks and mobile home parks and encourage them to take action to reduce the structural vulnerability of their properties.

2.c. Utilize the Retired Seniors Volunteer Program (RSVP) to assist with education and outreach about evacuation planning.

3. Fuels Reduction Recommendations

3.a Provide assistance for vulnerable populations to create defensible space around their home in high-risk areas.

3.b. Use vulnerable populations data to identify priority fuels reduction projects.

Chapter 9: CWPP Action Plan

Curry County Wildfire Protection Plan – Action Plan

The Curry Wildfire Preparation Team (CWPT) considered all of the information that was gathered and synthesized during the planning process to come up with an action plan. Each action item includes a description of the action item, timeline, potential lead agenc(ies), as well as a listing of intended outcomes, implementation tasks, and strategies for monitoring and evaluation. Following is a summary table of the action items, followed by the more detailed descriptions of each action item.

Goal 1 - Foster Partnerships and Collaboration			
#	**Action Item**	**Timeline**	**Lead**
1.1	Establish a Curry County Biomass Coalition to collaborate in developing opportunities for biomass utilization and economic development in conjunction with fuels reduction projects.	2008	CWPT and RC&D
1.2	Add information about resources from the Forest Service, BLM and other private fire entities to the CA/OR Mutual Aid Resource Inventory.	Annual	CA/OR Fire Chief's Association
1.3	Collaborate with local home insurance providers and realtors to participate in developing and disseminating information to property owners about how to reduce risk from wildfire. Work with insurance agencies to develop incentives that reward or encourage homeowners to create defensible space around their homes.	Long-term	Curry County Board of Realtors, Northwest Insurance Council
Goal 2 - Conduct a Comprehensive Risk Assessment			
#	**Action Item**	**Timeline**	**Lead**
2.1	Update risk assessment layers and review priorities for fuels reduction as new data is made available.	Annual	County, FS and BLM
2.2	Maintain and update data on structural vulnerability.	Long-Term	County GIS, CFPA
2.3	Maintain a database of vulnerable populations in the county to inform and aid in planning emergency response, targeted education and grant assistance for creating defensible space.	Long-Term	County Emergency Services, HRSA
Goal 3 - Support Emergency Services			
#	**Action Item**	**Timeline**	**Lead**
3.1	Create a countywide list for coordinating information distribution about current wildfire conditions.	Spring 2008	Curry EM Services; BLM PIO; CFPA
3.2	Identify and map the principle evacuation routes and safe zones in the county.	Winter 2009	County Sheriff
3.3	Facilitate installation of water storage systems by providing standard fixtures to make existing systems accessible to fire responders. Encourage residents with private wells to install water storage systems and provide technical assistance and grant funding.	Brochure – Spring '08	CFPA, Fire Chief's Association
3.4	Evaluate and enhance existing emergency call-down system by conducting periodic tests and strengthening outreach efforts to collect and update contact information.	Ongoing	County Emergency Services, County Dispatch
3.5	Provide CERT (Citizen Emergency Response Training) to home care providers.	Twice a year	County EM, Social Service Agencies

Goal 4 - Conduct Hazardous Fuels Reduction on Public and Private Land			
#	**Action Item**	**Timeline**	**Lead**
4.1	Identify, secure resources for, and implement fuels reduction projects on public and private land.	Ongoing	FS, BLM, CWPT partners
4.2	Explore opportunities to utilize stewardship contracting to accomplish fuels reduction work on public lands and provide local economic development opportunities.	5 years	USFS, BLM
4.3	Institute free brush collection days.	Spring 2008	CFPA, Curry Transfer and Recycling
4.4	Obtain funding to control gorse and other noxious weeds through partnerships with the Curry County Weed Board and South Coast Watershed Councils.	Ongoing	Curry County Weed Board
4.5	Provide education and assistance for vulnerable populations to create defensible space around homes in high-risk areas.	Ongoing	CFPA
4.6	Create and maintain a list of local contractors who do fuels reduction work. Make this list available to the public.	January 2008	South Coast Watershed Councils
4.7	Develop a program to educate local contractors and landscapers about home wildfire preparation. Develop a list of trained contractors and make available to the public.	Long-term	OSU Extension
Goal 5 - Address Wildfire Risk Reduction in Planning and Development			
5.1	Educate property owners about the hazard created by noxious weed infestation along right of ways.	Ongoing	Curry County Weed Board
5.2	Implement Senate Bill 360 using information from the CWPP risk assessment and in outreach strategy in coordination with the State Forestry Office.	2009	ODF
5.3	Update the Curry County fire code to reflect state standards established by the Office of the State Fire Marshal.	2008	Curry Fire Chief's Association; OSFM
Goal 6 - Increase Public Education and Outreach			
6.1	Develop a program that offers tours of homes that have well maintained defensible space, signage, access and fire resistant structures.	Summer 2008	CFPA
6.2	Partner with schools to share information about wildfire risks and steps to effective preparation.	October and May	CFPA and RFPDs
6.3	Continue to offer free home evaluations to collect data on structural vulnerability and provide one-on-one education about steps residents can take to reduce vulnerability.	Each Spring	CFPA
6.4	Create a program to distribute information to residents about how to install and maintain adequate address signage.	Spring-08 Ongoing	County Planning and RFPD
6.5	Target outreach and technical assistance to residents with wood shake roofs to identify and overcome barriers to upgrading those roofs to more fire-resistant materials.	Ongoing	CFPA
6.6	Work with real estate agencies to educate realtors about structural vulnerability and wildfire risk.	Ongoing	Curry County Board of Realtors
6.7	Utilize local media to publicize successful implementation of the Fire Plan as opportunities arise.	Ongoing	CFPA, BLM, County

Goal 1: Foster Partnerships and Collaboration

1.1 Establish a Curry County Biomass Coalition to collaborate in developing opportunities for biomass utilization and economic development in conjunction with fuels reduction projects.

Biomass utilization has the potential to provide a sustainable funding stream for fuels reduction work on public and private land. However, the market for biomass is undeveloped. There is state and federal interest in and support for biomass development, but it will take local industry, contractors and land managers to invest time and resources to make it feasible.

Timeline:	2008
Lead:	CWPT and Resource Conservation and Development (RC&D) Councils
Outcomes:	Reduced forest fuel loads, local economic development and a new renewable energy source.
Implementation Strategy:	Outreach to county commissioners to inform and gain support. Convene a meeting of key stakeholders that could be involved in the coalition. Pursue state or federal funds for a feasibility study and organization start-up costs.
Progress:	The Biomass forum in September of 2007 drew many interested participants. The Coquille Tribe is working on a feasibility study that is due to be completed sometime in 2008
Monitoring:	Annual updates to the CWPT

1.2. Add information about resources from the Forest Service, BLM and other private fire entities to the CA/OR Mutual Aid Resource Inventory.

A coordinated fire response will require each local, state and federal agency to understand their limitations and where to turn for mutual aid. This resource inventory will expand on the CA/OR Mutual Aid resource inventory to create an accessible, digital information source for emergency response agencies that includes federal and private resources along with the existing fire district and CFPA information.

Timeline:	Annual
Lead:	CA/OR Fire Chief's Association
Outcomes:	A resource inventory to track changes in capacity and improve interagency communication.
Implementation Strategy:	Establish a digital database system to track resources. Collect information from public agencies such as the BLM, FS and OPRD. Survey private fire crews, logging companies and other private resources, include contact information and establish mutual aid agreements as appropriate.
Progress:	Annually, the Chief's Association updates the resource inventory and publishes a hardcopy.
Monitoring:	Annual updates of the resource inventory.

1.3. Collaborate with local home insurance providers and realtors to participate in developing and disseminating information to property owners about how to reduce risk from wildfire. Work with insurance agencies to develop incentives that reward or encourage homeowners to create defensible space around their homes.

The insurance industry has a strong interest in reducing structural vulnerability for homeowners and could be a partner in education, enforcement of codes and by providing premium incentives. Likewise real estate agents can provide a valuable service to their customers by educating them about structural vulnerability.

Timeline:	Long-term
Lead:	Curry County Board of Realtors and the Northwest Insurance Council
Outcomes:	Reduced structural vulnerability
Implementation Strategy :	Present structural vulnerability assessment information to the insurance industry. Invite an insurance industry representative to CWPT Meetings. Work with the insurance industry to create standards for property evaluations that are consistent with Senate Bill 360 and the information CFPA collects through the home evaluation program. Provide packets of information on fire preparation for home insurance providers to discuss with new policy holders. Work with the insurance industry to establish credits or rebates for improvements to structural vulnerability. Utilize CFPA home visits as a way to validate and approve improvements.
Progress:	Representatives from both the Curry County Board of Realtors and the Northwest Insurance Council have expressed support for this effort, but will need the CWPT to initiate the first steps.
Monitoring:	Annual report from the insurance industry that describes successes and challenges.

Goal 2: Conduct a Comprehensive Risk Assessment

2.1. Update risk assessment layers and review priorities for fuels reduction as new data is made available.

There are current efforts to improve data related to the risk assessment. As new data is made available, partners should come together to review and modify the risk assessment, the wildland urban interface boundary, and priorities for fuels reduction.

Timeline:	Annual
Lead:	County, FS and BLM
Outcomes:	Up-to-date information on priorities for fuel reduction
Implementation Strategy:	Work with federal agency partners to include county representative at Southwest Oregon Fire Management Planning meetings Update fire information as new information is made available at state and federal levels Update fuels layer and structural vulnerability layer as projects are completed and properties improved.
Progress:	The Curry County Weed Board is in the process of creating an inventory of noxious weed infestations throughout the county. The completed GIS layer could be added to the most recent risk assessment.
Monitoring:	Annual Review of accomplishments and data availability.

2.2. Maintain and update data on structural vulnerability.

Changes in structural vulnerability will occur over time as some homes are improved, others neglected and new developments are constructed. A periodic re-evaluation of structural vulnerability will help to inform fuels reduction priorities and targeted education and outreach to residents in highly vulnerable communities. Data could be collected through home-visits by CFPA staff and stored in a central database.

Timeline:	Long-term
Lead:	County GIS, CFPA
Outcomes:	Reduced structural vulnerability
Implementation Strategy:	Revise the survey form to simplify and reduce the number of variables and consider using a digital input device (e.g. palm pilot) for data collection.[107] Collect data through requested home visits or when new developments are constructed or every 5 years. Maintain a strong partnership between CFPA and County GIS
Progress:	The CFPA staff created an extensive data set that serves as a baseline for future monitoring efforts. There were many lessons learned during the process of collecting and analyzing the data that can be applied towards making the procedure more efficient and accurate.
Monitoring:	A re-evaluation would be triggered by increases in development as indicated by the number of permits issued for new construction (or on an annual basis.) Another possible trigger point could be a min. threshold of homes that are self-registered for SB 360 compliance, i.e. if less than 75% of homes are unregistered, then CFPA would to home evaluations in the neighborhood.

2.3. Maintain a database and map of vulnerable populations in the county to inform aid in planning emergency response, targeted education and grant assistance for creating defensible space.
Vulnerable populations have a reduced capacity to prepare for and respond to wildfire. Specific examples of vulnerable populations include people with physical or mental disabilities, elderly, and low income. Understanding the location and characteristics of these populations will allow the CWPT to provide appropriate education and assistance. A number of social service agencies throughout the county maintain client lists and are interested in coordinating with emergency service providers. Additionally, the HRSA region 3 office has grant funding to create a regional database of individuals who may require additional medical services during an emergency.

Timeline:	Long-term
Lead:	County Emergency Services, HRSA, Lane County Medical Society, Outreach Gospel Mission
Outcomes:	A tool to prepare an effective emergency response for vulnerable populations.
Implementation Strategy:	• Coordinate with HRSA Region 3 and the Lane County Medical Society to design the project. • Conduct outreach and engage local social service agencies in the project. • Create maps for internal use during an emergency or for disaster preparedness planning. • Utilize data in grant applications that seek to serve vulnerable populations to justify financial aid for fuels reduction work, upgraded communication systems, or other projects. • Coordinate with the Outreach Gospel Mission when large wildfire events occur in the county and fire camps are set up, to ensure that surplus food from the fire camps is donated to local shelters.
Progress:	The Curry County Heath Department is coordinating the formation of the Public Health Preparedness Advisory Committee that could facilitate data collection for local social service providers. Jana Waterman, Project Manager with the Lane County Medical Society is the project lead in implementing the grant to develop the HRSA Region 3 database.
Monitoring:	Annual updates by synchronizing information with local social service providers to maintain data freshness.

Goal 3: Support Emergency Services

3.1. Create a countywide list for coordinating information distribution about current wildfire conditions.

A concern identified by stakeholders was the need for better information sharing between agencies and the public. A countywide list of interested parties could be used for periodic updates about the current fire danger and to clarify the difference between Industrial Fire Precaution Levels and the Public fire hazard rating.

Timeline:	Spring 2008
Lead:	Curry County Emergency Services; BLM Public Information Officer (Megan Harper); CFPA
Outcomes:	Community members are educated about current fire conditions
Implementation Strategy:	At the beginning of each fire season, create public information materials that clarify fire hazard and fire danger levels. Disseminate information through list of media outlets and other groups.
Progress:	CFPA may have an existing press release that can be adapted each year
Monitoring:	Reduction in behaviors that are prohibited during times of high fire danger. (e.g. open burning, campfires, smoking in the forest, etc.)

3.2. Identify and map the principle evacuation routes and safe zones in the county.

Evacuations during a wildfire are complicated by the need to move residents out and fire response personnel in to the affected area. Knowing where the principle evacuation routes are will help residents evacuate efficiently and help emergency responders to anticipate challenges with bottlenecks and populations requiring assistance.

Timeline:	Winter 2009
Lead:	County Sheriff
Outcomes:	A tool for educating residents about evacuation routes before and during a wildfire event.
Implementation Strategy:	Use risk data and County GIS data on population distribution to identify key evacuation routes, alternative routes and bottlenecks. Distribute maps to emergency responders. Utilize maps during home evaluations to talk to residents about what to do during an evacuation.
Progress:	
Monitoring:	Annual review and update

3.3. Facilitate the installation of water storage systems by providing standard fixtures to make existing systems accessible to fire responders. Encourage residents with private wells to install water storage systems and provide technical assistance and grant funding.

Even if water sources are available, they may not be useful for fire responders if they cannot connect their pumps or hoses to the storage tanks. Working with residents to provide these fixtures will ensure quick access to the water and help to build trust in the community. In low-income communities, grant funding may be available to subsidize the installation of systems.

Timeline:	Brochure-Spring '08
Lead:	CFPA, Fire Chief's Association
Outcomes:	Increased protection capacity for fire response personnel.
Implementation Strategy:	CFPA could create and distribute a handout to residents that describe the characteristics of a proper water supply system. Investigate opportunities to obtain grant assistance to fund system upgrades or installations.
Progress:	CFPA staff educate and encourage residents to install water storage. The structural vulnerability assessment identifies areas of the county where lack of water capacity is a common issue.
Monitoring:	Collect data through ongoing CFPA home visits and evaluations. Percentage of homes with access to emergency wildfire water supply.

3.4. Evaluate and enhance existing emergency call-down system by conducting periodic tests and strengthening outreach efforts to collect and update contact information.

Curry County has a call down system called City Watch. It is a GIS enabled system managed by the Human Services department in Gold Beach. Once activated by the Emergency Operations Center (EOC), the system can deliver a recorded phone call, fax or email to residents in targeted areas. If phone service is disrupted the EOC has a backup plan using radios and/or door-to-door communication. City Watch is a reverse 911 system to communicate with residents.

Timeline:	Ongoing – County Dispatch updates contact information for the call-down system on a regular basis
Lead:	County Emergency Services, County Dispatch
Outcomes:	An effective all hazard emergency notification system.
Implementation Strategy:	Evaluate City Watch to gauge extent of coverage in the county; ID gaps. Conduct outreach via social service agencies, schools and the CFPA to collect and update residents' contact information. Establish community phone trees to augment/back-up City Watch . Conduct a large-scale test of the system.
Progress:	To date the system has only been tested on a limited basis and there is not formalized outreach effort to collect and update contact information. Coverage (# of residents enrolled) is not known. The Rogue Valley Council of Governments manages a volunteer disaster registry for special needs populations, their program could serve as a model for integrating information about special needs populations into the notification system.
Monitoring:	Annual review and test at the county level.

3.5. Provide CERT (Citizen Emergency Response Training) to home care providers.

Home care providers are an important link between social service agencies and their clients in the community. They could play an important role in assisting those agencies coordinate evacuations and response in any natural disaster.

Timeline:	Twice a year, on an annual basis
Lead:	County Emergency Services, Social Service Agencies
Outcomes:	Increased capacity to meet the needs of vulnerable populations in a natural disaster.
Implementation Strategy:	Work with social service providers who employ home care providers to do outreach and recruitment. Schedule CERT trainings and partner with the Public Health Advisory Committee to do outreach and recruitment for the trainings for other interested community members.
Progress:	
Monitoring:	Bi-annual review and update of list of certified home care providers. Percent of home care providers that are certified.

Goal 4: Conduct hazardous fuels reduction on public and private land

4.1. Identify, secure resources for, and implement fuels reduction projects on public and private land.

The CWPT will explore available funding strategies to do fuels reduction work on both public and private land using the CWPP risk assessment to prioritize projects in high risk areas.

Timeline:	Ongoing
Lead:	FS, BLM, CWPT partners
Outcomes:	Reduced fire hazard, increased opportunities for biomass utilization for economic development.
Implementation Strategy:	On an annual basis, create a list of priority fuels reduction projects. Identify public and private resources and grants for fuels projects. Coordinate project planning with grant cycles and project scoping schedules. Work with BLM and Forest Service to ensure that high priority projects are included in agency vegetation management strategies. Identify coordinators for fuels projects. Work with fuels project coordinators to track outcomes.
Progress:	The CWPT has identified priority fuels projects through a review of the Curry County risk assessment. The CWPT submitted a National Fire Plan grant for 2008 to fund high priority projects on private lands.
Monitoring:	Annual evaluation of acres treated, periodic review of priority fuels reduction projects to reassess as projects are completed. Link to the FS fuels management process and maintain a list of priorities to ensure that the FS recognizes the priorities.

4.2. Explore opportunities to utilize stewardship contracting to accomplish fuels reduction work on public lands and provide local economic development opportunities.

To support the local economy, stakeholders and the general public want local companies and labor to be used for fuels reduction work. Stakeholders also emphasized the importance of preserving old-growth characteristics including large, fire resistant trees in the county. Like Biomass utilization, stewardship contracting is a relatively new concept in funding ecosystem restoration. While there are successful examples of stewardship projects in other parts of the state, the market for these projects is undeveloped in the South Coast region.

Timeline:	5 years
Lead:	USFS, BLM
Outcomes:	Increased use of local companies and labor for fuels reduction projects, and the maintenance of old-growth characteristics.
Implementation Strategy:	Present on Stewardship Contracting to the Biomass Coalition Provide education and outreach to local logging companies about opportunities to capture stewardship contracts
Progress:	In 1999 the Labor Economic Action Project (LEAP) conducted a community assessment of the developing ecosystem management industry in Coos and Curry counties.[108] While somewhat dated, the report and members of its advisory board could served as resources to understand the capacity of local companies to accomplish stewardship projects.
Monitoring:	Annual evaluation of fuels reduction contracts and percentage awarded to local companies

4.3. Institute free brush collection days.

The creation of defensible space around a home can create a significant amount of brush that needs to be disposed of. Providing opportunities for free disposal could entice homeowners to create and/or maintain defensible space.

Timeline:	Spring 2008
Lead:	CFPA, Curry Transfer and Recycling
Outcomes:	Free brush collection days every spring distributed throughout the county.
Implementation Strategy:	Identify a collection site for disposal at an incinerator. Coordinate transportation between neighborhood/resident sites and disposal site. Publicize collection days through a media campaign. A long-term goal is to pursue opportunities to find a viable economic use for this biomass, such as fuel for a cogeneration facility.
Progress:	Curry Transfer and Recycling currently offers free brush disposal at some locations in the county.
Monitoring:	Annual summary of number of days and total tons collected

4.4. Obtain funding to control gorse and other noxious weeds through partnerships with the Curry County Weed Board and South Coast Watershed Councils.

Stakeholder interviews and feedback from the public meetings indicate that noxious weeds, primarily gorse, are a priority concern particularly in the northern portion of the county.

Timeline:	Ongoing
Lead:	Curry County Weed Board
Outcomes:	Reduced hazardous fuels and restored native plant communities.
Implementation Strategy:	Partner with the Curry County Weed Board on grant applications to leverage funding. Focus funding on high-risk and high infestation areas using data from the risk assessment and weed inventory.
Progress:	The Curry County Weed Board is in the process of building partnerships and seeking grants to do weed eradication projects. Their organization has the potential to expand and capture more available funds. A recent RAC grant is funding a process to inventory weed infestations throughout the county.
Monitoring:	Annual summary of acres treated and number of acres of gorse in the county

4.5. Provide education and assistance for vulnerable populations to create defensible space around homes in high-risk areas.

Elderly or low-income residents may need financial assistance to accomplish the yard work necessary to create adequate defensible space. This action item would provide education as well as funding assistance to hire contractors to create defensible space.

Timeline:	Ongoing
Lead:	CFPA
Outcomes:	Decreased structural vulnerability
Implementation Strategy:	Identify and secure grant funding to subsidize work. Create a flier to advertise the program through social service providers. Work with local contractors and communities to coordinate projects (several in one area) to increase efficiency.
Progress:	The CFPA collected data on defensible space during their home evaluations from 2005 to 2005. This information could be used to target areas in the county that have a high percentage of lots with inadequate defensible space. Social service provider databases may also be useful in locating clients who may be financially or physically unable to accomplish fuels reduction work around their homes.
Monitoring:	Number of homes that receive assistance and decrease in percentage of lots with inadequate defensible space.

4.6. Create and maintain a list of local contractors who do fuels reduction work. Make this list available to the public.

To support the local economy, stakeholders and the general public want local companies and labor to be used for fuels reduction work. Additionally, many citizens are interested in finding contractors but don't know where to find assistance.

Timeline:	January 2008
Lead:	South Coast Watershed Councils
Outcomes:	Increased use of local companies and labor for fuels reduction projects
Implementation Strategy:	Use existing list from the SCWA and include in Curry County CWPP. Include disclaimer language from the Oregon Dept. of Forestry, Southwest Oregon district contractor list. Include the list with information packets used in other action items. (e.g. open-houses, structural vulnerability evaluation visits).
Progress:	The SCWA has a start to a contractor list as part of the recent rural landowner guide.
Monitoring:	Annual evaluation of fuels reduction contracts and percentage awarded to local companies.

4.7. Develop a program to educate local contractors and landscapers about home wildfire preparation. Develop a list of trained contractors and make available to the public.

This program could be modeled after the master gardeners program and run through the county extension. The Chamber of Commerce could be used as a partner to promote local landscapers and contractors that have completed the training. CFPA staff could distribute lists and contact information for certified contractors and landscapers who have completed the training during their home evaluation visits.

Timeline:	Long-term
Lead:	OSU Extension
Outcomes:	Educated contractors and landscapers that promote wildfire safety through their work.
Implementation Strategy:	Review Jackson County's pilot program and evaluate for feasibility in Curry County. Conduct outreach to local contactors to generate interest in the program. Work with SCWA and the OSU Extension office to coordinate program development. Provide the list of contractors with information about wildfire preparation during home evaluations or in packets of information that realtors and insurance agents provide to their clients.
Progress:	Jackson County is developing a proposal/pilot program for a Homesite Inspector Training Program. They potentially have resources to share and train other counties
Monitoring:	Number of trained contractors and landscapers

Goal 5: Address wildfire risk reduction in planning and development

5.1. Educate property owners about the hazard created by noxious weed infestation along right of ways.

Noxious weeds such as gorse and scotch broom can quickly spread along right of ways to infest new areas. These infestations increase wildfire risk by increasing fuel loads along corridors that may be critical evacuation routes in the event of a wildfire.

Timeline:	Ongoing
Lead:	Curry County Weed Board
Outcomes:	Right of ways free of gorse and scotch broom.
Implementation Strategy:	Include information on integrated management techniques in education efforts to land managers and owners. Continue presentations to master gardeners who then volunteer in the community and work through informal social networks to disseminate information. Complete inventory of noxious weed data. Target priority infestations and do focused outreach in those areas.
Progress:	The County Weed Board is in the process of building partnerships with ODOT, Bonneville Power Administration and other agencies that manage rights of way as well as private landowners. The Weed Board does work with the FS and the BLM and recently obtained RAC funding to do a county-wide inventory using GIS. The weed board has completed eradication projects along some right of ways as part of larger landscape scale projects.
Monitoring:	Numbers of acres treated, periodic review of noxious weed inventory.

5.2. Implement Senate Bill 360 using information from the CWPP risk assessment and in out-reach strategy in coordination with the State Forestry Office.

Several Oregon counties have already implemented Senate Bill 360 standards. Learning from their experiences will streamline the process in Curry County.

Timeline:	2009
Lead:	ODF, CFPA
Outcomes:	Reduced structural vulnerability and increased awareness about wildfire risk.
Implementation Strategy:	Develop a process to identify, notify and educate affected property owners. Other action items in the plan will support this action item by creating resources for property owners 1) List of "Firewise" contractors and landscapers 2) List of contractors that can do fuels reduction work 3) Grant assistance for vulnerable populations. Track compliance through self-registration process and use that information to do targeted outreach where there is low compliance.
Progress:	The CWPP risk assessment includes information that can be used to identify those areas that are subject to SB360.
Monitoring:	Percentage of properties in the WUI that are self-registered.

5.3. Update the Curry County fire code to reflect state standards established by the Office of the State Fire Marshal.

The Curry County fire code was last modified in 1994 and does not currently address standards in more up-to-date codes around the state.

Timeline:	2008
Lead:	Curry Fire Chief's Association; OSFM
Outcomes:	New development in Curry County that is at reduced risk from wildfire.
Implementation Strategy:	Support the Curry Fire Chiefs in their effort to update the plan.
Progress:	Resource Innovations developed a comparison of the Curry County fire code to more recently updated codes in other Oregon counties. The OSFM and local fire districts are working together to bring Curry County fire codes up to state standards.
Monitoring:	Annual review of existing codes and needs for modifications.

Goal 6: Increase public education and outreach

6.1. Develop a program that offers tours of homes that have well maintained defensible space, signage, access and fire resistant structures.

An obstacle to motivating homeowners to create defensible space around their homes is the impression that it will look like a clearcut. Leading tours of neighbor's homes can help overcome this impression. Homes selected as models of good "Firewise" preparation also give positive recognition to residents who take steps to protect their home and their community. The tours would be an opportunity for neighbors to engage in a community dialogue about fire preparedness.

Timeline:	Summer 2008
Lead:	CFPA, BLM
Outcomes:	On-going program that organizes tours throughout the county.
Implementation Strategy:	Identify a home to receive a wildfire "home make-over". Document before and after photos. Host an "open house" for area residents to come and talk with their neighbors, contractors and fire fighters and see a before and after presentation. Coordinate with existing home tour programs that highlight gardens and real estate; include real estate agents in education effort.
Progress:	The CFPA conducted home visits during 2005 and 2006 to evaluate homes at-risk to wildfire. During their visits they talked to residents to educate them about steps that they could talk to better prepare their homes against wildfire. These one-to-one interactions were very constructive and helpful in building trust and communication.
Monitoring:	Annual summary of tours and number of participants.

6.2. Partner with schools to share information about wildfire risks and steps to effective preparation.

Schools located in areas identified as high risk for wildfire could distribute information about evacuation routes and defensible space through their students. Engaging students in wildfire issues is an effective way to do outreach to their parents.

Timeline	October and May
Lead:	CFPA and RFPDs
Outcomes:	Residents who are aware of the wildfire risk and educated about steps they can take to prepare for a wildfire.
Implementation Strategy:	Identify materials/curriculum to use in school education programs. Review the fire mitigation field kits developed in Jackson and Josephine County; identify resources to replicate kits in Curry County.
Progress:	School districts were included in stakeholder interviews.
Monitoring:	Annual number of presentations to schools.

6.3. Continue to offer free home evaluations to collect data on structural vulnerability and provide a one-on-one education about steps residents can take to reduce vulnerability.

Public meeting participants, social service agency staff, and stakeholders interviewed for the CWPP frequently cited one-on-one education and outreach as an effective way to inform residents about wildfire risk. These home evaluations are also an opportunity to collect new data to use for periodic updates to the structural vulnerability assessment and wildfire risk analysis used to set fuels reduction priorities.

Timeline:	Each Spring
Lead:	CFPA
Outcomes:	Reduced structural vulnerability and increased trust between residents and fire protection personnel
Implementation Strategy:	Produce a flier that describes the evaluations, why they are done, what the information is used for and who to contact to request one. Distribute flier with information to insurance agents and realtors to provide to new residents along with change of address form, utility company info, etc. Each spring place a newspaper ad to advertise the service. Do presentations at schools and send the fliers home with students to give to their parents in conjunction with action item 6.2
Progress:	The CFPA have conducted initial evaluations and outreach efforts to an estimated 2/3 of the homes in the WUI during 2005 and 2006. Many residents were receptive and appreciated the CFPA's efforts.
Monitoring:	Number of visits requested, % of homes in the WUI that have had recent evaluations.

6.4. Create a program to distribute information to residents about how to install and maintain adequate address signage.

Description: Lack of adequate address signage is an important issue for emergency response personnel. According to the Structural Vulnerability Study, this is a particular issue in the Agness- Illahe VFD.

Timeline:	Spring brochures; Ongoing
Lead:	County Planning and RFPD
Outcomes:	Clear and unambiguous address signage for all homes.
Implementation Strategy:	Develop a brochure with guidelines for installing visible signage. Emphasize the importance of visible signage. Create a distribution method through schools, fire chief's BBQ's, home visits or other events. Work with local hardware stores to stock supplies and create a merchandise display with education materials to promote at the beginning of the fire season.
Progress:	CFPA staff collected data about signage during the structural vulnerability study. Maps of this data could be used to help target areas were there is a high percentage of inadequate address signage.
Monitoring:	Maintain data on signage as part of the ongoing data collection and home evaluation program. Percent of homes with inadequate address signage.

6.5. Target outreach and technical assistance to residents with wood shake roofs to identify and overcome barriers to upgrading those roofs to more fire-resistant materials.

Homeowners may require increased awareness about risk or more financial resources to replace wood shake roofs. Working with residents to overcome these barriers will help reduce structural vulnerability.

Timeline:	Ongoing
Lead:	CFPA
Outcomes:	Reduced structural vulnerability
Implementation Strategy:	Create packets that include information on fire-resistant building materials, local contractors and other types of assistance. Work with insurance agents on outreach efforts and to develop incentives for replacing shake roofs. Conduct door to door visits to distribute the packets and talk with property owners.
Progress:	CFPA staff collected data about roof type during the structural vulnerability study. Maps of this data could be used to help target areas were there is a high percentage of wood shake roofs
Monitoring:	Collect data as part of the ongoing CFPA home visits and evaluations. Percentage of structures with wood shake roofs in the county.

6.6. Work with real estate agencies to educate realtors about structural vulnerability and wildfire risk.

Understanding wildfire risk and structural vulnerability will help realtors educate new home buyers so that they can make informed decisions about their purchases.

Timeline:	Ongoing
Lead:	Curry County Board of Realtors
Outcomes:	Reduced structural vulnerability
Implementation Strategy:	Conduct outreach to area realtors. Work with State Firewise Communities Coordinator to provide education at Board of Realtors meetings. Provide realtors with information about structural vulnerability and the relationships between vulnerability, home insurance and home value. Educate realtors about Senate Bill 360 requirements.
Progress:	The Curry County Board of Realtors holds regular meetings and has expressed an interest in supporting the education goals of the plan.
Monitoring:	Invite an industry representative to attend annual CWPT meetings to report to the group on the effectiveness of the outreach and education efforts.

6.7. Utilize local media to publicize successful implementation of the Curry County CWPP as opportunities arise.

The media can play a powerful role in educating the public about wildfire risk and strategies for protecting homes, properties, and local resources.

Timeline:	Ongoing
Lead:	BLM, CFPA, County
Outcomes:	Increased public awareness
Implementation Strategy:	Coordinate local public information officers to send out press releases related to wildfire preparedness, as well as when specific events arise such as a fuels reduction project or actual wildfire.
Progress:	Local media have attended public meetings and written several articles related to the planning process.
Monitoring:	Monitor the number of articles in local newspapers and radio stations that are related to wildfire preparedness.

Chapter 10: Plan Adoption, Implementation, and Monitoring

10.1 Public Outreach and Review

The Curry Wildfire Preparation Team (CWPT) presented a draft of the Curry County Community Wildfire Protection Plan (CWPP) to the Curry County Commissioners on January 2nd, 2008. This presentation also served to kick off a month-long public review process. The CWPT issued a draft press release to announce the availability of the draft plan at the same time. The CWPT made hard copies of the plan available in each of the public libraries through the county, and posted an electronic version on line. Resource Innovations sent an email announcing the availability of the draft plan to all people involved in the stakeholder interviews, special needs assessment, public meetings, and biomass utilization forum.

Resource Innovations prepared a PowerPoint presentation for CWPT members to use in various presentations throughout the county. CWPT members shared responsibility for this level of public outreach about the plan and presented the draft plan to the Brookings, Gold Beach, and Port Orford City Councils, the South Coast Watershed Councils, Lower Rogue Watershed Councils, and several fire districts, among other organizations.

10.2 Plan Adoption

After integrating comments received during the public review period, the CWPT presented the final plan to the Curry County Commissioners for adoption on February 19th, 2008. The Curry County Commissioners adopted the plan and participated in a signing ceremony that included the County Fire Chief and Coos Forest Protective Association. This follows direction within the Healthy Forests Restoration Act (HFRA), which names a local government representative, a local fire official, and a representative from the State Department of Forestry to be core partners and signers of a Community Wildfire Protection Plan.

10.3 Memorandum of Understanding (MOU)

The partnership between organizations on the CWPT extends beyond the three organizations that can act as signers of the CWPP. However, (HFRA) does not provide for federal agencies or other partners outside of the local government, fire district, and state forestry representatives to be signatories to a Community Wildfire Protection Plan. Because of the strength of this partnership, members of the CWPT agreed to develop a memorandum of understanding (MOU) that would illustrate the roles and responsibilities of all of the organizations on the CWPT in implementing the fire plan. The MOU will also specifically outline federal agencies roles in implementation of the fire plan and high priority fuels reduction projects on public land.

10.4 Fire Plan Oversight and Implementation

The CWPT initially formed to provide oversight to the structural vulnerability assessment and subsequently the CWPP. Members of the CWPT remain committed to partnering on implementation, monitoring, and evaluation of the CWPP. To accomplish this, they have developed the following strategies:

Meetings

- The CWPT will continue to meet on a monthly basis by conference call.
- Every third month, the CWPT will meet in person.
- CWPT members will use meetings to coordinate on grant opportunities, monitor implementation of action items, and discuss new ideas.

Roles and responsibilities

- Committee Chair:
    - The CWPT will appoint/nominate a committee chair that will be responsible for convening monthly CWPT meetings and working with the facilitator to develop meeting agendas.
- CWPT members:
    - Participating in monthly conference calls and quarterly in-person meetings.
    - Coordinating implementation of actions they are listed as lead partners for.
    - Participate in an annual review process and with the development of the annual report and updated action plan.
- Facilitator(s):
    - The CWPT may seek to use remaining National Fire Plan grant funds to hire a facilitator for the CWPT meetings. The facilitator will be responsible for working with the committee to chair to develop agendas, as well as coordinate communication with the CWPT, send out meeting minutes, and assist with annual reporting requirements.

Monitoring and Evaluation

Each year, the CWPT will develop an annual report that includes an evaluation of CWPP progress and an updated action plan that sets priorities for work in the coming year. The annual report will also highlight successes and challenges encountered during implementation of the CWPP.

Appendices

List of Supplemental Appendices Available On-line

Chapter 4 Appendix – Resource and Capabilities Assessment

Appendix 4.1. Curry County Zoning Ordinance
Appendix 4.2. Zoning Ordinance Comparison

Chapter 5 Appendices - Structural Vulnerability

Appendix 5.1. Detailed Data Tables
Appendix 5.2. Structural Vulnerability NFPA Ratings by Jurisdiction
Appendix 5.3. NFPA Rating Method Detail
Appendix 5.4. CFPA Evaluation Form
Appendix 5.5. OSFM Triage Form Checklist
Appendix 5.6. Example data collection form for structural vulnerability evaluation

Chapter 7 Appendices - Biomass Utilization and Economic Development

Appendix 7.1 Biomass Presentations
Appendix 7.2 Curry County Biomass Forum Participants

Chapter 8 Appendices- Vulnerable Populations Assessment

Appendix 8.1 Vulnerable Populations Interview Script

Appendix A: Acronyms

BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CAR	Community At Risk
CFPA	Coos Forest Protective Association
CWPP	Community Wildfire Protection Plan
CWPT	Curry Wildfire Preparation Team
FEMA	Federal Emergency Management Administration
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act
HUD	Housing and Urban Development
ICS	Incident Command System
ISO	Insurance Services Office (Fire Hazard Rating)
NFP	National Fire Plan
NFPORS	National Fire Plan Operating and Reporting System
NHMP	Natural Hazards Mitigation Plan
NIMS	National Incident Management System
ODF	Oregon Department of Forestry
SWOFMP	Southwest Oregon Fire Management Plan
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WUI	Wildland Urban Interface

Appendix B. Definitions and Policies

This section provides a summary of policies and definitions of Wildfire Risk Assessment, Communities at Risk, wildland urban interface, and defensible space.

Source: Josephine County Integrated Fire Plan, November 2004

Definitions of Communities at Risk:

Healthy Forests Restoration Act of 2003: Title I – Hazardous Fuel Reduction on Federal Land, SEC. 101. Definitions:

(1) AT-RISK COMMUNITY.—The term ‘‘at-risk community’’ means an area—

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; in which conditions are conducive to a large-scale wildland fire disturbance event; for which a significant threat to human life or property exists as a result of a wildland fire disturbance event.

National Association of State Foresters Identifying and Prioritizing Communities at Risk

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. NASF defines ‘Community at Risk’ as “a group of people living in the same locality and under the same government” (The American Heritage Dictionary of the English Language, 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 (FR Vol. 66, No. 3, Pages 751-154, January 4, 2001).’

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 stakeholders. They suggest using the 2000 census data (or other suitable means) 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.

Federal Register/Vol.66,No.160 /Friday, August 17,2001 /Notices

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. 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 Sep-

tember 18, 2000. Under this definition, ''the urban wildland interface community exists where humans and their development meet or intermix with wildland fuel.''

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.

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.

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.

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.

A Definition of Community, James A. Kent/Kevin Preister

"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. 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. 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. 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

Firewise Definition of Community

"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'. Homeowner associations and similar entities are the most appropriate venue for the Firewise Communities/USA recognition program. 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/usa/

Executive Order NO. 04-04 Oregon Office of Rural Policy and Rural Policy Advisory Committee

Frontier Rural – A geographic area that is at least 75 miles by road from a community of less than 2000 individuals. It is characterized by an absence of densely populated areas, small communities, individuals working in their communities, an economy dominated by natural resources and agricultural activities, and a few paved streets or roads.

Isolated Rural – A geographic area that is at least 100 miles by road from a community of 3000 or more individuals. It is characterized by low population density (fewer than five people per square mile), an economy of natural resources and agricultural activity, large areas of land owned by the state or federal government and predominately unpaved streets.

Rural – A geographic area that is at least 30 miles by road from an urban community (50,000 or more). It is characterized by some commercial business, two or fewer densely populated areas in a county, an economy changing from a natural resource base to more commercial interests and reasonable, but not immediate access to health care.

Urban Rural – A geographic area that is at least 10 miles by road from an urban community. It is characterized by many individuals community to an urban area to work or shop, an economy with few natural resource and agricultural activities, easy and immediate access to health care services and numerous paved streets and roads.
http://governor.oregon.gov/Gov/pdf/ExecutiveOrder04-04.pdf

Wildland Urban Interface Definitions:

Federal Register/Vol.66,No.160 /Friday,August17,2001/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: 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: 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 Space Definitions:

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 home ignition zone. http://firelab.org/fbp/fbresearch/wui/pubs.htm

NFPA Publication 1411 defines defensible space as "An area as defined by the AHJ (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 fire fighters protecting life and improved property from wildland fire.

Is Your Home Protected from Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit, Institute for Business and Home Safety

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 department. One of the easiest ways to establish a survivable space is to use the zone concept.

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.

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.

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. 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. http://www.ibhs.org/publications/view.asp?id=130

Living with Fire: A Guide for the Homeowner

This guide, distributed in Oregon through the Pacific Northwest Wildfire Coordinating Group, provides information on creating effective defensible space and guidelines illustrated below.

Defensible Space Recommended Distances:

	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

source: http://www.fs.fed.us/r3/publications/documents/livingwithfire.pdf

Fire Free

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.

http://www.firefree.org/ffreenew/subpages/gitz.htm

Appendix C. Grant Resources

Federal Sources

Interagency National Fire Plan Community Assistance

Grant Administration: USFS/BLM/USFWS/BIA

Description: This grant provides a collaborative process for awarding funds to hazardous fuels reduction projects on non-federal land in the Wildland-Urban Interface. Applications will be evaluated by a three step local, state and federal review based on the criteria outlined for each of the program categories: local, state and federal.

Funding Priorities	Who Can Apply	Match Requirements
• Eligible projects must be adjacent to federal land and identified in a Community Wildfire Protection Plan (CWPP) completed by Feb. 8, 2008 • Eligible projects include fuels treatment, fuels utilization (i.e. biomass utilization) and marketing proposals identified as high priority in CWPPs • Collaborated CWPP projects must implement fuels treatments in the wildland-urban interface	• Counties, cities, state, and local government agencies • Federally recognized tribes • Universities and colleges • State charted non-profit organizations in Oregon and Washington • No more than two proposals per county may be submitted; they must be in high-risk areas as identified in the statewide risk assessment	Collaborative match of at least 50 % (may include in-kind)

Applications Due: February of each year

Contact/Application Information: http://www.nwfireplan.gov/CommunityAsst.htm

Volunteer Fire Assistance (VFA) Grants

Grant Administration: ODF, USDA FS

Description: Financial assistance for Volunteer Fire Departments.

Funding Priorities	Who Can Apply	Match Requirements
• Organizing, • Training, and • Equipping rural fire districts	Volunteer fire departments serving communities under 10,000 people	10-50% of money or in-kind services

Applications Due: April

Contact/Application Information: http://egov.oregon.gov/ODF/FIRE/grantopps.shtml

Assistance to Firefighters Grant (AFG) "Fire Grants"

Grant Administration: FEMA, U.S. Fire Administration

Description: The AFG program awards one-year grants directly to fire departments and nonaffiliated emergency medical services (EMS) organizations of a state to enhance their abilities with respect to fire and fire-related hazards. This program seeks to support organizations that lack the tools and resources necessary to protect the health and safety of the public and their emergency response personnel with respect to fire and all other hazards they may face.

Funding Priorities	Who Can Apply	Match Requirements
• Firefighter and EMS operations and safety, training programs • Firefighter and EMS equipment and vehicle acquisition • Firefighter and EMS wellness and fitness programs • Modifications to fire stations, EMS stations and facilities	• Fire departments • Nonaffiliated EMS organizations • Volunteer and combination (all volunteer or paid staff and volunteer) organizations	Fire departments and nonaffiliated EMS organizations serving populations of over 50,000 or more must match with non-federal funds equal to 20 % of total project cost; populations between 20,000 and 50,000: 10 %; populations 20,000 or fewer: 5 %. All non-federal match funds must be in cash; in-kind contributions are not acceptable.

Applications Due: May

Contact/Application Information: www.firegrantsupport.com/afg/

Staffing for Adequate Fire and Emergency Response (SAFER)

Grant Administration: FEMA, U.S. Fire Administration

Description: The SAFER grants program awards grants directly to volunteer, combination, and career fire departments to help the departments increase their cadre of firefighters. Ultimately, the goal is for SAFER grantees to enhance their ability to attain 24-hour staffing.

Funding Priorities	Who Can Apply	Match Requirements
• Hiring of firefighters • Recruitment and retention of volunteer firefighters	• All volunteer and combination fire departments may apply for either or both of the two grant program activities • Volunteer firefighter interest organizations are eligible for funding for volunteer recruitment. • Career fire departments are eligible for funding only in the Hiring of Firefighters	• None for Recruitment and retention of volunteer firefighters • Some matching funds required, see application for details.

Applications Due: August

Contact/Application Information: www.firegrantsupport.com/safer/

Fire Prevention and Safety Grants (FP&S)

Grant Administration: FEMA, U.S. Fire Administration

Description: FP&S grants fund fire prevention activities and research and development of improvements to firefighter safety. Fire Prevention Grants are designed to reach high-risk target groups and mitigate incidences of deaths and injuries caused by fire and related hazards.

Funding Priorities	Who Can Apply	Match Requirements
• Fire Prevention and Safety: public education campaigns, smoke alarms, sprinkler awareness, code enforcement /awareness, firefighter safety, training, risk assessment, wildfire, arson and general prevention/awareness • Firefighter Safety Research and Development: database /data collection and analysis projects/systems, social science studies/projects and technology studies that address injury outcomes or their surrogates such as firefighter safety, wellness, fitness or health	• For Fire Prevention and Safety: fire departments, and national, regional, state, local, or community organizations, private and public nonprofit, recognized for their experience and expertise in fire prevention and safety programs and activities • For Firefighter Safety Research and Development: national, regional, state, local, or community organizations, such as academic, public health, occupational health, and injury prevention institutions, particularly those recognized for experience and expertise in firefighter safety research and development programs or whose applications demonstrate the potential to improve firefighter safety. Private and public nonprofit and non-federal and non-governmental organizations are eligible to apply for funding. Fire departments are NOT eligible	• For Fire Prevention and Safety: fire departments are subject to the same cost-sharing requirements for Fire Prevention and Safety as the AFG grants (see above) • For Fire Prevention and Safety and Firefighter Safety Research and Development: private and public non-profit, non-federal and nongovernmental organizations, and academic institutions have NO cost-share requirement

Applications Due: November

Contact/Application Information: www.firegrantsupport.com/fps/

Pre-Disaster Mitigation (PDM) Grant Program

Grant Administration: FEMA

Description: PDM's goal is to provide funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event

Funding Priorities	Who Can Apply	Match Requirements
• Plans and projects that reduce overall risk to populations and structures, while also reducing reliance on funding from actual disaster declarations	• States, territories, tribal governments, communities, and universities	None

Applications Due: Prospective sub-applicants should consult the official designated point of contact for their applicant State/Tribe/Territory for further information regarding specific program and application requirements

Contact/Application Information: FEMA Regional offices - http://www.fema.gov/about/contact/regionx.shtm

State Hazard Mitigation Officers - http://www.fema.gov/about/contact/shmo.shtm

Fire Management Assistance Grant Program

Grant Administration: FEMA

Description: Fire Management Assistance is available for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster

Funding Priorities	Who Can Apply	Match Requirements
• Firefighting costs: expenses for field camps • Equipment use, repair and replacement • Tools, materials and supplies • Mobilization and demobilization activities	• States, local and tribal governments	25 % actual cost

Applications Due: The Fire Management Assistance declaration process is initiated when a State submits a request for assistance to the FEMA Regional Director at the time a "threat of major disaster" exists. The entire process is accomplished on an expedited basis and a FEMA decision is rendered in a matter of hours

Contact/Application Information: http://www.fema.gov/government/grant/fmagp/index.shtm

Reimbursement for Firefighting on Federal Property

Grant Administration: U.S. Fire Administration, FEMA

Description: Under Section 11 of the Federal Fire Prevention and Control Act of 1974, reimbursement may be made to fire departments for fighting fire on property owned by the Federal government.

Funding Priorities	Who Can Apply	Match Requirements
Firefighting costs over and above normal operating costs.	Fire Departments	None. Only firefighting costs over, above normal operating costs are reimbursable.

Applications Due: Claims are submitted to USFA and are reviewed by the Deputy Administrator to ensure they meet the criteria outlined in the Code of Federal Regulations.

Contact/Application Information: Contact USFA's Tim Ganley at (301) 447-1358 for more information or http://www.usfa.dhs.gov/fireservice/grants/rfff/

Community Facilities (CF) Program (grants and loans)

Grant Administration: USDA Rural Development

Description: To help develop essential community facilities for public use in rural areas to ensure that such facilities are readily available to all rural communities. These facilities include schools, libraries, childcare, hospitals, medical clinics, assisted living facilities, **fire and rescue stations**, police stations, community centers, public buildings and transportation.

Funding Priorities	Who Can Apply	Match Requirements
• Construction, enlargement, or improvement of community facilities for healthcare, public safety, and public services, including costs to acquire land needed for a facility, pay necessary professional fees, and purchase equipment required for its operation. • Refinancing existing debts may be considered an eligible direct or guaranteed loan purpose if the debt being refinanced is a secondary part of the loan, is associated with the project facility, and if the applicant's creditors are unwilling to extend or modify terms in order for the new loan to be feasible.	• Public entities: municipalities, counties, special-purpose districts, non-profits and tribal governments • In rural areas and towns of up to 20,000 in population. • Loan applicants must have the legal authority to borrow and repay loans, pledge security for loans, and construct, operate, and maintain the facilities. • Applicants must have the legal authority necessary for construction, operation, and maintenance of the proposed facility and be unable to obtain needed funds from commercial sources at reasonable rates and terms. • Applicants located in small communities with low populations and low incomes will receive a higher percentage of grants.	• None, but … • Grant amount depends upon median household income and population in the project community. • For the direct loan program, there are three levels of interest rates: poverty, intermediate, and market. • For loans, the interest rate is the lender's customary interest rate for similar projects. • A grant may be made in combination with other CF financial assistance such as a direct or guaranteed loan, applicant contributions, or loans and grants from other sources.

Applications Due: Loans: ongoing, Grants: contact USDA Rural Development state office
Contact/Application Information: http://www.rurdev.usda.gov/rhs/cf/cp.htm or http://www.rurdev.usda.gov/or/

State Sources

State Fire Assistance Wildland Urban Interface Hazard Mitigation Grants (a.k.a. Western States Fire Managers Wildland Urban Interface Grant Program)

Grant Administration: USFS, BLM, and ODF

Description: This is a competitive grant process among the 17 western states and Pacific Island territories. Funds are to reduce the threat of fire in the wildland-urban interface through fuels, education and planning projects. Goals include improving prevention in the interface, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance.

Purpose	Who Can Apply	Match Requirements
• Hazard mitigation, • Fuels and risk reduction, • Information and education programs for homeowners and communities. • Firewise demonstrations and community workshops. • Homeowner incentive programs to reduce fuels. *Note: Criteria may vary slightly for each year.	• State Forestry • Organizations sponsored through State Forestry.	50/50 non-federal match *Note: Exception – Title III funds under the Secure Rural Schools and Community Self-Determination Act of 2000 are not considered federal dollars.

Applications Due: Mid September

Contact/Application Information: http://egov.oregon.gov/ODF/FIRE/grantopps.shtml

Biopower Energy Program

Grant Administration: Energy Trust of Oregon

Description: The Biopower program provides financial support for new biomass projects that generate electricity for PGE or Pacific Power customers in Oregon. Eligible projects use several types of organic material, including wood and wood byproducts from milling operations, wood from forest thinning, and wood waste from timber operations. The program also provides services to aid project developers and the renewable energy industries in building a healthy renewable energy business environment.

Funding Priorities	Who Can Apply	Match Requirements
• New or new additions to existing projects that use organic wastes from plant, animal or human sources to generate electricity • Funds may be available to share the cost of a project feasibility study	Interested applicants should contact Adam Serchuk, Bio-power Manager	None *Note: Energy Trust can provide up to 100% of a qualifying project's above-market costs. In return, Energy Trust takes title to a share of the green tags generated over the project's operating lifetime.
Applications Due: Ongoing		
Contact/Application Information: http://www.energytrust.org/RR/bio/index.html or Adam Serchuck: adam.serchuck@energytrust.org or 503-445-7632		

Forest Stewardship Plan (FSP) Program

Grant Administration: ODF, USDA FS		
Description: FSP's goal is to assist family forest landowners document their objectives, stewardship decisions, and recommended resource practices. To provide family forest landowners with a multidisciplinary, action-oriented natural resource stewardship plan		
Purpose	**Who Can Apply**	**Match Requirements**
Forest stewardship plan development – minimum plan size: 10 acres	Family forest landowners	25 % actual cost
Applications Due: Contact local stewardship forester for more information http://egov.oregon.gov/ODF/PRIVATE_FORESTS/odfsf.shtml		
Contact/Application Information: http://egov.oregon.gov/ODF/PRIVATE_FORESTS/cslist.shtml		

Federal Excess Property Program

Grant Administration: ODF
Description: Provides assistance to state, county and local governments by providing excess federal property (equipment, supplies, tools) for wildland and rural community fire response.
Contact/Application Information: Interested applicants contact Don Sohler: dsohler@odf.state.or.us for more information or http://www.oregon.gov/ODF/FIRE/fire.shtml

Forest Land Enhancement Program (FLEP)		
Grant Administration: ODF, USDA FS		
Description: FLEP's goal is to promote sustainable forestry on non-industrial private / family forests through maintenance, enhancement, and restoration of those forests. Financial incentives are available to qualified landowners to apply sustainable forest management practices on their land		
Funding Priorities	**Who Can Apply**	**Match Requirements**
• Cost share funds for: developing a forest stewardship plan, afforestation/reforestation, stand improvement, water quality improvement, wildlife habitat improvement, **wildfire risk reduction, wildfire rehabilitation**, and certain road improvement practices	• Non-industrial private / family forest landowners that own at least 10 acres (but not more than 5,000 acres) *Note: Prior to receiving funding for a specific project, landowners must have 1) an approved forest stewardship plan, and 2) have applied and been approved for funding of the on-the-ground project	30-50 % cost share
Applications Due: Contact local stewardship forester for more information http://egov.oregon.gov/ODF/PRIVATE_FORESTS/odfsf.shtml		
Contact/Application Information: http://egov.oregon.gov/ODF/PRIVATE_FORESTS/cslist.shtml		

Other Sources

EPA West Coast Collaborative - Grants & Resources for conservation, environmental compliance, research, and renewable energy: http://www.westcoastcollaborative.org/grants.htm

Oregon USDA – Grants: http://www.oregon.gov/ODA/grants.shtml

Stewardship grant resources through the US Fish and Wildlife Service - http://grants.fws.gov

ODF Forestry Incentive Programs - http://egov.oregon.gov/ODF/PRIVATE_FORESTS/cslist.shtml

NACD Catalog of Selected Federal Grants & Assistance Supporting the National Fire Plan - http://forestry.nacdnet.org/biomass/Funding/

Oregon Economic and Community Development Department - http://econ.oregon.gov/

Secure Rural Schools and Community Self-Determination Act of 2000 (Payment to Counties) - https://wwwnotes.fs.fed.us/r4/payments_to_states.nsf

Major Forestland Taxes, Oregon Forestland Taxes, Assessments and Credits - http://www.oregonwoodlands.org/ortax07july.pdf

Appendix D: Stakeholder Interviews

There are two major components of the public outreach for the CCWPP: public meetings and stakeholder interviews. This appendix summarizes the results of the stakeholder interviews.

Purpose

Conducting stakeholder interviews assists in gathering input from diverse community interests. By targeting different county constituencies, the county will have a better understanding of the broad array of perspectives related to wildfire in the county and result in a wildfire protection plan that meets the needs of the entire county.

The interviews solicited stakeholders' concerns about wildfire in Curry County, ideas and suggestions for the goals and objectives of this plan, and feedback about the planning process. The interviews also served as a first step in raising community awareness about the wildfire plan by informing stakeholders about the planning process.

Stakeholders are members of the community who either are community leaders or work for organizations that are likely to be directly affected by wildfire. They represent local, state, and federal agencies, local businesses and chambers of commerce, environmental organizations, hunting organizations, school districts, and Native American tribes.

Methods

The Curry Wildfire Preparation Team (CWPT) created an initial list of community stakeholders to be interviewed. Resource Innovations added more names to this list by asking the initial stakeholders for additional suggestions during interviews.

We conducted interviews over the phone (with one exception, which was by email) and most were one-on-one. We asked all stakeholders the same fifteen questions. The questions focused wildfire risk in Curry County, the wildfire planning process and suggestions for public outreach.

Stakeholders responded to questions about their perceptions of wildfire in the county and how it could affect their organization, goals and objectives they want to see included in the plan, and ideas they had for raising awareness about the planning process and the August public meetings.

Interview Results

We interviewed nineteen stakeholders, including representatives from:

- Oregon State Parks
- Cape Blanco State Park
- Rocky Mountain Elk Foundation
- Sunset Bay State Park
- Curry County Weed Advisory Committee
- Klamath-Siskiyou Wildlands
- Central Curry School District
- Port Orford/Langlois School District
- Port Orford Chamber of Commerce
- Brookings Chamber of Commerce
- Gold Beach Chamber of Commerce
- Kalmiopsis Audubon Society
- Friends of Cal-Ore Fish
- U.S. Fish and Wildlife Service
- Rogue River-Siskiyou National Forest
- Jerry's Rogue Jets
- Confederated Tribes of the Siletz
- Bandon Dunes Resort

Additional organizations identified as stakeholders that did not respond to requests for interviews received information about the plan and press release for the public meetings.

Wildfire Concerns

Stakeholders responded to questions about concerns they have about wildfire risk and how wildfire could affect their organization. Eight general themes summarize their responses to these questions.

1. Economic impact of wildfire.

One of the most common concerns raised by stakeholders about wildfire in Curry County was the economic impact from wildfires. There are two elements to this concern: the impact on tourism and the impact on natural resource based businesses, especially timber and fishing. The concerns about how wildfire would affect tourism included both impacts during the fire and impacts from the aftermath of a fire. During a fire, stakeholders indicated concern about the direct closure of tourism operations and a loss of visitors to the county just because of the presence of a fire in the area, even if an intended destination is unaffected by wildfire. Stakeholders also stated concern that the effects of wildfire on the scenic beauty of the county could lower long-term tourism in the county.

2. Fuel levels

Another common concern raised by stakeholders was the fuel level in Curry County forests and how this has contributed to unnatural stand replacement fires. Many stakeholders blamed this on the history of fire suppression in the area and urged for more fuel reduction work, including prescribed fires. Some also urged that fire suppression should no longer be the standard response to wildfire and that small fires should be allowed to burn if they will not become landscape sized fires (such as the Biscuit Fire).

3. Safety of people and structures; evacuation issues

Many stakeholders expressed concerns about the safety of people and structures. Some mentioned that the isolation of most Curry County cities and towns is a threat to communities; the isolation can make evacuations more difficult because of limited road access, and small communities and limited roads can slow the response time to many fires and make it difficult to bring in fire fighting equipment.

4. Ecological impact

Some stakeholders commented on the ecological importance of low-level fires and suggested that fire can be used as a management tool to accomplish many objectives, including supporting threatened wildlife and plant populations. Others also commented on the ecological loss resulting from large wildfires.

5. Thinning as a justification to support other purposes

A few stakeholders expressed concern about thinning for wildfire risk reduction being used to justify projects that have other goals, such as salvage logging or road building. For example, one stakeholder mentioned a case where fuels reduction was used as a justification for a new road, which was actually going to be used for a new real estate development.

6. Identifying high risk areas

Some stakeholders raised concerns about the process used for identifying areas at high risk for wildfire. They believed this to be important work, but there should be public input and there should be foresters involved who are focused on the ecological health of forests, rather than the timber potential.

7. Jurisdiction of wildfires

Another concern raised by a few stakeholders was the risk from wildfires that cross jurisdictional boundaries. Specifically, they were concerned that the lack of comprehensive fire and fuel reduction plans can lead to inconsistent fire reduction actions between neighbors, limiting their effectiveness.

8. Invasive, exotic species

There were two elements related to concerns about invasive species. The first concern was the effects that invasive species, specifically gorse and scotch broom, have on increasing fire risk. The second concern was the spread of invasive exotic species into recently burned areas.

Wildfire Planning Process

Questions about the planning process for the Curry County Wildfire Protection Plan resulted in information about familiarity among stakeholders about the planning process, comments or suggestions about the planning process, and suggested for plan goals and objectives.

Most stakeholders were not aware that the county had initiated a wildfire protection planning process. Those that had some level of awareness knew very little about the process. This is not surprising given that broad public outreach for the planning process began after the stakeholder interviews were completed.

Because of the unfamiliarity with the planning process, many stakeholders did not have any comments or suggestions for the process, except that it is good that it is underway. Those stakeholders that did have comments provided more general comments about what they would like to see in any planning process (as opposed to a critique of the Curry Wildfire Protection planning process). A few emphasized the importance of public participation, and others urged the process to include a collaborative, interdisciplinary team that includes all of the key stakeholders. They believed this could help avoid future adversarial situations if some disagree with the plan's findings and actions. Along these lines, one stakeholder wanted to make sure the plan does not get hijacked to meet the economic or political goals of a particular interest group or industry.

In addition to the participants in the planning process, stakeholders also hoped the process would be transparent, allowing outside groups and the public to follow the process. Another urged that the process establish multiple objectives from the beginning, since it is hard to retrofit a plan to address multiple objectives (for example, establishing high priority thinning areas that protect both human communities and endangered or threatened species.)

Goals and Objectives

Most stakeholders suggested goals and objectives for this plan. Many of their responses were similar and can be condensed into six broad categories. In addition to these categories, there are two other responses that deserve mentioning. First, one stakeholder urged the plan to include a

goal or objective related to the enforcement of existing zoning rules concerning wildfire, which the stakeholder felt the county/cities were too quick to waive or allow variances. Second, another stakeholder suggested that a goal/objective should address the isolated nature of Curry County, such as making Highway 199 a more viable transportation link out of the county.

1. Education

The most common response from stakeholders about goals and objectives concerned education. Many suggested education efforts for homeowners in the wildland-urban interface (WUI) about reducing wildfire risk to their properties and on their lands. Some emphasized that this education needs to be more than just leaflets or pamphlets and should include hands on, person to person education. Others highlighted the changing demographics of the county and that many of the new residents in the county are not familiar with the history and potential risks of wildfire and how to minimize them. One stakeholder suggested that information about areas at high-risk for wildfires should be made widely available and easily distributed through existing organizations, such as schools.

2. Fuels reduction

Most stakeholders also mentioned fuels reduction as a goal/objective for the plan and that the county should be mapped to prioritize high risk areas for treatment. A few stakeholders hoped that the plan would make using local companies and labor a priority for the fuels reduction work. Others urged the plan to make the fuels reduction address multiple objectives, including protecting people, structures, aesthetics and scenery, and listed species. Lastly, a stakeholder urged the plan to avoid controversy by including an objective/strategy/action item that preserves large diameter, fire resistant trees where they still exist.

3. Clear communication

Many stakeholders mentioned the importance of clear communication and hoped it could fit as a goal or objective. They included communication before a fire—making sure the fire danger level is widely distributed, especially to organizations and agencies like state parks that work with the public. Another stakeholder also hoped that the plan would clearly communicate the expectations of different agencies/organizations if there is wildfire. Once a wildfire has started, many stakeholders emphasized how important it is to keep the public and other agencies informed about the fire.

4. Coordinated response

A specific element of clear communication that stakeholders mentioned many times is the importance of creating a coordinated response plan to a wildfire. The plan should clearly lay out responsibilities for actions and coordination so that no time is wasted once a fire starts.

5. Let the small fires burn

A few stakeholders hoped this plan would include a goal or objective that would allow small fires to burn, instead of being suppressed. They emphasized the importance for a quick evaluation of a new wildfire's risk for growth or to structures and people; if a fire does not pose these risks, the fire should be allowed to burn.

6. Invasive species

Some stakeholders mentioned that the plan should have a goal/objective addressing the risks from invasive, exotic species that contribute to fire risk, specifically gorse.

Suggestions for public outreach

The third element of the stakeholder interviews was to raise awareness about the public outreach meetings and ask for assistance, ideas, and suggestions for the meetings. We asked stakeholders for advice, suggestions and ideas about how to raise awareness and increase attendance at the three public outreach meetings and how the public meetings should be organized to meet local expectations. We also asked stakeholders how they or their organizations could assist with the planning process, if they would like to attend the public meetings, and whether they were interested in receiving updates about the planning process. Lastly, stakeholders suggested other community members to be interviewed.

All stakeholders asked to receive plan updates as this process moves forward, and most said someone from their organization will attend at least one of the public meetings. Many stakeholders also offered help, mostly in the form of outreach assistance. Some offered to send information to their members or include it in a newsletter, others offered to make flyers and posters available to their clients, and some said they could help spread the word at meetings.

In addition to the help with outreach offered by stakeholders, they also had many other ideas about increasing public awareness about the August meetings. The most common suggestions were to use the local media (radio, tv, and newspaper), either through press releases or buying advertisements. Stakeholders suggested posting flyers and posters at community gathering spots, such as post offices, libraries and grocery stores. A few suggested direct mailings, especially to WUI property owners, and a few others emphasized the importance of word of mouth—talk to the key stakeholders in the communities about the meetings and ask them to spread the word.. Stakeholders also recommended many local events that could used to increase awareness, including the Curry County Fair, Southern Oregon Kite Festival, and the 4th of July Jubilee in Port Orford.

The stakeholders also had ideas about how to make the meetings more effective and how to meet local expectations. A few stakeholders noted the importance of making information about the planning process available before the meeting so folks can become familiar with the information and be prepared to discuss it before the meeting. Many stakeholders commented about the importance of offering different types of interaction. These included one-on-one and small group interaction, tours with demonstrations, presentations to all participants, use of visuals and maps, and many opportunities for public comment, including through the internet or mail after the meetings. Stakeholders also emphasized the importance of using plain English, avoiding jargon or overly technical language, and highlighting how this plan affects the participants directly.

Recommendations

The comments, suggestions and ideas provided by the stakeholders are important. This information can by synthesized into recommendations that can help inform this planning process. There are two categories of recommendations: 1) recommendations for the plan, including changes or additions to the draft goals and objectives, and 2) recommendations for the planning process.

1. Plan recommendations

Stakeholders suggested many of the same goals and objectives already included in the draft document. However, they also had additional suggestions that could be incorporated as objectives, strategies or action items.

- Consider scenic and aesthetic values and the needs of vulnerable and ESA-listed species in the risk assessment.
- Ensure the fire risk from invasive, exotic species, such as gorse and scotch broom, are included in the risk assessment.
- Increase public awareness about the fire risk from invasive, exotic species.
- Evaluate wildfire response protocols to move away from suppression to allowing small fires to burn.
- Ensure communication lines between agencies, emergency services, and the public are open and clearly outlined.
- Prioritize the use of local companies and labor when contracting out fuels reduction work to support the local economy.
- Promote the protection of large diameter, fire resistant trees in the county, especially in fuels reduction projects.
- Enforce existing county and city wildfire-related codes and eliminate variances for new development.
- Educate the growing population of new residents about the history and risk of wildfire in Curry County.

2. Process recommendations

Stakeholders had many ideas that could assist with the planning process.

- Use existing organizations' newsletters and listserves, do outreach to high-use community areas, and encourage word of mouth to attract the community to the public meetings. It will take more than just press releases.
- Keep the public involved and highlight how this plan is related to their lives.
- Keep the process transparent and accessible.
- Allow the public to participate in many ways, including face to face discussions, on tours with demonstrations, through the internet or mail, visually with maps, and listening to presentations.
- Ensure the planning process is representative of the demands and needs of all stakeholders, not just those with more money or resources.