Community Wildfire Protection Plan

Yamhill County
Oregon

August, 2009

Revised November 3, 2015

Prepared by

James H. Hulbert

Table of Contents

Signature Page

The contents of this document have been agreed upon and endorsed by the Yamhill County Board of Commissioners, the District Foresters for the Forest Grove and West Oregon Districts of Oregon Department of Forestry, and the Yamhill County Fire Defense Board Chief. This plan is not legally binding as it does not create or place mandates or requirements on individual jurisdictions. It is intended to serve as a planning tool for the fire and land managers of Yamhill County, Oregon, and to provide a framework for those local agencies associated with wildfire suppression and protection services to assess the risks and hazards associated with wildland urban interface areas and to identify strategies for reducing those risks. This is a working document to be reviewed by the Fire Defense Board Chief and updated as necessary.

Leslie Lewis Date

Chair, Yamhill Board of Commissioners

Kathy George Date

Vice Chair, Yamhill County Board of Commissioners

Mary P. Stern Date

Commissioner, Yamhill Board of Commissioners

Andrew White, District Forester Date

Forest Grove District, Oregon Department of Forestry

Mike Totey, District Forester Date

West Oregon District, Oregon Department of Forestry

John Stock, Date

Yamhill County Fire Defense Board Chief

Executive Summary

This Community Wildfire Protection Plan for Yamhill County was initiated by the Yamhill County Board of Commissioners in the spring of 2009. The primary purpose for the plan is to identify and prioritize wildfire hazards in Yamhill County and to develop a strategy to reduce those hazards. The plan qualifies the county, its communities and fire districts for National Fire Plan grants and other funding sources to treat wildfire hazards and to better prepare county residents for wildfires that may occur. It includes a strategy with wildfire hazard reduction projects which, as implemented, will decrease the potential for large wildfires in the county and reduce the potential loss of property values and threat to human life.

The planning process was designed to meet the guidance in the National Fire Plan and the Healthy Forest Restoration Act of 2003 (HR-1904). A Planning Team with representatives from the various agencies and local jurisdictions responsible for wildfire suppression and protection worked together to guide the planning process. Numerous meetings were held during development of the draft and final plan to gain input from representative interest groups. Goals for the planning process were:

- Provide opportunities for meaningful discussions among agency representatives regarding their priorities for wildfire protection. Involve local, state, and federal government representatives and interested citizens in the process.
- Identify and evaluate hazardous fuel conditions in wildland-urban interface areas. Prioritize areas for fuel reduction treatments. Identify a wildland-urban interface boundary for at-risk communities.
- Address structural ignitability and recommend measures that homeowners can take to reduce the ignitability of structures. Better prepare Yamhill County residents to survive and save their property during a wildfire situation.
- Evaluate the wildfire response resources of fire districts and recommend measures to strengthen their capability.
- Make the county and their respective fire districts and communities eligible for funding assistance to reduce wildfire hazards and to prepare residents for wildfire situations (National Fire Plan, Healthy Forest Restoration Act, FEMA and other sources).
- Complete the plan by mid-August 2009.

This plan describes the various agencies and local jurisdictions responsible for wildfire protection in the county. It explains the pertinent programs and laws associated with wildfire issues in the county. Section V gives an overall assessment of the wildfire risk in the county and considers and rates: ignition risk, wildfire hazards, values protected, protection capability, and structural vulnerability. A Wildland Urban Interface boundary is established and includes portions of Federal and private lands. Section VI offers projects designed to reduce the wildfire risk for the county as a whole, and for specific fire protection districts.

Yamhill County has many wildfire hazards and is vulnerable to wildfire events which could threaten property values and human life. The wildfire risk level is high throughout

the county. However, because the conditions are not as hot and dry as most east-side Oregon counties, it has not experienced as many fires on an annual basis. While the fire frequency is at a lower level as compared with east side counties, there is potential for large and severe fires when conditions are right.

I. Introduction

The purpose of this Community Wildfire Protection Plan (CWPP) is to address wildfire risks in Yamhill County and to identify measures which will reduce the risk of property loss and the threat to human lives from wildfires. The plan was developed collaboratively with community and agency partners interested in reducing wildfire risk. It identifies and prioritizes areas for hazardous fuel reduction treatments, and recommends methods of treatments that will protect at-risk communities and essential infrastructure. Further, the plan recommends measures that homeowners and communities can take to reduce ignitability of structures throughout the county.

Completion of this plan makes Yamhill County and its communities and fire districts eligible for National Fire Plan grants and other funding sources to treat hazard fuel situations and to better prepare residents for wildfires that may occur. The plan describes projects which, when implemented, will reduce the potential for large wildfires in the county. It offers a strategy and methods designed to reduce the potential loss of property values and threat to human life from wildfires.

This CWPP was prepared with the help of funding from Yamhill County, Oregon Department of Forestry and the Yamhill County Fire Defense Board. The planning process was designed to meet the guidance in the National Fire Plan and the Healthy Forest Restoration Act of 2003 (HR 1904).

Yamhill County contains a diverse set of wildfire hazard and risk situations. Conditions throughout the county are conducive to large and destructive wildfires. Numerous Wildland Urban Interface[1] (WUI) areas exist with the potential for property and human life loss during a wildfire event. Following are conditions and concerns found in portions of the county which contribute to the wildfire threat and potential for catastrophic losses:

- Heavy fuel loads on federal lands (BLM and National Forest) and industrial forest lands along the western portion of the county. The concern is for large forest fires beginning on these lands and moving to residential areas to the east, or vice versa.
- Residential developments in areas with heavy fuel loads. Many homes in these areas do not have adequate defensible space around them and/or suitable access

[1] "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. http://www.bianifc.org/fuels/fuels_pa.html.

for firefighting equipment and evacuation purposes. New development in these areas has increased dramatically in recent years.

- Climatic and topographic conditions conducive for large wildfires. Hot and dry conditions exist during the fire season throughout the county. Much of the county has moderate to steep slopes which add to the rate of wildfire spread and suppression difficulty.
- Agricultural areas susceptible to fast moving fires which can destroy valuable crops in short periods of time.
- Risk factors for starting wildfires. Railroads cross east to west and north to south across the county and present ignition sources for wildfires. Power lines, highways, debris burning and farming activities add to the risk. Most wildfires in the county are human caused.
- Fire districts with limited resources. Some of the 11 fire districts have limited resources for effective wildfire fighting. Many residential areas are located a considerable distance from a fire protection source.

Yamhill County has experienced serious wildfires in the past and there will likely be fires in the future. The outlook is for more and larger wildfires, unless an active and continuing program of hazard fuel reduction and public awareness is undertaken. Without treatment, hazardous fuel situations become more of a concern as more homes are built in areas prone to wildfires. The county has the potential to experience a catastrophic wildfire that could destroy homes and possibly, take human lives. The time to act is now and this plan will be the basis for needed action to reduce the growing threat.

Recent studies indicate that global warming is contributing to a dramatic increase in large wildfires in the west.[2] Rising seasonal temperatures and earlier arrival of spring conditions since the mid 1980s has led to more frequent and severe wildfires in the western states, including portions of the coastal mountain range in Oregon. In recent years there has been four times the yearly average number of wildfires burning an area six and a half times the number of acres normally affected. Scientists project that as atmospheric greenhouse gas concentrations continue to rise, warmer springs and summers will intensify in coming decades, accentuating conditions favorable to large wildfires.

The planning area for the purpose of this study includes the entire area within Yamhill County.

II. Planning Process

In March of 2009, Yamhill County officials decided to utilize available county, ODF, and Fire Defense Board funds to develop a Community Wildfire Protection Plan. The Fire Defense Board hired a fire planning consultant to facilitate the planning process. The planning process used followed the guidance in the handbook, "Preparing a Community

[2] Running, Steven W. Is Global Warming Causing More, Larger Fires. Science Express, July 2006.

Wildfire Protection Plan, March 2004" and its supplement, "Community Guide to Preparing and Implementing a CWPP, August 2008". The following steps were followed:

A. Step one: Convene Wildfire Protection Experts

A Planning Team with representatives from various interest groups was assembled. The role of the team was to establish the planning process, review planning documents, provide input throughout the process, and to assure the planning goals were met. Team members coordinated with their contacts outside of the planning team to help establish the Wildland Urban Interface boundary, completion of a Wildfire Risk Assessment, and identification of enhancement/action projects. They met several times with the contractor during the planning process.

The Planning Team consisted of representatives from the following entities:

- Fire Districts and Departments,
- Yamhill County GIS,
- Yamhill County Emergency Management,
- Oregon Department of Forestry,
- Oregon Fire Marshal's Office,
- BLM, USDA Forest Service
- Oregon Small Woodlands Association,
- Industrial Forest Land Owners

B. Step Two: Establish Planning Area Boundary and Planning Goals

The Planning Team decided the planning area would include the entire county (718 square miles) including the Grand Ronde Indian Reservation. The following goals for the Community Wildfire Protection Plan were agreed to by the Team:

- The purpose of this project is to complete a Community Wildfire Protection Plan (CWPP) for Yamhill County which will meet the intent of the Healthy Forests Restoration Act and accomplish the following objectives.
- Provide opportunities for meaningful discussions among agency representatives regarding their priorities for wildfire protection. Involve local, state, and federal government representatives and interested citizens in the process.
- Identify and evaluate hazardous fuel conditions in wildland-urban interface areas. Prioritize areas for fuel reduction treatments. Identify a wildland-urban interface boundary for at-risk communities.
- Address structural ignitability and recommend measures that homeowners can take to reduce the ignitability of structures. Better prepare Yamhill County residents to survive and save their property during a wildfire situation.

- Evaluate the wildfire response resources of fire districts and recommend measures to strengthen their capability.
- Make the county and their respective fire districts and communities eligible for funding assistance to reduce wildfire hazards and to prepare residents for wildfire situations (National Fire Plan, Healthy Forest Restoration Act, FEMA and other sources).
- Complete the plan by mid-August 2009.

C. Step Three: Develop a Community Base Map

A series of county base maps were developed by the Yamhill County GIS Department. Colored orthophoto maps of each fire district were initially developed. Later, maps showing historic wildfire occurrence were added. The maps were used as part of the risk assessment and eventually led to the development of a strategy including specific projects to reduce wildfire hazards. A base map showing the Wildland-Urban Interface was eventually developed.

D. Step Four: Wildfire Risk Assessment

A wildfire risk assessment was completed for the county. Methodology for the Risk Assessment was developed by the Oregon Department of Forestry[3] which involves four risk factors: Risk, Hazard, Values, and Protection Capability. The methodology includes a scoring system for each factor. The scores are cumulative and the total score for individual communities or zones indicate a low, moderate, or high Wildfire Risk rating.

An assessment to establish hazard ratings for individual home sites (Structural Vulnerability) was not completed at the time of plan development. It is intended that a process using NFPA 1144 or Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB360) criteria will eventually be utilized in the county for Structural Vulnerability. Criteria used in the process to rate individual parcels under NFPA 1144 are in Appendix A. It is expected there will be a continuum from a low to a high or even extreme risk situation for homes surveyed in Yamhill County. Results of this survey will be added to this plan when available.

The following steps were taken in the risk assessment:

- GIS maps and agency data were used to assess hazardous fuel situations and other wildfire risks throughout the study area. Field trips to verify conditions on the ground were conducted. Ideas and input from community members, especially fire district representatives, were an important part of the assessment.
- Specific wildfire hazards were identified within the study area.
- A Wildland Urban Interface (WUI) zone was identified.

---

[3] Identifying and Assessment of Communities at Risk in Oregon, draft prepared on October 18, 2004.

- Risk factors which cause wildfires to start within the study area were identified. Conditions which affect wildfire behavior and resistance to control were analyzed.
- When available, information from NFPA 1144 or SB360 surveys will be referred to with implications to structural vulnerability described.
- Wildfire occurrence history was mapped and described.
- Available resources and resource needs by fire district were identified.

E. Step Five: Establish Community Priorities and Recommendations

The Planning Team considered the results of the risk assessment and then established a list of wildfire risk reduction projects within the planning area. The type of projects considered includes:

- Development of defensible space and fuel reduction around individual homes.
- Treatment of Federal lands within identified wildland urban interface areas.
- Hazard fuel removal along access routes.
- Addressing access concerns.
- Reducing structural ignitability hazards.
- Accessing fire district equipment needs.
- Identifying materials and distributing wildfire protection information to homeowners.
- Enhancing forest management practices, healthy forest restoration etc.

Criteria used in selecting priority projects include:

- Likelihood for acceptance by property owners,
- The best chance for successful implementation,
- The best cost-benefit ratio,
- Community capacity/income levels,
- Likelihood of getting funding assistance for implementation.

F. Step Six: Collaboration and Public Input

A collaborative process for development of the plan was devised using a combination of strategies. A Planning Team representing various agencies involved with wildfire protection at the local, state and federal level met several times during the planning process to help form the plan. This group included small woodland owners and representatives from the various fire departments and districts, as well as industrial forest landowners. At the beginning of the planning process a news release was sent to local media sources announcing the start of the process. Another news release was sent out when the first draft of the plan was available. The Yamhill County Fire Defense Board and the Board of County Commissioners were kept apprised of planning efforts and were given opportunities to provide input.

The draft plan was placed on the Yamhill County Web Site which was available to the public. Members of the Planning Team, fire district personnel, and the County Fire Defense Board made efforts to inform interested members of the public throughout the process. Comments were considered and incorporated in the plan throughout the process.

Importantly, agency representatives and fire district personnel will communicate the intent of the plan to homeowners during face-to-face contacts when the plan is complete. During these contacts, homeowners will learn specifics about what is needed to reduce wildfire hazards on their property, and what options are available to assist them.

III. County Profile

A. General Description

Yamhill County was founded in 1843 as one of four original counties in Oregon. Consisting of 718 square miles (Oregon Blue Book), it is considered a rural county and has a great deal of landscape diversity. The county lies in the northwest portion of the Willamette Valley and is bordered by the Willamette River on the east and the coastal mountain range to the west, where it comes to within 11 miles of the Pacific Ocean. Five counties share a common border with Yamhill County: Tillamook on the west, Washington to the north, Clackamas and Marion to the east, and Polk County to the south.

About one-third of the county is considered commercial forest lands, these being mainly in the western portion of the county. In addition to the industrial forest land, there is considerable BLM and National Forest land. Mountain ranges in this area include Parrot, Chehalem, and the coast range. The tallest peak in the county is Trask Mountain (3,412 feet) located in the northwest part of the county near the Tillamook County line.

The population of the county is 88,150[4]. There are 10 incorporated cities in the county. The largest, McMinnville, is located 35 miles from Portland and is the County Seat. Population by city follows:

Amity, 1,480
Carlton, 1,755
Dayton, 2,475
Dundee, 3,040
Lafayette, 3,730
McMinnville, 31,665
Newberg, 21,010
Sheridan, 5,865
Willamina, 1,180*
Yamhill, 820
Unincorporated, 20,045

*Willamina's total population is 1,840 including 710 Polk County residents.

[4] Portland State University, 2003

The Yamhill County climate is marine-influenced with extended winter rainy seasons and hot, dry summers[5]. Snow and ice do not accumulate often, even at the higher elevations of the watershed. The annual precipitation is 43.6 inches; it comes mainly in the form of rainfall during the winter months. The average temperature in January is 39.1 degrees and 65.4 degrees in July. Rainfall amounts vary in the watershed; the higher elevations receive up to 60 inches of precipitation annually while the bottomlands receive about 40. As is typical for the west side of the Cascades, precipitation is not spread evenly over the calendar year but rather falls during the winter and spring months in a water year that runs from October to April.

Yamhill County has a diversified economy. The main industries are: Agriculture, Lumber, Education, International Aviation, Dental Equipment, Manufactured Homes, Pulp and Paper, and Steel. The western one-third is covered by forests with logging and lumber production providing the main economic component for that part of the county.

The largest industry involves agricultural activities. The county ranks seventh out of 36 counties in the state in annual market value of agriculture production. There are about 182,500 acres in agricultural use in the county. Crop land use accounts for 58 percent of this land area and the remainder is devoted to pasture. Almost 30 percent of all agricultural land is producing grass and legume seed crops (52,700 acres). The grain acreage is also closely associated to the grass and legume seed land area because this is a common rotation crop when land comes out of seed crops. Other main crops include hay and forage, filbert nuts, vegetable and truck crops, wine grapes, dairy and nursery plants. See Appendix E for a detailed description of agriculture use in Yamhill County.

There are about 80 wineries and 200 vineyards scattered throughout the eastern two-thirds of the county making it the number one producer of wine in the state. In 1997, there were 13,201 acres planted in orchards. Service accounts for 28.3 percent of jobs in the county, the largest share of the labor force. Manufacturing jobs make up another 18 percent.

Main attractions in the county include: two colleges, a destination resort, an aeronautic museum, numerous parks, National Register Historic Landmarks, two monasteries, river ferry crossing, numerous vineyards and wineries, and National Forest and BLM recreation areas.

The transportation system includes quiet country roads, city streets, and busy state highways. The main route, State Highways 99W and 18, connects the Portland area with Lincoln City on the Oregon Coast. State Highway 47 connects with Forest Grove to the north and 221 hooks up with Salem on the south. The highways bring thousand of tourists to and through the county as well as providing a transportation system for its citizens.

A rail line parallels State Highway 18 and connects Willamina, McMinnville, Dundee and Newberg to Portland. A second line, without rails, follows State Highway 47

[5] Yamhill River Watershed Assessment 2001

between McMinnville, Carlton, and Yamhill on its way to Forest Grove. The third line runs north/south along State Highway 99W.

Overhead transmission lines cross in east-west and north-south directions. One line runs through the McMinnville Municipal Watershed on its way to the Tillamook area.

The McMinnville Municipal Watershed is located in the northwestern portion of the county. The watershed serves 21,000 county citizens: it includes two water storage reservoirs with a total of 156 acres of water surface. There are numerous stock ponds scattered throughout the agricultural areas.

B. Wildfire Protection Entities

This section describes the wildfire protection resources and roles of the various local, state and federal agencies serving Yamhill County. The ten fire districts and four city fire departments within, or partially within, the county are described in Part C of this Chapter. Two Oregon Department of Forestry Protection Districts cover a portion of the county. The BLM and USDA Forest Service administer public lands as well. Industrial forest landowners have a role in wildfire protection and are included.

1. Oregon Department of Forestry

801 Gales Creek Road	825 Oak Villa Road
Forest Grove, OR 97116	Dallas, OR 97338
(503)359-7450	(503) 623-8146

Portions of two Oregon Department of Forestry Protection Districts are found in Yamhill County. A small portion of the southwest part of the county is within the West Oregon Protection District while much of the western part of the county is in the Northwest Oregon Protection District. About the eastern one-third of the county is outside of any state Protection District.

Wildland fire protection is the responsibility for the state districts throughout the year. They are also responsible for administration of the Oregon Forest Practices Act which provides resource protection on private lands. The Department's protection responsibility covers some of the highest priority lands from a standpoint of wildland fire prevention, resource protection, and wildland fire suppression. The Districts have dual protection responsibilities with several rural fire districts in Yamhill County.

The Oregon Department of Forestry has cooperative, mutual aid, and reciprocal agreements with industry contractors, Washington and Polk County fire districts/departments, the US Forest Service (USFS), the Bureau of Land Management (BLM), and the states of Washington, California, Idaho, Montana, and Alaska as well as British Columbia, Canada.

Fires that occur on lands protected by the Department, and which overlap jurisdiction with a rural fire district, are handled with a joint or Unified Incident Command structure. The rural district and the Oregon Department of Forestry typically combine resources to

provide protection to the structures as well as the associated wild lands. The Department does not take direct action on any structure fire but the rural districts can and do assist with wildland fires. If the fire becomes large in size, the rural district may request support through the Conflagration Act which will allow agencies from outside the area to respond. The Department has the ability to request Incident Management Teams in large fire situations that will work with all fire agencies in the suppression of large fires.

The Oregon Department of Forestry, through pre-established procedures, processes, and cooperator agreements can mobilize in very short time frames industrial cooperator equipment, aircraft, firefighting crews, and Type I Incident Management Teams. Industrial cooperator equipment can include logging equipment, dozers, water tenders, and other firefighting equipment. The Oregon Department of Forestry has two retardant planes and one lead plane under contract each summer starting around mid-July to the first part of August and until early fall depending on the weather conditions. Aircraft under contract to the United States Forest Service can also be called upon by the Department if they are available. There are over 200 twenty-person contract firefighting crews available in Oregon and Washington and multiple state and county 10-person inmate firefighting crews in Oregon. Fourteen of these state crews are available to Yamhill County within about two hours from the South Fork inmate camp, jointly operated by the State Department of Corrections and the Oregon Department of Forestry, located between Forest Grove and Tillamook.

The Department maintains three Type I Incident Management Teams statewide that are available for dispatch to any area of Oregon with an estimated time of arrival of 8-10 hours maximum from time of dispatch. To support these management teams, Oregon Department of Forestry maintains field kitchens, geographic information systems, showers, fire cache, and communications units. The Department also has access to the USFS fire cache system for ordering extra hose, pumps, and other firefighting and logistical equipment.

The following equipment is maintained at the Forest Grove Office:

Four Type 6 Wildland Engines

Two Type 5 Engines

One Type 4 Engine

The Panther Creek Guard station has the following:

One Type 5 and One Type 6 Engine

On the West Oregon District, the Dallas Unit maintains 1-Type 4, 1-Type 5 and 2-Type 6 engines.

2. USDA Forest Service

Responsible Official:
District Ranger
Hebo Ranger District
31525 Highway 22
Hebo, Oregon 97122

The USDA Forest Service administers 39.01 square miles of National Forest lands in the far southwest portion of Yamhill County. There are a few private lands scattered within the National Forest lands. The Forest Service is a federal land management organization established to manage the nation's National Forests. As part of the Department of Agriculture, it provides timber for people, forage for cattle and wildlife, habitat for fish, plants, and animals, and recreation lands throughout the country. The Forest Service offers a possible link for local jurisdictions to federal grant programs. See Part 3. Bureau of Land Management for a description of the Forest Service fire management program.

3. Bureau of Land Management (BLM)

District Manager
Salem District Office
1717 Fabry Rd. SE
Salem, OR 97306
(503) 375-5646

There are 51 square miles of National Resource Lands administered by the BLM in Yamhill County. The BLM contracts with the Oregon Department of Forestry for its wildfire protection. Since 1995, the BLM has been integrated with the USDA Forest Service for fire and aviation management. The fire program is managed cooperatively between the two agencies and in close collaboration with the Pacific Northwest Wildfire Coordinating Group, an interagency group including the five federal wildland fire agencies, two state forestry agencies, and two state fire marshal associations. The interagency jurisdiction covers both Oregon and Washington and includes 10 BLM districts, 19 National Forests, and the Columbia Gorge National Scenic Area. By working cooperatively, the agencies can administer fire, fuels and aviation programs in a manner that eliminates duplication, increases program efficiency, and capitalizes on the expertise of each agency's personnel.

4. Yamhill County Emergency Management

421 NE Evans St.
McMinnville, OR 97128
(503) 434-7340

The purpose of the Office of Emergency Management is to execute the Governor's responsibilities to maintain an emergency services system as prescribed in ORS 401 by

planning, preparing and providing for the prevention, mitigation and management of emergencies or disasters that present a threat to the lives and property of citizens and visitors to the state of Oregon. The agency is responsible for coordinating and facilitating emergency planning, preparedness, response and recovery activities with the state and local emergency services agencies and organizations.

Yamhill County has a Natural Hazards Mitigation Plan that includes resources and information designed to assist county residents, public and private sector organizations and other interested people in participating in natural hazard mitigation activities. The key activities are summarized in a five-year action plan. The Five-Year Action Plan Matrix lists the activities that will assist Yamhill County in reducing risk and preventing loss from future natural hazard events. The action items address multi-hazard issues, as well as activities for flood, landslide, wildfire, severe winter storm, drought, and earthquake. The plan is posted on the County website.

5. State Fire Marshal

Oregon Office of the State Fire Marshal
4760 Portland Rd. NE
Salem, OR 97305
(503) 378-3473

The mission of the Oregon State Fire Marshal is to protect citizens, their property, and the environment from fire and hazardous materials. To meet this objective, the State Fire Marshal has numerous programs including community education, fire code adoption, consultation and enforcement, fire investigation, and local level emergency planning.

The State Fire Marshal maintains three Incident Management Teams (IMT) which can be deployed to provide comprehensive incident command to manage ongoing emergency operations. IMTs provide incident management expertise in logistics, finance, planning, public information, operations, safety, and community issues. They respond with resources mobilized by the Governor for a conflagration or other emergency that has overwhelmed the control and resources of local emergency responders (ORS 476.510). IMTs enhance effective coordination among responding agencies during fires, floods, earthquakes, structural collapse, tsunami, spilling of hazardous materials, and other natural or human-caused incidents. On large wildfire incidents, one of these teams will integrate with one of the Oregon Department of Forestry's IMTs to form a Unified Command. If the emergency dictates, an Urban Search and Rescue (US&R) team will be dispatched for heavy rescue operations.

The Community Right to Know Unit (CR2K) administers an annual Hazardous Substance Information Survey (HSIS) of Oregon businesses and government agencies. The HSIS is sent to facilities that have reportable quantities of hazardous substances and to those that operate under North American Industrial Classification System codes that have been determined to likely store, possess, use, generate, manufacture or dispose of hazardous substances. This information is provided to emergency responders and emergency planners to assist them with hazardous materials pre-emergency planning and

response. If required, the State Fire Marshal has regional HazMat Emergency Response Teams to protect life and the environment by responding to chemical emergencies and minimizing the dangers associated with them.

6. Confederated Tribes of the Grand Ronde

Confederated Tribes of the Grand Ronde Community of Oregon
9615 Grande Ronde Road
Grand Ronde, OR 97347
(503) 879-5211

The Grand Ronde Community is an Indian reservation located on several non-contiguous sections of land in southwestern Yamhill County and northwestern Polk County. It is about 18 miles east of Lincoln City and near the community of Grand Ronde. Various tribes and bands from all parts of Western Oregon were removed from their homes in the mid-1800s and placed on this reservation. It is owned by the Confederated Tribes of the Grand Ronde Community of Oregon. The reservation has a land area of 10,300 acres (16.4 sq miles) and a 2000 census resident population of 55 persons, although there are 4,700 confederated members.

The Reservation consists mainly of timber lands. The Natural Resource Division for the Tribes administers the forestry related activities.

The West Oregon District of the Oregon Department of Forestry has fee-based fire protection agreements with the Confederated Tribes of Grand Ronde. Staff from the Tribes regularly attend and participate in meetings of the West Oregon Forest Protection Association. It is common to have joint fire suppression action from tribal and Oregon Department of Forestry organizations on fires of mutual concern. Joint fire training is a yearly occurrence. Slash disposal is also a frequent issue requiring communication and coordination. Larger planning efforts including fire mobilization plans are shared and reviewed between the organizations.

7. Yamhill County Fire Defense Board

The Yamhill County Fire Defense Board is organized and administered under the authority of the Emergency Conflagration Act and the Oregon State Fire Service Mobilization Plan. The Board meets every other month. Membership is confined to the chief officers, or their duly appointed representatives of organized fire departments or fire protection agencies whose mission includes firefighting and/or emergency services. Their goal is to prepare for responses to large incidents within the County through planning, training, and coordination with partner agencies throughout the County, Region, and State.

The Board maintains mutual aid agreements between all member fire protection agencies within Yamhill, Polk and Washington Counties, and with assisting and cooperating agencies within the County, Region, and State. They develop and adopt standardized resource management policies and procedures which provide the capability to respond to

major events in the County, including disasters and conflagrations. These plans include procedures for mutual aid dispatching and move-ups during local resource drawdown and for regional resource management through cooperation with Oregon Emergency Management.

The Board maintains inventories of equipment and personnel within the county by type and kind. Included are resources for mobilization under the Oregon State Fire Service Mobilization Plan. They maintain plans and procedures for large incident management in Yamhill County consistent with the National Incident Management System.

The Board promotes fire and life safety through the diminishment of hazards and the prevention of incidents. They actively support training for all hazard responses within the County with an emphasis on firefighter safety.

8. Industrial Forest Landowners

Several industrial forest landowners own and manage timber lands in the western portion of Yamhill County. These landowners have strong interests in preventing wildfires which could threaten their lands. The companies have some of their own equipment but, importantly, they also have contractual agreements with logging, road construction, labor and helicopter contractors who can supply equipment and manpower during wildfire events. The companies have Fire Suppression Plans which spell out responsibilities and sources of equipment.

Oregon law stipulates that industrial landowners are to take immediate suppression action on any fire which threatens or occurs on their ownership. They will cooperate fully with other landowners, rural fire districts and State protection districts in forest fire suppression activities. If a fire should occur, their personnel and contract loggers or forest workers in the area will take immediate fire suppression action. The Regional Manager and the appropriate State protection districts will be notified immediately. Available company personnel, contract loggers and forest workers will be alerted for possible dispatch to the fire. The Regional Manager or his designated representative will assume direct supervision of all fire suppression activities until the fire is out or until the responsibility of fire suppression is transferred to the landowner or a government agency. For fires that occur on timber sale areas, the Logging Manager will assume the responsibility for fire suppression action and coordination. All operations will focus on personal safety as a primary objective.

9. Yamhill Soil and Water Conservation District

2200 SW 2nd Street
McMinnville, OR 97128
(503) 472 6403

The “Dust Bowl” brought to the nation’s attention the need to conserve soil and other natural resources. In 1935, President Franklin D. Roosevelt addressed the problems of

soil erosion in the nation by shepherding the passage of the Soil Conservation Act, which established the Soil Conservation Service (SCS) within the United States Department of Agriculture. The SCS was charged with developing a program to conserve and enhance the nation's soil and water resources. At first, it was assumed the federal government could manage the whole program. However, during the first two years, it became apparent local leadership was needed to coordinate efforts of conservation agencies and tie their programs to local conditions and priorities. The SCS needed the assistance of local farmers, ranchers, and other land managers to put together and operate an effective program. In 1937, President Roosevelt asked all state governors to promote legislation to allow formation of soil conservation districts. During that same year, Congress developed a model conservation district law for consideration by state governments. Thus began a partnership that exists today.

The Yamhill Soil and Water Conservation District (SWCD) is a subdivision of the state government, led by a locally elected board of directors who serve without pay. The district's charge is to help conserve the land, water, plants, and wildlife resources in Yamhill County. The Yamhill SWCD directors are joined by associated directors, staff, and volunteers to carry out the district activities. Much of the district's work involves matching governmental assistance with local conservation needs and encouraging land managers to use conservation practices.

C. Fire Districts and Departments

This section describes the 10 fire protection districts and four city fire departments which operate within, or partially within the county. Several of the fire districts extend into neighboring counties. The fire departments for the incorporated cities have varying amounts of paid, career firefighters and volunteers. The fire districts are largely made up of volunteers. Some fire districts do not have equipment or firefighters; they contract for fire protection from nearby fire departments.

For most of the fire districts or departments, an ISO rating is given. ISO stands for Insurance Service Office. The ISO rates communities and fire districts on a scale of one to ten based on the quality and effectiveness of their fire protection program and resources. The rating criteria are largely based on available equipment and water supply. Lower ratings indicate better fire protection afforded by the fire district or department. Insurance companies use the ratings to help establish the cost of their fire insurance. The rating criteria are in Appendix B

For some fire districts or departments an approximate number of annual responses are given. In these cases, the number of medical/rescue calls is far more than wildfire calls.

1. Amity Fire Protection District

700 S. Trade Street
Amity, OR 97101
(503) 835-2311

The Amity Rural Fire Protection District is located in portions of southeast Yamhill County and northeast Polk County. It contains a total of 85 square miles of which 53 are in Yamhill County and 32 are in Polk County. The main fire station is in Amity which is in Yamhill County while a satellite station is located in Perrydale, a part of Polk County. About 3,000 residents are served by the district. The district has about 43 volunteers, with one being full-time and two part-time. The ISO rating for the district is 5 in the city and 8b in the rural area.

Amity Fire Protection District maintains the following apparatus: Four Type 1 Engines, Two Type 1 Tenders, Two Type 3 Heavy Brush rigs, Three Type 6 Brush rigs, and One Type 3 Light Rescue vehicle. In 20014 the district responded to 340 calls of various types.

Amity Fire Protection District built two new Fire Stations in 2011, a new main fire station and a new Sub-Station at Perrydale.

The following is fire fighting equipment needs for Amity Fire Protection District:

- Wildland boots - 5 sets.
- 1" forestry hose - 2,000 feet.
- Updated Brush trucks with 400 - 500 gallon tanks - 2 units
- 3,000 gallon portable tank - 1
- 1" nozzles for wildland firefighting - 10
- Pok foam pack unit - 2

2. Carlton Fire Protection District

318 Kutch St.
Carlton, OR 97111
(503) 852-6233

The Carlton Fire Protection District, formed in 2006, contains 36.4 square miles; it is located in the north-central part of the county. The district shares a part-time paid Fire Chief with the neighboring Lafayette District; there are around 25 additional volunteers on the Carlton District. Equipment maintained by the district includes a Type 1 and Type 2 Engine, a Type 6 Brush Rig, a Type 1 Tender, and a Type 6 Rescue Vehicle.

The district has one fire station which is located in the city of Carlton. Work has begun on construction of a new fire station there. Long term plans call for the building of a new

substation at the western part of the district. The Oregon Department of Forestry may share space in that facility when it is built.

Vegetation varies throughout the district. The eastern and western portions typically consist of forested lands, often as small woodlots. Areas between these are likely to be dominated by agricultural uses. Vineyards, grass, nurseries, and increasingly, wheat fields are the typical agricultural uses. There is considerable rural residential development in the western part of the district, notably in the Red Shot Lane area.

Wildland fires are most likely to be a problem in the late summer to fall season. Most fires are human caused with illegal brush burning being the typical cause.

3. Dayton Fire Protection District

500 7th Street
Dayton, OR 97114
(503) 864-3558

The Dayton Fire Protection District covers approximately 80 square miles in portions of Yamhill and Polk Counties; 85 percent is in Yamhill County. The district serves about 5,000 people providing fire protection, emergency medical services, and vehicle rescue. The main fire station is in the City of Dayton; there are two substations, one in Hopewell and one at Grand Island. All fire stations are in good condition.

The district maintains the following apparatus:

- Four Type 1 Engines.
- One Type 2 Engine.
- One Type 2 and two Type 3 tenders.
- One Emergency Medical Rescue Vehicle.
- One Type 6 and one Type 5 Brush Vehicle.
- One AIR Vehicle.
- One Command Vehicle.

The district has about 40 volunteers and four part-time paid employees. In 2008 the district responded to 496 calls of various types. The ISO rating within the city is six while it is 9 in the outlying areas.

Vegetation varies across the district but is largely associated with agricultural uses. Some small wood lots are found at both the northern and southern portions. Response time is an issue for some of the rural areas because of the distance from the nearest fire station.

4. Dundee Fire Department

759 SW Highway 99W
Dundee, OR 97115
(503) 554-8442

The City of Dundee Fire Department provides fire protection and emergency medical services for the city and, under a contract, the surrounding Rural Fire Protection District. The area covered within the city is 1.4 square miles and the rural protection district has 10.3 square miles. About 5,500 people are served by the department. There is one fire station; it is located in the City of Dundee. This station is aging and the department would like to replace it soon.

The department maintains the following apparatus:

3 Type I Engines.
1 Type II Tender.
1 Type 3 Brush Rig.
1 Type 6 Brush Rig.
1 Light Rescue Vehicle.
1 Command Unit.

Dundee Fire Department's needs list is as follows:

- Interface Engine.
- Narrow Band radios.
- Wildland protective clothing.
- Fire Shelters.
- Chainsaws and hand tools.

The Fire Department has 23 members consisting of a full time paid Chief and firefighter, a part time paid firefighter and 20 volunteer firefighters. In 2008 the district responded to 523 calls of various types. Most fires in the rural areas are human caused and most of these are illegal brush burning.

The main hazardous fuel types in the Rural Fire Protection District are small woodlots. Much of the rural area is in agricultural uses including many vineyards.

In 2006 the City of Dundee in cooperation with the Dundee Rural Fire Protection District conducted an analysis of the City's fire service delivery system and developed recommendations to guide the organizations in meeting the future needs of the greater Dundee community. The first section of the report provides a thorough and detailed evaluation of the agency, its management, assets, operations, and service delivery. The second section discusses the financial status of the department with a look at cost recovery options as well as a discussion on annexation opportunities. The final two sections provide feasible strategies for changes in the overall organizational structure of

the fire department, and recommendations for the deployment of facilities, apparatus, and staff necessary to achieve a reasonable performance target.

Te long-term strategy provides recommendations for the following critical issues:

- Community growth will rapidly outstrip the department's ability to respond to calls for service.
- The department's administrative infrastructure does not have the resource capacity to support expansion.
- The fire prevention, training, and safety functions are not adequate to address the needs of a growing department and community.
- The department's fire station is currently inadequate and will not be able to house additional personnel required to meet increased demands from the organization's customers.
- The department's current staffing level cannot accommodate the additional workload of increased emergency response demands.

5. Gaston Rural Fire District

102 Main Street
Gaston, OR 97119
(503) 985-7575

The Gaston Rural Fire District lies in portions of Yamhill and Washington Counties. There is one Fire Station for the district which is in Gaston, located in Washington County but near the Yamhill County line. The portion of the district within Yamhill County accounts for 18.7 square miles. There are two full time firefighters and one half time paid firefighter, and about 30 volunteers with the district.

The Yamhill County portion of the district is made up of mainly agriculture related fields with scattered woodlands in between. The density of homes in the rural area becomes less and less going south of the City of Gaston.

6. Lafayette Fire Department

486 Third Street
Lafayette, OR 97127
(503) 864-2824

The Lafayette Fire Department serves the City of Lafayette which is 0.87 square miles or 557 acres in size. The city had a population of 3,499 in 2007, a 23 percent increase since 2000. The Department has 20 volunteers and a part-time paid chief which is shared with the Carlton Fire Protection District. There is one fire station which houses two Type 1 Engines and a Rescue vehicle. The department would like to replace the existing fire station when funds become available.

While the city generally presents an urban setting in regard to fires, there is a threat from wildfires which begin in the surrounding rural areas. Several brushy draws lead up to residential areas within the city. Wildfires beginning in the rural areas could be a problem for residential homes in the city under the right conditions. As with many fire departments which rely on volunteers, response time is a concern.

7. McMinnville Fire Department

175 NE First Street
McMinnville, OR 97128
(503) 435-5800

The McMinnville Fire Department provides fire protection, medical services and fire code enforcement for the City of McMinnville and the McMinnville Fire Protection District. The area serviced by the department includes 10.3 square miles within the city and 79.3 square miles in the surrounding Fire Protection District. The Fire Protection District contracts with the city fire department for its fire protection.

The department has 21 full time, 6 part time, and from 45 to 50 volunteer firefighters on its roster. There is one fire station which serves the city and district. The department completed a Needs Assessment two years ago; this report highlights the need for an additional fire station within the city. The assessment did not consider the needs for the district.

The ISO rating for the areas within the city is 3 and ranges up to 10 in the district, depending on the distance from the fire station.

The fuel type in the eastern half of the district is mainly characterized as agricultural fields. The western half is dominated by woodlands with scattered agricultural fields mixed in. There are scattered single family homes throughout the wooded/agriculture mixed areas, but not a lot of big developments. Growth in these areas has declined in recent years.

The department's Fire Marshal has been conducting a wildfire risk assessment in the rural areas. New development in rural areas is closely monitored for fire code compliance and has not been a big problem.

The department has the following apparatus:

Five Type 1 Engines.
One Type 1 Ladder Truck.
One Type 1 Tender.
Two Type 6 Brush Rigs.
Four Type 2 Medical/Rescue Vehicles.

8. Newberg Fire Department

Station 20:
414 East Second Street
Newberg, OR 97132
(503) 537-1230

Station 21:
3100 Middlebrook Dr
Newberg, OR 97132
(503) 537-0722

The Newberg Fire Department (NFD) provides fire suppression services to the City of Newberg (5.7 square miles) and the Newberg Rural Fire Protection District (55.4 square miles). NFD also provides advanced life support ambulance service to approximately 100 square miles, which includes the City of Dundee fire district. Total population served in the City of Newberg is 23,000 with an additional 15,000 in the rural.

NFD is a combination department with 22 full-time and 5 part-time career firefighters, and 37 volunteer firefighters. NFD staffs two fire stations full time. The downtown station (Station 20) includes the administrative staff, and the Springbrook Station (Station 21) is home to the training tower and drill grounds. The current ISO rating within the city limits is a class 3.

The Newberg Rural Fire Protection District (NRFPD) consists of all the area in the district outside the Newberg city limits. NRFPD contracts with the City of Newberg for fire protection services. ISO rates rural properties in the district a class 8 if within 5 miles of a station, and class 10 if over 5 miles from a station.

> Fuel types in the rural district are comprised of grasses and shrubs on the valley floor mainly from agricultural use, and heavier shrubs and timber on the slopes of the two mountain ranges that border Newberg. The two mountain ranges, Parrett at the eastern portion of the district and Chehalem to the northwest, present steep, south facing slopes, heavy fuel loads, and significant wildland-urban interface issues. Home densities on these slopes range from 2 ½ acre to large 80-100 acre parcels. The department has been working with residents of these areas in an effort to make them sensitive to wildfire risk situations.

In the recent past, wildland fires that occur in the district can be characterized as field or brush fires which can be fast moving but relatively easy to suppress. Occasionally, fires run through the surface litter in the timbered areas, with sporadic torching.

Newberg Fire operates the following equipment for use in the WUI areas:

- Five Type 1 Engines (one is owned by NRFPD).
- One Type 1 Tenders (one is owned by NRFPD).
- Three Type 6 Brush Rigs (2 are owned by NRFPD).
- Several rescue/medical type vehicles.

Newberg Fire Department's equipment needs include:

- Rural station
- Portable radios
- Interface engine
- Water tender
- Portable float pump
- Self-supporting portable water tank
- PPE – brush shirt and pants
- Webgear
- Fire Shelters

Call volumes for the previous 2 years:

Total EMS Calls	2008 – 2998	2007 – 2891
Total Hostile Fire Calls	2008 – 118	2007 – 110
Total Wildland Fires	2008 – 22	2007 – 28
Total Acres Burned	2008 – 10-15	2007 – 10-15

9. Sheridan Fire District

230 SW Mill Street
Sheridan, OR 97378
(503) 843-2467

The Sheridan Fire District consists of 101.2 square miles of which 57.4 square miles (57 percent) are in Yamhill County and 43.8 square miles (43 percent) are in Polk County. About one-third of the district is outside of an Oregon Department of Forestry Protection District. The area north of Highway 18 is within the Forest Grove Protection District while that area southwest of Highway 22 is within the West Oregon Protection District.

The District has its main fire station in Sheridan (Yamhill Co.) and has substations in Buell and Ballston, both in Polk County. All three fire stations are in good condition. There are six and one-half paid positions on the district and 40 volunteers. The district also has several resident college students who do 24 hour shifts at the fire station. These apprentice type volunteers receive financial assistance from the district to help with the cost of their education.

Fuel types vary considerably across the district. The areas north of Highway 18 and southwest of Highway 22 are largely hilly and forested. The remainder of the district is generally flat and dominated by agricultural uses, typically grain fields and Christmas tree farms. Most large wildland fires within the district are associated with grain field fires which can be fast moving and wind driven. There have been no large wildland forest related fires in the district during the past five years; there was one large Wildland Urban Interface fire in the past ten years.

The district participates in the following Mutual Aid Agreements:

County wide with Yamhill County fire districts and departments,
County wide with Polk County fire districts, and
With the Oregon Department of Forestry.

In 2008, the district responded to a total of 1,059 calls; of these, 66 were fire related.

The district has the following fire apparatus:

Four Type 1 Engines.
Two Type 1 Tenders.
Three Type 6 Brush Rigs.
Two Medical/Rescue Units.

Sheridan Fire Protection District's equipment needs include:

Interface engine
Updated wildland PPE, especially shelters
New chassis for (3) brush rigs
Turbo-draft unit
New substation for Gopher Valley/Thomson Mill Road area
Interface engine for new substation (fully equipped)

10. West Valley Fire District

825 NE Main St.
Willamina, OR 97396
(503) 876-2004

The West Valley Fire District is located in the southwestern portion of Yamhill County and the northwest part of Polk County. A total of 55 percent or 33.9 square miles of the district is in Yamhill County with the remaining 45 percent or 27.5 square miles being in Polk County.

The main fire station for the district is in Willamina which is mostly in Yamhill County. The district maintains a substation in Grande Ronde, a part of Polk County. The main station was built in 2000 and is in good condition while the substation is old and needs replacement. The Grand Ronde Tribes are planning to build a new fire station in Grand Ronde, but at this time it is unclear who will staff the facility when it is complete.

The district has seven full time employees and about eight regular volunteers. Additionally, there are 12 resident college students who do 24 hour shifts at the fire station. These apprentice type volunteers receive financial assistance from the district to help with the cost of their education.

The full time employees along with the resident students at the station allow the district to have a very fast response time for all calls. The fast response time is important for their

ambulance calls and helps them get a quick jump on wildland type fires. As a result they have been able to keep most wildland type fires small in size.

Most of the calls taken by the district are for medical purposes and most of these are in Polk County. The Indian Casino at Grand Ronde and the coastal highway generate much of this business.

The district trains with the Oregon Department of Forestry and department personnel often use district facilities. Firefighters with the West Valley Fire Protection District get a lot of wildland fire training and are frequently dispatched to wildfires outside of their district.

During the 2009 fire season the district will have a part-time employee who will be doing wildfire risk surveys in high risk neighborhoods around the City of Willamina. The district is also in the process of distributing address signs to homeowners in rural areas to make their location easier during an emergency situation.

Much of the fuel type outside of the two incorporated cities is considered forest lands. There is a small amount of agricultural use. The cities within the district have an ISO rating of 5 while the rural areas have an 8B rating.

The district maintains the following apparatus:

Three Type 1 Engines.
One Type 1 Water Tender.
Two Command Units (One is Command and Medical Support for large Incidents).
Two Type 6 and One Type 3 Brush Units.
Four type 2 Medical/Rescue Units.

West Valley District equipment needs include:

Interface engine
Updated wildland PPE

Most responses by the district are for medical type reasons. In 2008 there were 1328 calls of various types.

11. Yamhill Fire Protection District

275 S, Olive Street
Yamhill, OR 97148
(503) 662-4653

The Yamhill Fire Protection District provides fire protection and emergency medical assistance to a 72 square mile area, including the City of Yamhill. The district has one full-time Fire Chief, 20 volunteers, and one Chaplain. Yamhill has one fire station which is located in the City of Yamhill; it is in fairly good condition. City residents have an ISO

rating of 5 while the rural areas have a higher rating, depending on how far they are located from the fire station.

The district responds to between 350 and 425 calls per year. Most of these are medical/rescue type calls but they do have several wildland type fires each year. Much of the district outside of the city is in agriculture use with vineyards, grass seed, wheat fields and a nursery being the primary types. There are scattered woodlands throughout the agricultural lands as well. The far west and northeast portions of the district is heavily forested and present some high hazard fuel situations. Incidents involving mutual aid with the Oregon Department of Forestry, along with the Gaston and Carlton districts, are fairly common.

The district maintains the following apparatus:

Three Type 1 Engines.
Two Type 6 Brush Rigs.
One Rescue/Medical Vehicle.
Two Command Vehicle.

IV. Special Considerations

A. Senate Bill - 360

The Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB-360) is the State of Oregon's response to several escalating wildland fire problems. Wildfires are burning homes in the interface and firefighters are working in increasingly hazardous situations. Fire suppression costs are increasing significantly in Oregon. Firefighting resources are limited and in some cases emergency service agencies cannot provide equipment and personnel to all structures threatened by a wildfire. SB-360 addresses these concerns and enlists the aid of the only people who can make fuel reduction changes to residential property: the landowners themselves.

The vegetation treatment prescription found in the act is derived from research conducted at the Rocky Mountain Research Station in Missoula, Montana (Cohen and Saveland , 1996). The measures are simple and easy to apply and include:

- Removing pine needles and leaves from the roof.
- Pruning limbs from trees, keeping trees healthy.
- Removing shrubs near the home and close to trees.
- Mowing dead grass near the home.
- Storing firewood and other flammable material at least 20 feet from the home (during fire season).
- Removing tree limbs within 10 feet of a chimney opening.
- Maintaining a shaded fuel break near the house and in some cases around the property line.
- Maintaining driveways that are over 150 feet long clear of branches and trees that could prevent emergency vehicles from gaining access to the structure.

The act applies to lands protected by the Oregon Department of Forestry and does not apply to other properties outside of ODF protection. Each county will establish a classification committee that will identify the hazard class of each area affected by the act. Once classified, landowners are provided a certification package and given two years to certify that their lands meet the standards. The Oregon Department of Forestry will work closely with local emergency management personnel, conduct public meetings, hearings and community workshops along with providing onsite consultation for landowners affected by the act.

The Forestland-Urban Interface Fire Protection Act of 1997 is intended to be both voluntary and self certifying by the homeowner. By design, the Oregon Department of Forestry developed a program that recruits the assistance of each homeowner, offers defensible space prescriptions and allows affected homeowners the option of certifying their property or not. The act contains no statutory provisions, homeowners will not be cited or required to appear in court if they choose not to participate. The act does contain a potential civil liability if the homeowner does not certify their property in two years after notification. If a fire originates on that property and spreads through the area that should be treated and the Oregon Department of Forestry must utilize extraordinary suppression efforts to contain that fire, a home owner could be liable for up to one hundred thousand dollars of suppression costs.

Throughout the original Legislative consideration of the Forestland-Urban Interface Fire Protection Act it was clear that the Act was intended to be implemented across the entire state. It was also understood that the Oregon Department of Forestry would conduct implementation in a staged manner based on each county's exposure to damaging interface fire. At this time, implementation of the Act has not started in northwest Oregon counties (including Yamhill County).

B. Emergency Conflagration Act

Under circumstances when wildfires create a serious threat to life and property, the Governor may invoke the Emergency Conflagration Act. Once invoked, the Act authorizes the Governor to use the resources of any county, city, or district fire suppression organization to assist fire-fighting efforts anywhere in the state. The Act requires the state to reimburse the political subdivision for costs in providing such fire suppression assistance. The Governor can also declare a "state of emergency" authorizing the participation of all public agency personnel and equipment, including the Oregon National Guard, to assist in the battle against wildfires. During a Governor-declared "state of emergency," the Oregon State Police coordinates National Guard resources through the Office of Emergency Management and structural fire fighting resources through the Office of the State Fire Marshal. The Oregon Military Department also provides both staff and equipment for emergency fire fighting needs.

C. Federal Emergency Management Act (FEMA) Eligibility

Federal fire management financial assistance is provided through the President's Disaster Relief Fund and made available by FEMA. Only fires involving structures or homes can be declared eligible for FEMA reimbursement. Cost reimbursement can only occur if the

Governor invokes the Emergency Conflagration Act and the Office of Emergency Management requests assistance and provides information on the estimated amount and severity of the threat to structures or homes through the FEMA Region 10 office. Each incident requires separate approval. After validating the nature and extent of the threat, the FEMA regional office requests approval by the FEMA director in Washington, D.C. Once approved, subsequent fire fighting costs on all FEMA approved fires are eligible for approximately 70 percent cost reimbursement under an approved grant for managing, mitigating, and controlling designated fires during the incident time period as established by FEMA.

The following fires (8 out of 9) in the 2002 fire season were approved by FEMA and were eligible for cost reimbursement:

Cache Mountain Fire	Deschutes County
Biscuit (Florence) Fire	Josephine County
Timbered Rock Fire	Jackson County
Sheldon Ridge Fire	Wasco County
Flagtail Fire	Grant County
Squire Peak Fire	Jackson County
Winter Fire	Lake County
Eyerly Fire	Jefferson County

D. Healthy Forest Restoration Act (HFRA)

The November 2003, Healthy Forest Restoration Act (HFRA) offers new tools and additional authorities for treating more acres in a timely fashion to meet forest restoration goals. It provides new authorities to treat fuels on federal land that require NEPA at the EA or EIS level. HFRA strengthens public participation by providing incentives for the local communities to develop their own community wildfire protection plans. It limits the complexities of Environmental Analyses for hazard reduction projects. It provides a more effective appeal process and instructs the Courts to balance short-term affects of implementing projects against the harm caused by delay and long-term benefits of a restored forest.

HFRA Title I addresses vegetation treatments on National Forest System and Bureau of Land Management lands that are at risk of wildland fire or insect and disease epidemics (emphasis is on Fire Regime I, II, and III in Condition Class 2 & 3). Title II encourages each community to develop their own CWPP and to designate their own specific WUIs where restoration projects might occur. Half of all fuel reduction projects under the HFRA must occur in the community protection zone as defined by HFRA. It also encourages biomass energy production through grants and assistance to local communities to help create market incentives for the removal of otherwise valueless forest material.

E. National Fire Plan (NFP)

Following the explosive fire season of 2000, the National Fire Plan was established to respond to severe wildland fires and their impacts to communities. It is an umbrella term that covers a variety of government programs and ideas addressing wildland fire issues. The NFP is a long-term investment that will help protect human lives, communities, and natural resources, while fostering cooperation and communication among federal, state, and local governments, tribes, and interested publics. Federal fire agencies worked closely with these partners, and the Western Governor's Association to complete a 10-Year Comprehensive Strategy in August 2001. An Implementation Plan was developed in May 2002 to provide consistent and standard direction for implementing the NFP and the Strategy.

The NFP is focused on firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The guiding principle for dealing with fire risks is the reduction of hazardous fuel loads threatening communities and wildland ecosystems. The NFP offers grant opportunities for hazard fuel reduction, wildfire planning, wildfire prevention, and fuel utilization. Most NFP funding in Oregon goes to wildfire preparedness and hazardous fuel treatment projects.

F. Oregon Statewide Land Use Planning Goals

Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of nineteen statewide planning goals. The goals express the state's policies on land use and related topics. The program is administered through the Department of Land Conservation and Development (DLCD), and Oregon's cities and counties. Cities and counties implement the requirements of the statewide planning goals through state-approved local comprehensive land use programs.

Planning goals related to WUI fire hazards are Goal 4 – Forest Lands, Goal 7 – Natural Hazards, and Goal 14 – Urbanization. Goal 4 requires local governments to minimize risks associated with wildfire when new dwellings or other structures are allowed in forestlands. Goal 7 requires local governments to develop programs to reduce risks to people and property from a variety of natural hazards, including wildfire. Goal 14 mandates that cities have urban growth boundaries (UGBs) to provide for urban uses and limit urban-type development on rural resource lands outside of UGBs.

G. Fire Safety Standards

Yamhill County and the State Fire Marshal Office have fire safety standards which apply to new home development in the county. The purpose of the standards is to protect home-owners and firefighting personnel during a fire on their property, as well as surrounding lands. Categories of county standards include: construction material, fuel breaks, setbacks from ridge-tops, cliff and bluffs, access roads, water source, power supply, chimney screens. The county fire siting standards are listed in Chapter V.E.1.

State Fire Marshal Office standards address water source and access for properties with structures; they are basically the same throughout the county. Homes larger than 3,600

square feet require a water source for fire fighting purposes. For access, the State requires a way to get fire fighting vehicles to within 150 feet of the structure.

V. Wildfire Risk Assessment

This chapter describes the Wildfire Risk Assessment process completed by the CWPP Planning Team for Yamhill County. A Wildfire Risk can be defined as follows:

- Risk is "the potential for realization of unwanted, adverse consequences to human life, health, property or the environment."[6] It is the exposure to the chance of loss of something humans value.
- Wildfire Risk is the potential for a wildfire to adversely affect things that humans value - lives, homes, critical infrastructure, or ecological functions and attributes.
- Wildfire risk in a particular area is a combination of the chance that a wildfire will start in or reach that area and the potential loss of human values if it does.
- Human activities, weather patterns, wildfire fuels, values potentially threatened by fire, and the availability (or lack) of resources to suppress a fire all contribute to wildfire risk.

There are significant differences in the wildfire risk factors between the forested, mountainous zone in the western portion of the county as compared with the more level areas used primarily for agricultural purposes to the east. A separate Wildfire Risk Assessment was completed for each.

A. Methodology Used

A Wildfire Risk Assessment was completed for two zones, the forested, mountainous area in the western portion of the county, and the primarily agricultural areas to the east (see map in Appendix F). The assessment resulted in a rating of Low, Moderate, or High Wildfire Risk for each zone. The ratings were based on scores assigned to four risk factors: Ignition Risk, Hazard, Values, and Protection Capability. A fifth factor, Structural Vulnerability, was not included in the assessment because individual homes in Yamhill County have not been assessed using the evaluation criteria from NFPA 1144 or SB360 at the time of this writing. Structural Vulnerability is addressed in Part D of this chapter.

Each of the four evaluation factors used has from two to five criteria to better describe it. These criteria were given weighted scores established by the Oregon Department of Forestry. Criteria scores were added giving a total score for each factor. The scores for the factors were added and used to establish the overall rating of Low, Moderate, or High for the zone. In summary, the assessment used the following process:

- Each zone was assessed separately based on four factors.
- The factors have from two to five criteria to better describe them.
- Each criterion was given a score based on how important it was.

[6] Society for Risk Analysis

- A rating of Low, Moderate, or High was assigned to each factor based on the cumulative scores of the criteria involved.
- The cumulative scores of the four factors determined the Overall Risk rating of Low, Moderate, or High for the zone.

The methodology used was developed by the Oregon Department of Forestry. It can be used on a state wide basis, or at the local level. This assessment for Yamhill County used the local level method. A detailed description of the methodology is in Appendix C.

B. Summary and Discussion

The following table summarizes the scoring and rating results of the Wildfire Risk Assessment for Yamhill County. A brief discussion of each factor follows. A more detailed discussion is in part C of this Chapter.

FACTOR	CRITERIA	POSSIBLE SCORE	ZONE 1 SCORE	ZONE 2 SCORE
Ignition Risk	Wildfire History	5-20	10	15
	Home Density	0-10	0	2
	Other Wildfire Risks	0-10	5	10
Ignition Risk Rating			Moderate	Moderate
Hazard	Weather	20	20	20
	Slope	0-3	2	0
	Aspect	0-5	5	5
	Elevation	0-2	2	2
	Vegetation	0-20	20	20
	Crown Fire	0-10	10	5
Hazard Rating			High	High
Values	Natural Resources	0-15	15	8
	Home Density	0-30	0	7
	Infrastructure	0-20	20	20
Values Rating			Moderate	Moderate
Protection Capability	Response Capability	0-36	36	8
	Community Preparedness	0-4	0	2
Protection Capability Rating			High	Moderate
TOTAL		**0-195**	**145**	**124**
Overall Risk Rating			**High**	**High**

Ignition Risk: Most wildfires in Yamhill County are human caused. The risk for wildfire ignition becomes greater as the density of homes increases. There are only a few homes in Zone 1, these being located on the eastern edge of the zone. The density of homes outside the incorporated cities is fairly uniform in Zone 2. However there is a concentration of homes in the suburbs of Newberg and McMinnville. As would be expected, the number of fire starts in these areas is higher than in most other areas. The Ignition Risk point total for Zone 1 is 15 which is a Moderate rating. Zone 2 has a total score of 27 which is at the high end of a Moderate Risk rating.

Hazard: Both Zones 1 and 2 are given a High Risk rating for the factor, Hazard. The high scores for this factor are primarily because of heavy fuel loads throughout both zones. Zone 1 does ha**v**e heavier fuel loads overall, but the fuels in Zone 2 are considered flashy (easy to ignite and fast moving) which offsets heavier loads in Zone 1.

Values: Both Zones 1 and 2 have a Moderate Risk rating for the Values factor. Zone 1 has important natural resource values while Zone 2 has agricultural products and homes at risk from wildfire. Both have important infrastructure to be considered.

Protection Capability: While Zone 1 is vulnerable because response time from organized fire departments is high, it has proven mitigation efforts in place with loggers who are often on-site and have equipment for fire fighting. Zone 2 lacks in community preparedness but response time from fire protection districts is good. Zone 1 is rated as a High Risk for the Protection Capability factor while Zone 2 is a Moderate Risk.

Overall Wildfire Risk Rating: Both Zones 1 and 2 are considered a High Risk based on the combined scores of the four factors. Total scores that are more than 119 are considered in the High Risk category. Zone 1 has a combined score of 145 while Zone 2 has a total score of 124.

C. Assessment of Zone 1

Zone 1 is the forested, mountainous area located approximately in the western one-third of the county; it includes about 225,000 acres. This area has elevations ranging up to 3,412 feet above sea level; it is generally considered commercial forest land. The zone is outside of any County Fire Protection District. However, it is totally within an Oregon Department of Forestry Protection District (The southwest portion is in the West Oregon Protection District while the remainder is in the Northwest Oregon Protection District). There is a mixture of private, industrial forest lands with some BLM and National Forest lands.

Forested foothills northwest of Sheridan.

Factor 1 - Ignition Risk

Ignition Risk is the likelihood of a wildfire occurring. Its determination is based on a combination of the number of past fires which have occurred in the area, the density of human habitation, and other risk factors present.

Wildfire History (fires per 1000 acres per 10 years)

Possible score, 0-20 points

From 1965 to 2005 there were approximately 171 wildfires reported in Zone 1.[7] This amounts to around 0.19 fire/1000 acres/10 years resulting in a weighted score of 10 points. Of the 171 fires, only five were larger than 10 acres and just one was over 300 acres in size. The large percentage of fires that were kept to a small size is an indication that the suppression response for wildfires in this zone is very good. It is noteworthy that during the past 45 years wildfires have occurred throughout the zone. However, there is a slight concentration in the area around Ball Bearing Mountain and southeast of the McMinnville Municipal Watershed.

Home Density (homes per 10 acres)

[7] Oregon Department of Forestry records.

Possible score, 0-10

Home density in the zone is very small as most of the area is federal lands, or under forest industry ownership. There are a few homes on the eastern edge of the zone just outside of the organized fire districts. On average, there is less than one home per 10 acres across the zone and the weighted score is 0 points

Other Wildfire Risks

Possible score, 0-10

The zone contains several Other Wildfire Risks including: transmission power lines, active logging, debris burning, dispersed camping, off-road vehicle use, wood cutting, highways, guard station, Bible Ranch, Church in the Wildwood, motorcycle racing, and lightning prone areas. The weighted score for this criterion is five.

Ignition Risk Rating

0-13 Low, 14-27 Moderate, 28-40 High

The total score for the three criteria under the Ignition Risk Factor is 15. Therefore the rating for Ignition Risk in Zone 1 is Moderate Risk.

Factor 2 - Hazard

Hazard is the resistance to control once a wildfire starts. It includes weather, topography, and vegetation (fuel) that adversely affect suppression efforts.

Weather

Possible score, 0-40

The number of days per season that forest fuels are capable of producing a significant fire event varies from year to year and by elevation. The fire season for much of Zone 1 is around 120 days. While the normal fire season is fairly short, the zone does experience periods of hot, dry weather causing high fire danger conditions. Summer time sea breezes from the coastal area and east wind events add to the concern.

The Oregon Department of Forestry has established rating scores by default for three areas in Oregon. Area 1 includes coastal areas and has a score of 0. Area 3, the dry, eastern parts of the state, is all scored a 40. Yamhill County is in Area 2 which includes the Willamette Valley and the eastern slopes of the coast range. It has a rating score of 20. The rating scores are based on an analysis of daily wildfire rating indices in each of the zones.

See Chapter III, A for a more detailed description of climate in Yamhill County.

Slope

Possible score, 0-3

There is a strong relationship between the steepness of slope and the rate of wildfire spread. The rate of fire spread becomes faster as the percent of slope increases.[8] Generally speaking, the rate of spread is twice as fast on a 30 percent slope as compared with a level surface. Combustion on steep slopes is accelerated because of increased heat transfer through radiation and convection. Fuels on the upslope side of a fire are warmed faster through radiant energy since they are closer to the source of heat. Further, these fuels are heated by convection currents which tend to raise upslope because of their lighter weight.[9]

The majority of Zone 1 has slopes ranging between 25 and 40 percent. There are areas with slopes less than 25 percent and some that are more than 40 percent. Overall, the zone is given a weighted score of two.

Aspect

Possible score, 0-5

Aspect affects the amount of thermal energy reaching the ground and in turn the amount of moisture in fuels. South, southwest, and southeast aspects tend to have warmer microclimates causing drier conditions conducive to wildfire ignition and increased rate of fire spread. North, northwest, and northeast aspects are cooler and normally exhibit slower rates of fire spread. Additionally, aspect influences the type of vegetation which also affects fire behavior.

The majority of Yamhill County has a southeast or south aspect and is assigned a weighted score of five for Aspect.

Elevation

Possible score, 0-2

In general, wildfire risk decreases as elevation increases. This is because temperatures are usually cooler at higher elevations. Vegetation differences also play a role as fuel loads are generally less at higher elevations. Almost all of zone 1 is at an elevation less than 3,500 feet and is given weighted score of two.

Fuels

Possible score, 0-20

Most of Zone 1 is forested with heavy fuel loads. These forests are considered some of the most productive timber land in the world. Tree species include Douglas-fir, Sitka spruce, western hemlock, western redcedar, and red alder. The understory contains vine maple, blackberry, salmonberry, salal, Oregon grape, bracken fern and thimbleberry.

---

[8] Davis, Kenneth Pickett. 1959. Forest Fire Control and Use. McGraw-Hill Book Co. New York. 584 pages

[9] Barrows, J.S. 1951. Fire Behavior in northern Rocky Mountain forests. Northern Rocky Mountain Forest and Range Experiment Station. Station Paper N. 29. USDA Forest Service. Missoula, Montana. 103 pages.

There is a mixture of mature, second growth, and recently harvested and regenerated areas. All of these areas have fuels capable of producing flame lengths in excess of eight feet, under the right conditions. The mature stands of trees may be less prone to ignition since there would be less human activity. However, once a fire did start, they can be some of the most difficult areas for wildfire suppression efforts because access by firefighters is more difficult and fuel loads can be very heavy. Recently harvested areas have more flashy fuels and are subject to fast moving fires. Second growth stands typically have ladder fuels[10] making them prone to crown fires.

It is estimated that much of the zone is in Fire Regime - Condition Class 2 or 3 (see Appendix D for an explanation of Fire Regime-Condition Class). This would indicate that they have missed one or more natural fire events and now contain unnaturally high fuel situations. Canopy closure on much of the area is conducive to crown fire events.

The weighted score for surface fuels in Zone 1 is 20.

Crown Fire Potential

Possible score, 0-10

There are ample ladder fuels and canopy closure throughout the forested areas of Zone 1 to make it vulnerable for crown fires[11].

The weighted score for Crown Fire Potential in Zone 1 is 10.

Hazard Risk Rating

0-9 Low, 10-40 Moderate, 41-60 High

The total score for the factor, Hazard, is 59 which is at the upper end of the high rating.

Factor 3 - Values Protected

This factor includes human and economic value associated with communities or landscapes. Natural resources apply to areas with high values of commercial timber, wildlife, recreation, and domestic water supplies. Protection of life is the number one priority with all agencies and is best measured by the density of homes. The presence of community infrastructure is another consideration.

Natural Resources

Possible Score 0-15

There are important natural resources in the zone which can be threatened by wildfire. The value of merchantable trees is very high and wildland fires can quickly destroy trees of any age. Large trees can sometimes be salvaged after a fire but there is no monetary value left in the smaller trees once killed in a fire. Other values include the loss of wildlife habitat, recreation opportunities and watershed quality. Several communities

[10] Ladder fuels provide vertical continuity between surface and aerial fuels allowing fire to carry into the crowns with relative ease. They help initiate and assure the continuation of crown fires.

[11] Crown fires are fires which advance from top to top of trees more or less independent of a surface fires.

depend on forested areas in the zone for their water supply. Large and severe fires can impair water supplies because of sedimentation and a change in the rate of runoff. The weighted score for Zone 1 is 15.

Home Density (homes per 10 acres)

Possible score, 0-30

Since there are very few homes in the zone the criteria is scored a zero.

Community Infrastructure

Possible score, 0-20

Infrastructure improvements in the zone which can be threatened by wildfires include: high tension power lines, municipal watersheds, water supply distribution facilities, communication sites, county parks. The score for Community Infrastructure in Zone 1 is 20.

Values Protected Rating

0-20 Low, 21-40 Moderate, 41-65 High

The factor, Values Protected, is scored a total of 35 points for zone 1 which is a Moderate Risk rating.

Factor 4 - Protection Capabilities

Protection Capability is a combination of the capacities of the fire protection agencies, local government and community organizations. A high score indicates a high risk, low protection capability.

Response Capability

Possible score, 0-36

Wildfire Suppression for Zone 1 is accomplished through a combination of responses from the Oregon Department of Forestry, adjacent local fire districts, The US Forest Service, and the logging community. There are six organized fire districts adjacent to the zone: West Valley, Sheridan, McMinnville, Carlton, Yamhill, and Gaston. First response to fires in the near vicinity of the fire protection districts is usually from the local fire districts under a Mutual Aid agreement with the Oregon Department of Forestry. Response time varies by district. Some districts have paid staff on duty 24/7 while other districts are all-volunteer. Response time from the all-volunteer districts is generally slower as the volunteers are usually working other jobs during the day. Also, during evening and night-time, it takes time for firefighters to get to the fire station. Response time from the fire station with paid staff can be very fast. Available resources also vary by fire protection districts but, for the most part, they are well equipped for initial response to wildfires in Zone 1.

The Oregon Department of Forestry has the main responsibility for wildfire suppression in the zone. They have portions of two Protection Districts in the zone, the Northwest and

the West Oregon Protection Districts. See Chapter III,B,1 for a description of the their responsibility and role in wildfire suppression. Response time from the Department depends on the location of the fire and available resources.

Logging companies have people and equipment in the zone and are often the first to respond to a wildfire. While they may lack formal firefighting training, they are willing to help and can be very effective in stopping a fire while it is small in size.

In general, response time to a wildfire in Zone 1 is going to be more than 20 minutes. The criterion, Response Capability, is scored 36.

Community Preparedness

Possible score 0-4

While there are no towns or cities in Zone 1, the logging community is somewhat organized and prepared for wildfire suppression. In many situations, loggers are onsite and have equipment available to fight fires. Therefore, Zone 1 is scored a zero for the criterion, Community Preparedness.

Protection Capability Rating

0-9 Low, 10-16 Moderate, 17-40 High

For the factor, Protection Capability, a total score of 36 points is assigned for Zone 1 which is a High Risk rating.

Overall Wildfire Risk Rating for Zone 1

0-51 Low, 52-118 Moderate, 119+ High

The weighted scores for Zone 1 considering the four risk factors were added and the following risk ratings were determined:

Ignition Risk, 15 points – Moderate

Hazard, 59 points – High

Values Protected, 35 points – Moderate

Protection Capability, 36 points - High

Overall Rating, 145 points – High

D. Assessment of Zone 2

Zone 2 contains about 366 square miles and includes all portions of the county east of Zone 1 and all areas within established fire districts. The zone is made up of agricultural land, incorporated cities, unincorporated communities, and scattered homes and wood lots (see Chapter III, A). The land is generally level but there are some gently rolling slopes and a few steep hills. With the exception of a few federally owned acres, the zone is made up of privately owned land.

Homes, steep slopes, and heavy fuels equal high wildfire risk.

Factor 1 - Ignition Risk

Ignition Risk is the likelihood of a wildfire occurring. Its determination is based on a combination of the number of past fires which have occurred in the area, the density of human habitation, and other risk factors present.

Wildfire History (fires per 1000 acres per 10 years)

Possible score, 0-20

From 1965 to 2005 there were approximately 186 wildfires reported in the portion of Zone 2 which lies within an Oregon Department of Forestry Protection District. It is about 208 square miles or 75,000 acres in size. This amounts to around .25 fires/1000 acres/10 years. This would give a weighted score for the factor Ignition Risk of 10 points. Of the 186 fires, nine were larger than 10 acres, two were larger than 100 acres and one of these was over 300 acres in size.

Oregon Department of Forestry records for the 40 year period are not available for the areas in the zone outside of their Protection District. However, the number of wildfires in the eastern portion of the zone is higher on a per acre basis. For example, the Newberg Fire Protection District reported an annual average of 24 wildfires for the period 2007-2008. This would amount to an average of slightly more than seven wildfires per 1000

acres per 10 year period. The weighted score for this level of wildfire occurrence would be 20.

The obvious reason that there are more wildfires on a per acre basis in the eastern portion of the zone is that there are proportionally more people living there as compared with the western part. The majority of wildfires occurring in the county are human caused.[12] Most wildfires have been small in size because of quick response from firefighters and nearby agricultural workers.

The weighted score for Wildfire History is 15. This score reflects an average between the different wildfire occurrence rate between the western and eastern portions of Zone 2.

Home Density (homes per 10 acres)

Possible score 0-10

The housing density for most of Zone 2 is sparse averaging less than one house per ten acres. The weighted score for this level is zero. However, there are a few areas which average more than one but less than five per acre. In particular, the area surrounding much of Newberg is much more densely populated than most of the zone. In general, human habitation tends to increase going from the western portion of the zone to the eastern part. This accounts for an increase in the number of wildfires that occur in that part of the zone as well.

The weighted score for Zone 2 is two, which accounts for the differences between sparsely populated western portion of the zone and the more dense areas to the east.

Other Factors

Possible score, 0-10

There are several other wildfire risk factors present in Zone 2 including: state highways, county roads, public access roads, transmission power lines, above ground distribution lines, power substations, logging activities, debris burning, flammables present, mowing dry grass, wood cutting, equipment use, railroads, stables, farms/ranches.

Farming is a huge activity in the zone and accounts for a significant portion of wildfire starts. Wheat farming presents a big risk when the grain is ripe and ready for harvest in the summer. Wheat field fires can be fast moving with high flame lengths making suppression difficult. At the time of this planning process, many farmers are switching their crops from grass seed to wheat because of better prices for grain. This will tend to increase the risk for large wildfires in agricultural areas.

Grass seed fields present a high fuel load but the risk from wildfire is less than from wheat fields because the farmers usually cut the grass when it is green. Christmas tree farms can be a low or high risk, depending on farming practices and the age of the crop. Some farmers control weeds when the crop is young so the fuel level is low. Wildfire risks increase as the trees reach merchantable size.

[12] Conversations with county fire chiefs and Oregon Department of Forestry officers, April 2009.

There are several railroads which cross portions of the zone. The risk for wildfire starts from them is considered from low to moderate. Some of the trains are slow moving and their frequency is low, about one per day on average. However, the line running from Grand Ronde through McMinnville and Newberg has a 35 MPH speed limit.

State Highway 18 leading to the coast has frequent vehicle accidents, some resulting in wildfire starts.

The Other Factors result in a weighted score of ten points for Zone 2.

Ignition Risk Rating

0-13 Low, 14-27 Moderate, 28-40 High

The total score for the three criteria under Ignition Risk is 27 which is at the high end of the moderate rating.

Factor 2 - Hazard

Hazard is the resistance to control once a wildfire starts. It includes weather, topography, and vegetation (fuel) that adversely affects suppression efforts.

Weather

Possible score, 0-40

The parameters affecting weather patterns in Zone 2 are primarily related to elevation and influences of the Coastal and Cascade Mountain Ranges. As elevation increases going west from the Willamette River, average seasonal temperatures tend to decrease which in turn increases fuel moisture levels and decreases the number of days per season that fuels are capable of supporting a significant fire event. The mountain ranges affect wind patterns which greatly influence fire behavior. During the fire season, "sea breezes" often come across the Coastal Range in the afternoons. These winds can be 20 MPH and since they are coming from the west, they could tend to drive a forest fire in the mountainous areas down to the populated portions of the zone. Another phenomenon involves winds from the Columbia River Gorge entering the zone from a northeasterly direction. These can also be strong winds and are typically warm and dry with the potential of affecting wildfire behavior.

The Oregon Department of Forestry has established rating scores by default for three areas in Oregon. Area 1 includes coastal areas and has a score of zero. Area 3, the dry, eastern parts of the state, is all scored a 40. Yamhill County is in Area 2 which includes the Willamette Valley and the eastern slopes of the coast range. It has a rating score of 20. The rating scores are based on an analysis of daily wildfire rating indices in each of the zones.

See Chapter III, A for a more detailed description of climate in Yamhill County.

Slope

Possible score, 0-3

There is a strong relationship between the steepness of slope and the rate of wildfire spread. Generally, the rate of spread is twice as fast on a 30 percent slope as compared with a level surface. Combustion on steep slopes is accelerated because of increased heat transfer through radiation and convection. Much of Zone 2 is quite level and the majority has slopes less than 25 percent. There are areas with slopes greater than 25 percent but this represents a small proportion of the zone. Overall, the zone is given a weighted score of zero.

Aspect

Possible score, 0-5

Aspect affects the amount of thermal energy reaching the ground and in turn the amount of moisture in fuels. South, southwest, and southeast aspects tend to have warmer microclimates causing drier conditions conducive to wildfire ignition and increased rate of fire spread. North, northwest, and northeast aspects are cooler and normally exhibit slower rates of fire spread. Additionally, aspect influences the type of vegetation which also affects fire behavior.

The majority of Zone 2 has a southeast aspect and is assigned a weighted score of five for Aspect.

Elevation

Possible score, 0-2

In general, wildfire risk decreases as elevation increases. This is because temperatures are usually cooler at higher elevations. Vegetation differences also play a role as fuel loads are generally less at higher elevations. All of zone 1 is at an elevation less than 3,500 feet and is given weighted score of two.

Fuels

Possible score, 0-20

Wildfire hazard fuels in Zone 2 are made up of a combination of agricultural crops, scattered wood lots, and brushy river and creek bottoms.

Agricultural products in order of value produced in 2007 were: nursery crops, grass and legume seeds, dairy products, tree fruits and nuts, wine grapes, Christmas trees, poultry, grain and hay, and vegetables.

The wildfire risk represented by the various crops varies depending on the type and their maturity. Most crops are not considered to be a high wildfire hazard risk for the following reasons:

- Agricultural fields are generally level, or on gentle slopes.
- Most crops are harvested before they are in a dried-out stage.
- Farmers usually keep weeds and unwanted vegetation out of their fields.

- In most cases, farmers and their neighbors are present, or nearby when a fire starts and are able to help suppress them when they are small.
- Farmers have equipment which can be used to help suppress wildfires.

However, there are some crops and situations which can pose a significant wildfire risk from farming activities. Wheat fields represent a high risk situation when the grain is mature. Fires are easily ignited and can be fast moving with high flame lengths during wind events, making them very difficult to suppress. At the time of this writing, wheat crops are becoming more common because of stronger markets for grain and a depressed demand for grass seed. Flame lengths during wheat field fires can exceed eight feet during windy conditions.

Christmas tree farms can present high wildfire risk situations depending on farming practices and the maturity of the trees. Most young plantations are sprayed for weeds and fuels levels are low. However, some farmers do not spray for weeds and fuel conditions increase and can be conducive to fast moving fires during windy situations. As crop trees mature, fuel levels rise as distances between trees decrease; the result is in an increase in wildfire risk. Flame lengths during a wildfire in a mature Christmas tree farm could easily exceed eight feet.

Small woodlots and brushy draws present some high risk situations for wildfires during the dry season. The woodlots consist of conifer and hardwoods with underbrush. The underbrush can carry a surface fire and, under the right conditions, crown fires can occur. Flame lengths are generally from four to eight feet, but can be higher under the right condition and when crown fires occur.

The weighted score for the fuels criterion in Zone 2 is 20.

Crown Fire Potential

Possible score, 0-10

There is the potential for a crown fire in the wood lots or brushy draws in Zone 2 as there is crown closure in places and adequate ladder fuels. However, since there is only a small portion of the zone with these conditions, the weighted score for this criterion is only 5.

Hazard Risk Rating

0-9 Low, 10-40 Moderate, 41-60 High

The total score for the Risk Factor, Hazard, is 52 which is a High Risk rating.

Factor 3 - Values Protected

This factor includes human and economic value associated with communities or landscapes. Natural resources apply to areas with high values of commercial timber, wildlife, recreation, and domestic water supplies. Protection of life is the number one priority with all agencies and is best measured by the density of homes. The presence of community infrastructure is another consideration.

Natural Resources

Possible Score: 0-15

Zone 2 has Natural Resource values but at a lower level as compared with Zone 1. There are scattered woodlots with some commercial timber and wildlife values. Because most of the land is devoted to agricultural uses, there is a relatively small portion left for Natural Resources. However, those portions in a natural state are quite important, especially for wildlife values. Zone 2 is given a weighted score of eight for Natural Resources.

Home Density (homes per 10 acres)

Possible score, 0-30

Most of Zone 2 has a very sparse home density averaging less than one house per ten acres. The weighted score for this level is two. However, there are some areas which average more than one but less than five homes per acre. The area surrounding much of Newberg is much more densely populated than most of the zone. In general, human habitation tends to increase going from the western portion of the zone to the eastern part. This accounts for an increase the number of wildfires that occur in that part of the zone as well.

The weighted score for most of the zone is a 2. For those portions where there is more that one home per 10 acres, the score would be 15. The score for the entire zone is set at seven which accounts for the differences between sparsely populated western portion of the zone and the more dense areas to the east.

Community Infrastructure

Possible score, 0-20

Examples of Community Infrastructure include power substations and corridors, communication sites and facilities, transportation corridors, major manufacturing and utilities facilities, municipal watersheds, water storage and distribution, fuel storage facilities, hospitals and health care facilities, landfills and waste treatment sites, schools, churches, community centers, and stores.

In Zone 2 there are: power substations and corridors, communication sites and facilities, transportation corridors, water storage and distribution. The weighted score for this criterion is 20.

Values Protected Rating

0-20 Low, 21-35 Moderate, 36-65 High

The total score for the factor, Values Protected, is 35 which is a Moderate Risk rating.

Factor 4 - Protection Capabilities

Protection Capability is a combination of the capacities of the fire protection agencies, local government and community organizations. A high score indicates a high risk, low protection capability.

Wildfire Response Capability

Possible score, 0-36

Wildfire Suppression for Zone 2 is accomplished through a combination of responses from city fire departments, fire districts, and the Oregon Department of Forestry. Also, nearby farmers and their equipment often play an essential role with initial response to wildfires in the zone. There are 10 fire protection districts and four city fire departments in the county. Four of the fire protection districts extend into neighboring counties. The headquarters for one of the districts is located in Washington County The fire protection districts are largely made up of volunteers. Some fire districts do not have equipment or firefighters; they contract for fire protection from nearby fire departments. The city fire departments have both paid and volunteer firefighters.

Response time in the rural areas varies by fire protection district. Some districts have paid staff on duty 24/7 while other districts are all-volunteer. Response time from the all-volunteer districts is generally slower as the volunteers are usually working other jobs during the day. Also, during evening and night-time, it takes time for the firefighters to get to the fire station. Response time from the fire station with paid staff can be very fast. Available resources also vary by fire protection districts but for the most part, they are well equipped for initial response to wildfires in Zone 2.

Firefighters and their equipment working a grain field fire.

There are portions of two Oregon Department of Forestry Protection Districts in the zone, the Northwest and the West Oregon Protection Districts. See Chapter III, B,1 for a description of their responsibility and role in wildfire suppression. Response time from the Department depends on the location of the fire and available resources.

Water sources in rural areas are important for firefighters. While there are few natural lakes in the rural areas of the county, there are numerous stock watering ponds in the agricultural areas. Although these are on private lands, most would be available to firefighters for wildfire suppression efforts. Farmers may be more than willing to cooperate with firefighters in the use of their water for suppression actions. There is a need to inventory the ponds and determine their capacity and availability for firefighting apparatus. Firefighters would like to develop some of these as "dry hydrants" to make them more useful.

Zone 2 has both structural and wildland response for wildfires. In general, response time to a wildfire in Zone 2 is going to be more than 10 minutes. The criterion, Response Capability, is given a weighted score of eight.

Community Preparedness

Possible score, 0-4

There is little in the way of existing community preparedness for wildfire protection in Zone 2 at the time of this plan development. There are no organized stakeholder groups, phone trees, community plans, or mitigation efforts. There are some individual efforts by home owners such as hazard fuel reduction and the creation of defensible space. Some fire departments and protection districts have made contact with homeowners in an effort to develop awareness and interest in wildfire hazard reduction measures.

The weighted score for Community Preparedness for Zone 2 is two points.

Protection Capability Rating

0-9 Low, 10-16 Moderate, 17-40 High

The total score for the Risk Factor, Protection Capability, is 10 which is a Moderate Risk rating.

Overall Wildfire Risk Rating for Zone 2

0-51 Low, 52-118 Moderate, 119+ High

The weighted scores for the four risk factors were added for Zone 2 and the following risk ratings were determined:

Ignition Risk, Score 27 – Moderate

Hazard, Score 52 - High

Values Protected, Score 35 – Moderate

Community Preparedness, Score 10 - Moderate

Overall Rating, Score 124 – High

E. Structural Vulnerability

Structural Vulnerability is the likelihood that a structure will be destroyed during a wildfire event. This likelihood can be assessed on an individual home basis by evaluating existing conditions and homeowner practices. The three primary evaluating factors considered are:

- Building materials, in particular the roofing assembly.
- Defensible space around the home.
- Access to and from the home.

There are many good publications available which describe measures to take to make homes in the WUI (Wildland Urban Interface) less vulnerable to the threat of wildfire. Notably, the "Property Evaluation and Self Certification Guide" for the Oregon Forestland-Urban Interface Protection Act produced in 2004 by the Oregon Department of Forestry is an excellent source. Another good source is "Living With Fire, A Guide for the Homeowner" produced by the Pacific Northwest Wildfire Coordinating Group. The Firewise Program offers many good ideas for reducing wildfire risk around dwellings and structures. Importantly, personnel with local fire departments/districts, the Oregon Department of Forestry, the State Fire Marshal and Soil and Water Conservation Districts have expertise and material useful to homeowners seeking information on how to protect their property.

Since every situation is different, each home needs to be evaluated separately. Individual home assessments can also be completed by using evaluation criteria identified in NFPA 1144 (National Fire Protection Association Standards), or SB-360.

While individual assessments have not been completed for most of the homes in Yamhill County, it can be assumed there are many homes that would be considered vulnerable during a wildfire situation. There is a need to complete these assessments, especially in areas identified as high priority for wildfire hazard reduction projects.

Appendix A gives a summary of the evaluation standards and measures which can be considered by homeowners to make their existing, or new, home less vulnerable to wildfires.

1. Fire Siting Standards

The County plays an important role in structural vulnerability. Yamhill County has Fire Siting Standards that apply to new development in Forestry and Agricultural Districts: they do not apply to Exclusive Agriculture Districts. The Fire Siting Standards for applicable districts follow:

401.090 Fire Siting and Construction Standards for Dwellings and Structures.

The following fire siting standards shall apply to all new dwellings or permanent structures:

A. The dwelling shall have a fire-retardant roof;

B. A dwelling shall not be sited on a slope of greater than 40 percent;

C. A dwelling shall locate only upon a parcel within a fire protection district that fights residential fires, or shall be provided with residential fire protection by contract. A dwelling may be allowed on a parcel that does not comply with these provisions provided that:

    1. The applicant provides evidence that the applicant has asked to be included in the nearest fire protection district but that district is unable to provide residential fire protection by contract; and

    2. The dwelling shall be provided with a fire sprinkling system; and

    3. The parcel is provided with a water supply consisting of a swimming pool, pond, lake, or similar body of water that at all times contains at least 4,000 gallons, or a stream that has a minimum year-round flow of at least one cubic foot per second. Road access shall be provided to within 15 feet of the water's edge for fire-fighting pumping units, and the road access shall accommodate a turnaround for fire-fighting equipment.

D. Road access to the structure shall meet the road design standards described in Section 401.10(D).

E. If a dwelling has a chimney or chimneys, each chimney shall be provided with a spark arrester.

F. A primary fire break shall be constructed no less than 30 feet wide. The fire break is only required to be constructed on land surrounding the dwelling that is owned or controlled by the owner. The primary firebreak could include a lawn, ornamental shrubbery or individual or groups of trees separated by a distance equal to the diameter of the crowns adjacent to each other, or 15 feet, whichever is greater. All trees shall be pruned to at least eight feet in height. Dead fuels shall be removed.

G. A secondary firebreak of not less than 100 feet outside the primary firebreak shall also be constructed. The fire break is only required to be constructed on land surrounding the dwelling that is owned or controlled by the owner. Vegetation within the secondary firebreak should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent spread of fire into the crowns of the larger trees. Dead fuels shall be removed. The secondary fire break shall be increased to 150 feet if the dwelling or structure is located on a slope of greater than 25% or other fire hazards exist.

H. No portion of a tree or any other vegetation shall extend to within 15 feet of the outlet of a stovepipe or chimney.

I. The applicant shall obtain an address from the County, and shall display that number in a location on the property that is clearly visible from the road used as the basis for numbering. The numbers shall not be less than three inches in height, shall be painted in a contrasting or visible color and shall comply with all other applicable standards for signs.

In addition to the fire siting standards, Yamhill County requires driveway improvements that are safe and passable prior to the issuance of a building permit. The primary reason for this requirement is to be assured road improvements are adequate for fire protection equipment to reach the site. The following standards apply for new driveway construction:

- A 12 foot travel lane is required with 6 inches of base rock and 2 inches of surface rock.
- Turnouts 10 feet wide and 30 feet long are required on any access driveway exceeding 400 feet in length. If the planned driveway will be over 400' in length, a local fire official must approve the location and quantity of turnouts.
- Horizontal clearance shall be not less than 20 feet and vertical clearance not less than 14 feet. Trees and brush must be removed as needed along the proposed driveway.
- Driveway roads over 150 feet in length shall be provided with an approved turnaround at the end.
- Proper drainage must be provided. Culverts are required at the entrance to the driveway and ditches shall be provided along the driveway.
- Bridges and culverts shall be capable of supporting 50,000 pounds. Engineering documentation will be required for bridges.
- Average road grade shall not exceed 10% and no grade shall exceed 15%. A maximum of 200 feet of 15% grade may be allowed.
- Maximum curve centerline radii shall be not less than 35 feet.
- A permanent address sign must be installed at the base of the driveway. Address signs shall be posted in a position to be plainly visible and legible. Numbers shall be at least 3" in height and contrast with their background.

Home and out buildings without good defensible space.

VI. Wildfire Risk Reduction Projects

This chapter describes several wildfire risk reduction projects identified by the Fire Protection Districts in Yamhill County (Ch.VIA). Additional projects which apply throughout the county are also presented (Ch.VIB). The goal for these projects is to reduce the wildfire risk in the county and make the residents and their property safer from the threat of wildfires. The projects identified specifically for fire protection districts are mostly high priority projects in areas with high wildfire risks. There are many more areas in the county with varying degrees of wildfire risk. These will eventually have to be addressed by the county. Maps showing wildfire hazard reduction projects by Fire Protection District are in Appendix G.

Most of the projects listed for the fire protection districts involve housing developments located in situations which could make it challenging for the fire protection district to protect homes during a wildfire event. Common risk factors include: a lack of defensible space around buildings; heavy fuel loads in the form of conifer and deciduous trees, brush, and in some cases, agricultural fields; narrow access roads with only one way in and out; long response times for firefighters to get there, and; steep slopes. In most cases there is a need to complete surveys of homes to identify specific wildfire risks and to make recommendations to homeowners about what they can do to reduce their risk during a wildfire event.

A. Wildfire Hazard Reduction Projects by Fire Protection District

Amity Fire Protection District

Project: Walnut Hill Complex

General location: Three miles northeast of Amity

Approximate size: Four square miles

Issues/Objectives: This residential area has narrow driveways that are one way in/out; there is no water source for firefighting purposes. There are wooded areas in places with high fuel loads. The area should be surveyed to identify specific risks and homeowners advised on how to reduce their vulnerability from a potential wildfire. An adequate water source for firefighting needs to be developed.

Priority: High.

Project: Amity Hills Complex

General location: one to two miles northeast of the City of Amity.

Approximate size: Two square miles.

Issues/Objectives: There is one dead end road serving this lightly developed residential area which has heavy fuel loads throughout. An explosives storage area, three cell towers, and the water storage reservoir for the city of Amity are located in the area. There is only limited water from the reservoir for firefighting purposes. An alternate escape route is needed along with a survey of homes to identify wildfire risks to aid residents in reducing their exposure to wildfires.

Priority: High

Project: Eola Hills Complex

General location: Two miles southeast of the City of Amity.

Size: Six square miles.

Issues/Objectives: This heavy residential area has many homes with one way driveways. There are heavy fuels in the woodlots scattered throughout the area and a lack of water for firefighting purposes. A YCOM (Yamhill Communications Tower) is located in the area. There is a need to survey the homes to identify wildfire risks and inform residents on how they can reduce their exposure to them. Also, a water source for firefighting purposes needs to be developed.

Priority: High

Carlton Fire Protection District

Project: BPA Substation

General location: Two miles southeast of the City of Carlton.

Approximate size: Two acres.

Issues/Objectives: The substation is located next to a brushy creek bottom with heavy fuels. There is a need to create better defensible space around the facility.

Priority: Moderate.

Project: PGE Substation

General location: One mile north of the City of Carlton.

Approximate size: Two acres.

Issues/Objectives: The station has agricultural fields and brushy areas around it and could be damaged by a wildfire. There is a need to create better defensible space around it.

Priority: Moderate.

Project: Red Shot Lane Development

General location: Five miles west of the City of Carlton.

Approximate size: 150 acres.

Issues/Objectives: Steep slopes, a dead end road, and heavy fuels make the ten homes or so in the development vulnerable to a wildfire event. There is a need to survey the homes to identify steps the homeowners can take to reduce their wildfire risk. Provide assistance to willing homeowners to help them become more fire safe.

Priority: High.

Project: Finn Hill Loop

General location: Two miles east of the City of Carlton.

Approximate size: 160 acres.

Issues/Objectives: Several homes in this development are located on dead end roads and there is a need to survey the homes to determine what measures homeowners can take to reduce their vulnerability during a wildfire event.

Priority: Moderate.

Project: Panther Creek Area

General location: From five to nine miles west of the City of Carlton.

Approximate size: Ten square miles

Issues/Objectives: There are many homes scattered throughout this area which would be vulnerable during a wildfire event. There is a need to survey the homes in the areas to determine specific access and defensible space needs and to inform and assist homeowners in reducing these risks.

Priority: High

Project: Trappist Abbey

General location: Five miles east of the City of Carlton.

Approximate size: 40 acres.

Issues/Objectives: The Abbey has heavy fuels located nearby and would be threatened if a wildfire starts nearby. There is a need to create better defensible space around the structures.

Priority: Moderate.

Dayton Fire Protection District

Project – Dayton/Lafayette Watershed

General location: From one-half to three miles east of Lafayette.

Approximate size: Five square miles.

Issues/Objectives: Improve road access. Some roads are narrow and unmaintained. Access for some fire apparatus could be a problem. Survey homes for wildfire risks and inform homeowners as to what they can do to create better defensible space and reduce wildfire risks. Protect watershed values. The area contains watersheds for the cities of Lafayette and Dayton. Identify long range planning needs to protect municipal water supplies.

Priority: High

Project - Dayton Rural

General location: The area within one mile surrounding the City of Dayton.

Approximate size: Three square miles.

Issues/Objectives: Large number of homes built next to brushy areas with heavy fuel loads. Survey homes to identify wildfire risks on individual homes and inform homeowners as to what they can do to reduce wildfire risks on their property. Assist homeowners to create defensible space around their homes and outbuildings.

Priority: High.

Dundee RFPD

Project – Railroad Line

General location: Northeast and southwest of the City of Dundee and running through the center of the city.

Approximate size: Four and one-half miles long, 100 feet wide.

Issues/Objectives: Railroad maintenance activities can be a source of wildfire ignition. Encourage railroad owners to do heavy maintenance outside of the fire season and ensure they are following their Fire Prevention Plan.

Priority: Moderate.

Project – Wildwood Subdivision

General location: One-half mile east of the City of Dundee

Approximate size: 200 acres

Issues/Objectives: There are about 50 high end homes built in an area of heavy fuel loads. Survey homes to identify wildfire risks and inform homeowners on how they can reduce the risk of structural ignitability and create better defensible space.

Priority: Moderate

Project - Hess Creek Canyon

General location: One-half to two miles southwest of the City of Dundee

Approximate size: 350 acres.

Issues/Objectives: One narrow road in poor condition provides access for about 35 homes in an area with heavy fuel loads. Seek ways to provide an alternate means of in and out traffic and improve all roads and driveways to provide good access for fire apparatus. Survey homes to identify wildfire risks and inform homeowners as to how they can reduce the risk to their homes and out buildings.

Priority: High.

Project – Red Hills

General location: One half mile north and northwest of the City of Dundee

Approximate size: 500 acres

Issues/Objectives: This area has about 75 homes built in heavy fuels and on some steep slopes. Road access is a problem as some homes have only one way in and out. Access for fire apparatus is also a concern. Access must be improved and homes surveyed to identify wildfire risks. Homeowners must be informed on how they can reduce wildfire risks by improving access and by creating better defensible space.

Priority: High

Project: Dundee Watershed

General location: One and one-half miles northwest of the City of Dundee.

Approximate size: 100 acres.

Issues/Objectives: The watershed contains heavy fuels and could be damaged if a wildfire occurs in it. Identify long-range plans to keep the watershed healthy and reduce the chance of a wildfire starting in it. Identify suppression tactics to take when a wildfire occurs.

Priority: Moderate.

Project – Worden Hills

General location: One to two miles northwest of the City of Dundee.

Approximate size: One and one half square miles.

Issues/Objectives: Several dead end roads, steep slopes, canyons, and heavy fuel loads make this development a high priority for wildfire risk reduction measures. A survey of homes and road access is needed to identify specific measures to take to

reduce wildfire hazards. Homeowners need to be informed about the dangers and what they can do to reduce the risk to their property and to themselves.

Priority: High.

Lafayette Fire Department

Project – WUI Zone Defensible Space

General location: West, south, and east borders of the city.

Approximate size: Twelve square miles in four locations.

Issues/Objectives: There are four wooded areas on the edge of the city which are a wildfire risk for homes and residents living along the outskirts of the city. If a wildfire starts in one of these areas, it could threaten homes located along the edge of the area and in the city. There are heavy fuels and steep slopes in some cases leading right up to homes. A need exists to create better defensible space for these homes on the edge of the city and adjacent to the wooded areas.

Priority: High.

McMinnville Rural Fire Protection District

Project - Eagle Point Way

General location: Two to four miles southwest of McMinnville.

Approximate size: Ten Square Miles.

Objectives: Improve access. There is just one single lane, dirt road serving the development. The access road is the only way in and out for residents. A secondary access route is needed for evacuation purposes.

Create defensible space around homes and out buildings. Survey homes to identify high risk locations and inform homeowners what they can do to reduce wildfire risk. Assist as appropriate.

Priority: High.

Project - Fox Ridge Area

General location: One to two miles west of McMinnville.

Approximate size: Three Square Miles

Objectives: Heavy forest fuels and brushy draws are concerns for residents in this area. Access is also a worry because of some roads which are one way in and out. Survey homes to determine wildfire risks. Inform homeowners as to what they can do to reduce wildfire risks on their property and assist as appropriate.

Priority: Moderate

Project - Baker Creek Area

General location: About three miles NW of McMinnville

Approximate size: Ten square miles

Objectives: This largely forested area has heavy fuels throughout and is served by some dead-end roads. Survey homes and identify wildfire risks. Inform homeowners as to what they can do to reduce wildfire risks on their property and assist as appropriate.

Priority: Moderate

Newberg Fire Department

Project – Chehalem Mountain #1

General location: From one to five miles northwest of the City of Newberg.

Approximate size: Twelve square miles.

Issues/Objectives: Many homes located in a high wildfire risk area. Risks include: steep, south facing slopes; Heavy brush and timber creating high fuel load situations; poor access to some areas with long response times; and strong, seasonal east winds with low humidity levels. A survey is needed to identify specific high risk concerns, especially the creation of better defensible space. Also, a public awareness program would help to get homeowners attention and help them prepare for a potential wildfire situation.

Priority: High.

Project – Parrett Mountain

General location: One to three miles east and southeast of the City of Newberg.

Approximate size: Two square miles.

Issues/Objectives: The area has many expensive homes located on steep slopes and near brushy draws. There is limited access to most homes on the mountain. A home survey is needed to identify defensible space and access needs to reduce wildfire risks for residents.

Priority: High.

Project - Chehalem Mountain #2

General location: One mile north of the City of Newberg.

Approximate size: One square mile.

Issues/Objectives: This development is on steep, south facing hills with moderate to heavy fuels scattered throughout. Access is fairly good but there are high tension power lines and the area is subject to strong east winds with low humidity levels during the summer and fall seasons. A survey is needed to identify high risk situations around homes and to help homeowners deal with them.

Priority: Moderate.

Project – Highway 240/North Valley Road

General Location: Six miles west/northwest of the City of Newberg.

Approximate size: Eight square miles.

Issues/Objectives: There are scattered homes near areas with brushy draws, heavy fuel loads, and steep slopes. Access is limited for some homes and the response time is long. Homes should be surveyed and wildfire risks identified.

Priority: Moderate.

Sheridan Fire Protection District

Project – Canyon-Center-Cherry Hill Complex

General location: One-half mile north of the City of Sheridan

Approximate size: Three square miles.

Issues/Objectives: Numerous homes are located on one way in/out roads. The developments are on steep hillsides with heavy fuels throughout. A survey is needed to identify specific measures homeowners can take to reduce wildfire risks, especially the creation of better defensible space. The north ends of the three roads serving the developments should be connected and tied in with the Gopher Valley road to provide an alternate means of escape for the residents.

Priority: High.

Project – Beaver Creek-Smithville-Wiley Complex

General location: Five miles north of the City of Sheridan.

Approximate size: Nine square miles.

Issues/Objectives: The three roads serving the area are all one way in/out situations. There are heavy fuel loads throughout the developments and a lack of any water source for firefighting purposes. The three roads need to be connected together and then to the Rock Creek Road to provide an alternate means of escape for residents. A survey of homes is needed to identify specific wildfire risks. Dry hydrant sites along Deer Creek must be developed for a ready water source.

Priority: High.

Project – Bright Ridge-Sunnyridge-Red Hawk Complex

General location: Two miles northwest of the City of Sheridan.

Approximate size: One square mile.

Issues/Objectives: Three roads serve the area and they are all one way in/out situations. There are heavy fuel loads throughout the developments and a lack of any water source for firefighting purposes. The north ends of the three roads need to be connected together to provide alternate means of evacuation routes for residents. A

survey of homes is needed to identify wildfire risks, especially the need for the creation of better defensible space. Dry hydrant sites along Deer Creek should be developed for a ready water source for firefighting purposes.

Priority: High

Project – Upper Gopher Valley-Thomson Mill Complex

General Location: Ten miles north of the City of Sheridan.

Approximate size: Two square miles.

Issues/Objectives: Homes are located in heavy fuel situations and on moderately steep slopes. There is a lack of available water for firefighting purposes. A home survey is needed to identify specific wildfire hazards. Dry hydrant draft sites need to be developed along Deer Creek.

Priority: Moderate

Project: Muddy Valley-Vineyard Complex

General Location: Four miles northeast of the City of Sheridan.

Approximate size: Three square miles.

Issues/Objectives: Homes are located in areas with heavy fuels and a general lack of available water for firefighting purposes. A survey should be completed to identify specific wildfire risks. Dry hydrant draft sites need to be developed along Muddy Creek and at existing ponds.

Priority: Moderate.

Project – Water sources

General Location: Various sites throughout the Fire District.

Approximate size: Less than one acre.

Issues/Objectives: There are many locations throughout the district in addition to the five complexes shown above that need additional sources of water for firefighting purposes. Dry hydrant draft sites can be developed along creeks and, with farmer's permission, at farm ponds. These additional water sources will greatly increase the efficiency of the district's response capability.

Priority: High.

West Valley Fire Protection District

Project – Oaken Hills Drive Area

General Location: Fifth and Sixth Street area around the water reservoir.

Approximate size: Fifty acres.

Issues/Objectives: Homes are located next to second growth trees, brush and tall grass. There are lots of ignition sources available from human activities. Better defensible space is needed for many homes.

Priority: High.

Project: Solar Drive

General Location: One half mile north of the City of Willamina

Approximate size: One hundred acres.

Issues/Objectives: These newer homes are placed in heavy fuel situations consisting of trees and brush. Access is limited on gravel roads and there is a lack of a water source for firefighting purposes. A survey is needed to identify specific wildfire risks and to inform homeowners as to what they can do to reduce them.

Priority: High.

Yamhill Fire Protection District

Project – City of Yamhill Water Treatment Plant

General location: Northwest corner of the Fire Protection District on Turner Creek Road.

Approximate size: Forty acres.

Issues/Objectives: The water treatment plant could be damaged by a wildfire. The plant has a wooden roof and has heavy fuel loads nearby. There is a need to create better defensible space around the plant and develop a dry hydrant draft site for a ready source of water for a fire emergency.

Priority: High.

Project: Reservoir Road

General location: Two miles northwest of the City of Yamhill.

Approximate size: 200 acres.

Issues/Objectives: Two water storage reservoirs for the City of Yamhill are located on a one way in/out gravel road and could be damaged by a wildfire. There are homes located along the road as well. There is a need to create better defensible space around the tanks and to consider an alternate access source.

Priority: Moderate

Project – Flying M Ranch

General location: about 8 miles west of the City of Yamhill.

Approximate size: 40 acres.

Issues/Objectives: This ranch has cabins, a lodge, and camping facilities; it is old and largely constructed of wood material which would make it very vulnerable during a wildfire. There is at least a 12 minute response from the Yamhill Fire Protection District during a fire emergency. The gravel road to it is a one way in and out situation and there is a narrow bridge to the lodge itself. There are some year-round

residents at the ranch. A need exists to create better defensible space around the structures and to assess alternate escape routes for residents and guests.

Priority: High.

Project: Access Throughout the District

General location: Numerous locations throughout the Fire Protection District

Approximate size: Varies.

Issues/Objectives; There are many residents living in locations served by dead-end roads. These people have only one escape route during a wildfire emergency. Also, the firefighters themselves would be at risk because they would not have an escape route. Many of the roads are narrow and poorly maintained. Included are the following roads: Bear Lane, Tupper Road, Belt Road, Hay Creek, Greenhoof Road, Enger Lane, Tribbiff Lane, Cummins Road, Copper and Blackburn Roads, Krono Road, Graham Road, Tanager Lane, Crane Lane, Kutch Road, Phillips Road. There is a need to complete a thorough assessment of these roads and make recommendations as to their enhancement and for alternate access routes.

Priority: Moderate.

Project: Water Supply Sources

General location: Various places in the district.

Approximate size: Various.

Issues/Objectives: There is a need to develop water supply sources in several locations in the Fire Protection District. Many residential areas are from five to ten miles from the fire station and during a wildfire situation firefighters would need extra water beyond what they can carry. There are numerous stock watering ponds in the district and most farmers would be willing to work with the District in the development of dry hydrant draft sites.

Priority: High.

B. Countywide Wildfire Risk Reduction Projects

The following projects may apply anywhere in the county where the need exists**.**

Project: CWPP Coordinator

Issues/ Objectives/ Opportunities: Plans such as this CWPP can and are often set aside when finished and not implemented in an aggressive manner. There is a need to identify a person or organization to assure the plan receives attention and is updated as needed. The Fire Defense Board Chief should have ultimate responsibility for this but may want to delegate it to a committee, or another body. The Yamhill County Soil and Water Conservation District might be a good fit for this responsibility. They have access to many grant programs which could be used in the implementation of the CWPP. The position could also coordinate all Firewise activities as well.

Priority: High

Responsibility: Yamhill County Fire Defense Board Chief.

Project – Loggers and Farmers Cooperation

Issues/Objectives/Opportunities: In many situations, wildfires occur where there are either loggers or farmers nearby. Both of these groups have equipment, or access to it, which could be used effectively to help suppress a wildfire. The logging community is somewhat more organized than the farmers. Both groups may be utilized for initial attack rather than mop-up activities as they will be anxious to get back to their work. Efforts should be made to address training and safety opportunities with both groups so they can be better prepared when involved with a wildfire event.

Priority: High.

Responsibility: Oregon Department of Forestry, Fire Protection Districts, Emergency Management, CWPP Coordinator.

Project: BPA Power Line Corridors

Issues/Objectives/Opportunities: BPA power line corridors in Yamhill County represent a significant wildfire ignition source. Trees falling on power lines have caused wildfires in the past. The BPA lines are on leased lands from a combination of public and private land owners. The agency follows a plan to keep vegetation maintained in the corridor but unplanned situations can still develop. Land owners should be encouraged to plant vegetation under the power lines that is fire resistant and does not grow tall. Further, vegetation which favors wildlife habitat could be favored in some situations.

Priority: Moderate

Responsibility: Yamhill County Soil and Water Conservation District, BPA, Oregon Department of Fish and Wildlife, CWPP Coordinator.

Project – Water Sources for Firefighting

Issues/Objectives/Opportunities: There are many water sources in the county which can be used for firefighting purposes. There are many more sources which could be used with the proper form of development. Many of these potential sources are farm ponds. There is a need to complete an inventory of existing usable water sources, and those which have potential for development for firefighting purposes. Pertinent data showing existing or potential capability should be collected for each location and stored in a GIS Data base.

Needed information includes: GPS location, available access, existing gates, helicopter dip capability, dry hydrant, gravity flow filling device, pressurized filling device, approximate volume storage, gallons per minute flow in filling device, ownership. Agreements with landowners for the use of their water should be negotiated to protect the landowners and firefighters. Efforts should be made to find the best dry hydrant design that works well and is cost effective.

Priority: High

Responsibility: Fire Protection Districts, Oregon Department of Forestry, CWPP Coordinator, Soil and Water Conservation District.

Project: Adopt a countywide sign for directing firefighters to water source sites.

Issues/Objectives/Opportunities: There is a need to have a uniform sign to direct firefighters to water sources throughout the county. Firefighters generally know the location of water sources within their districts but when other departments and districts come under mutual aid agreements, they may not be familiar with the locations of these sources.

Priority: High

Responsibility: Fire Protection Districts, Oregon Department of Forestry, CWPP Coordinator.

Project – Roads and Driveway Assessment

Issues/Objectives/Opportunities: There are many roads and driveways in the county that present serious wildfire risks for homeowners served by them. Some roads are suitable only for one way traffic which would present a problem during a wildfire as homeowners try to evacuate and firefighters try to get to the fire. Many of these roads offer only one way in and out and could trap residents during a wildfire. Numerous roads and driveways have heavy fuel loads next to, and in some cases overhanging, the roadway which would make it dangerous for firefighters and residents using them during a wildfire. Some driveways have substandard bridges that would not support firefighting apparatus.

An assessment is needed to identify and prioritize wildfire risks related to roads and driveways.

Priority: High

Responsibility: Yamhill County Public Works, Oregon Department of Forestry, Fire Protection Districts, Emergency Management, CWPP Coordinator.

Project – Home Surveys

Issues/Objectives/Opportunities: Many homes in rural county areas are at risk from wildfires because of surrounding fuels, structural material, and substandard driveways. Some developments have numerous homes with serious risks while in some cases, there are isolated homes with problems. A survey and evaluation of homes using NFPA-1144 or SB-360 criteria is needed to identify and prioritize homes needing wildfire hazard reduction measures. Information gathered should be placed on a county data base and made available to fire protection districts. Homeowners should be notified about their situation and advised as to how they can reduce their wildfire risks. Grants should be applied for from available sources to assist homeowners to offset some of the costs of wildfire risk reduction.

Priority: High

Responsibility: Fire Protection Districts, CWPP Coordinator, Emergency Management, Oregon Department of Forestry.

Narrow roads and driveways with heavy fuels alongside.

Project – Equipment and Facility Needs

Issues/Objectives/Opportunities: All Yamhill County Fire Protection Districts can use some new firefighting equipment to enhance their fire protection programs. Some districts need facility replacement or new substations to be more effective. There are many grant programs available to help defray some of the costs for such.

Priority: High

Responsibility: Fire Protection Districts, CWPP Coordinator.

Project – BLM/Forest Service Cooperation

Issues/Objectives/Opportunities: There are 90 square miles of BLM and National Forest lands in Yamhill County. This represents about 12.5 percent of the county. Some of this land is within the Wildland Urban Interface (WUI) boundary (See map in Appendix F). The BLM and Forest Service are required to allocate a significant percentage of their wildfire hazard reduction money to areas within WUI boundaries. County representatives need to work with the BLM and Forest Service to be sure their hazard reduction dollars are spent effectively to help reduce the threat of wildfires on privately owned lands.

Priority: Moderate

Responsibility: CWPP Coordinator, Emergency Management.

Firefighting equipment in use.

Project – Railroad Maintenance

Issues/Objectives/Opportunities: There are railroad lines in Yamhill County and these represent an important wildfire ignition source. Rail maintenance activities conducted during the fire season can easily start a wildfire from welding and other activities. County officials should encourage the railroad to conduct their maintenance activities during appropriate times of the year to decrease the risk of starting a wildfire. They should also assure that provisions in the railroad's Fire Management Plan are complied with including vegetative management in their ROW and the presence of fire suppression apparatus during maintenance activities. Another objective is to have the railroad remove old piles of railroad ties along their right of way.

Priority: Moderate.

Responsibility: CWPP Coordinator, Yamhill County Public Works.

Project – Wildfire Prevention

Issues/Objectives/Opportunities: Wildfire suppression costs are very high and preventing just one such event could save a lot of money. Prevention costs are relatively small when compared with the cost of controlling a wildfire. There are many education and outreach programs which could be carried out. The following are some examples of these types of

efforts as well as other prevention programs. As additional ideas or programs come to light they should be pursued.

- Distribution of fire prevention literature and material to home owners.
- Placement of fire prevention signs at strategic locations. Develop a county-wide fire prevention sign plan in cooperation with the Oregon Department of Forestry, the BLM, and the Forest Service to identify type of signs, locations, maintenance schedule, etc.
- Place public service announcements about fire prevention on local and regional media outlets including the radio, TV and newspapers. Work with local media to produce public service announcements using local fire personnel and community members.
- Conduct fire prevention programs in schools.
- Have a fire prevention presence at local events such as the county fair.
- Do one-on-one landowner contacts to discuss fire prevention. Provide on site assessments, suggestions and assistance.
- Assist communities to become "Firewise Communities".
- Help communities get organized and form neighborhood-type associations. Work with them to help identify fire prevention programs for their areas of concern.

Priority: High.

Responsibility: Oregon Department of Forestry, BLM, Yamhill County Soil and Water Conservation District, CWPP Coordinator.

Project – Address Locator Signs

Issues/Objectives/Opportunities: Every second counts during a fire emergency. Valuable time can be lost if address numbers are not clearly posted where emergency responders can see them. All homes in the rural areas of Yamhill County should have easy to see and reflective address locator signs. Fire Protection Districts should continue their on-going programs of distributing these signs on a voluntary basis.

Priority: high.

Responsibility: Fire Protection Districts, CWPP Coordinator, Emergency Management.

Project – Brush Disposal Sites

Issues/Objectives/Opportunities: To effectively create defensible space around the many structures in need of treatment in Yamhill County, there will be a huge amount of woody material to be disposed of. Burning of such is becoming more difficult and less desirable with air quality concerns. Having a site available for property owners to dispose of branches and brush created as part of wildfire hazard risk reduction efforts would be a great public service. It may actually encourage more people to carry out hazard reduction measures. Disposal methods should encourage the utilization of the woody biomass for alternative energy sources and landscaping purposes.

Priority: Moderate.

Responsibility: CWPP Coordinator, Oregon Department of Forestry.

Project – Consider Adopting SB-360 Countywide

Issues/Objectives/Opportunities: The Oregon Department of Forestry plans to implement provisions of SB-360 on county lands within their protection districts. Those lands outside of the state's protection area will not be covered by SB-360. However, the county could consider the adoption of SB-360 standards for those lands. By doing so, all rural landowners would be treated uniformly.

Priority: Moderate

Responsibility: Yamhill County Planning Officials, Oregon Department of Forestry.

Project – Fire Siting Standards Maintenance

Issues/Objectives/Opportunities: Yamhill County has driveway and fuel break standards which apply to new construction. However, there is no ordinance which requires homeowners to maintain the driveways or fuel break areas to that standard once built. Many driveways and fuel breaks have deteriorated over time and now present wildfire risk situations for homeowners and firefighters. An ordinance which requires owners to maintain driveways and fuel break areas to appropriate standards would help protect homeowners and firefighters during a wildfire or other emergency event. It would also be desirable to have the ordinance apply retroactively to all dwellings in order to fix those with deficiencies.

Priority: High.

Responsibility: Yamhill County planning officials.

Project – Communication Towers

Issues/Objectives/Opportunities: There are many communication towers in Yamhill County. A wildfire could damage these facilities. There is a need to survey the towers and identify wildfire risks and to make recommendations as to what can be done to reduce those risks.

Priority: Moderate.

Responsibility: CWPP Coordinator, Emergency Management.

C. Project Summary Tables

Wildfire Hazard Reduction Projects by Fire Protection District

Project Name	Responsibility	Goals	Priority
Walnut Hill Complex	Amity FPD	NFPA1144 Survey, Water Source, Access, Defensible Space.	High
Amity Hills Complex	Amity FPD	Access, Water Source, NFPA 1144 Survey.	High
Eola Hills Complex	Amity FPD	Water Source, Access, NFPA 1144.	High
BPA Substation	Carlton FPD	Defensible Space.	Moderate
PGE Substation	Carlton FPD	Defensible Space.	Moderate
Red Shot Lane Dev.	Carlton FPD	Access, NFPA 1144 Survey.	High
Finn Hill Loop	Carlton FPD	Access, NFPA 1144 Survey.	Moderate
Panther Creek Area	Carlton FPD	NFPA 1144 Survey.	High
Trappist Abbey	Carlton FPD	Defensible Space.	Moderate
Dayton/Lafayette Watershed	Dayton FPD	Access, NFPA 1144 Survey.	High
Dayton Rural	Dayton FPD	Defensible Space, NFPA 1144 Survey.	High
Railroad Line	Dundee FD	Seek Cooperation With RR.	Moderate
Wildwood Subdivision	Dundee FD	NFPA 1144 Survey.	Moderate
Hess Creek Canyon	Dundee FD	Access, NFPA 1144 Survey.	High
Red Hills	Dundee FD	Access, NFPA 1144 Survey.	High
Dundee Watershed	Dundee FD	Hazard Fuel Reduction, ID Suppression Tactics.	Moderate
Worden Hills	Dundee FD	NFPA 1144 Survey, Hazard Fuel Reduction, Access.	High
WUI Zone Defensible Space	Lafayette FD	Defensible Space, Hazard Fuel Reduction.	High
Eagle Point Way	McMinnville FPD	Access, NFPA 1144, Defensible Space.	High
Fox Ridge Area	McMinnville FPD	Hazard Fuel Reduction, Access, NFPA 1144 Survey.	Moderate
Baker Creek Area	McMinnville FPD	Hazard Fuel Reduction, Access, NFPA 1144 Survey.	Moderate
Chehalem Mountain #1	Newberg FD	Hazard Fuel Reduction, NFPA 1144 Survey, Public Awareness Program.	High
Parrett Mountain	Newberg FD	NFPA 1144 Survey, Access.	High
Chehalem Mountain #2	Newberg FD	NFPA 1144 Survey, Hazard Fuel Reduction.	Moderate
Highway 240/N. Valley Road	Newberg FD	NFPA 1144 Survey, Hazard Fuel Reduction.	Moderate
Muddy Valley-Vineyard Complex	Sheridan FPD	Water Source, NFPA 1144 Survey.	Moderate

Canyon-Center-Cherry hill Complex	Sheridan FPD	Access, NFPA 1144 Survey, Defensible Space.	High
Beaver Creek-Smithville-Wiley Complex	Sheridan FPD	Access, Water Source, NFPA 1144 Survey, Defensible Space.	High
Bright Ridge-Sunnyridge-Red Hawk Complex	Sheridan FPD	Access, Water Source, NFPA 1144 Survey, Defensible Space.	High
Upper Gopher Valley-Thomson Mill Complex	Sheridan FPD	Water Source, NFPA 1144 Survey.	Moderate
Water Sources	Sheridan FPD	Develop Additional Water Sources.	High
Oaken Hills Drive Area	West Valley FPD	Defensible Space	High
Solar Drive Area	West Valley FPD	Water Source, Access, NFPA 1144.	High
City Water Treatment Plant	Yamhill FPD	Water Source, Defensible Space.	High
Reservoir Road Area	Yamhill FPD	Defensible Space, Access.	Moderate
Flying M Ranch	Yamhill FPD	Access, Defensible Space.	High
Access Throughout District	Yamhill FPD	Road and Driveway Assessment needed.	Moderate
Water Supply Sources	Yamhill FPD	Develop Additional Water Sources.	High

Countywide Wildfire Hazard Reduction Projects

Project Name	Responsible Organization	Project Goals	Priority
CWPP Coordinator	YCFDB	Appoint CWPP Coordinator	High
Logger/Farmers Cooperation	ODF, Fire Protection Districts, Emergency Management, CWPP Coordinator	Utilize Where Possible, Loggers and Farmers as a Fire Suppression Resource.	High
BPA Power Line Corridors	Soil and Water Conservation District, BPA, ODF&WL, CWPP Coordinator	Seek Ways to Limit Power Line Caused Fires	Moderate
Water Sources	ODF, CWPP Coordinator, Fire Districts, Soil and Water Conservation District	Develop New Water Sources in Strategic places For Firefighting Purposes.	High
Uniform Water Source Signage	Fire Protection Districts, ODF, CWPP Coordinator	Develop Uniform Sign to Direct Firefighters to Water Sources.	High
Roads/Driveways Assessment	County Public Works, ODF, Fire Protection Districts, Emergency Management, CWPP Coordinator	Complete Assessment of Roads and Driveways to Identify Access Needs for Firefighter and Homeowners Safety	High
NFPA 1144 Home Surveys	Fire Protection Districts, CWPP Coordinator, Emergency Management, ODF	Complete Home Surveys in High Wildfire Hazard Areas to Identify Access, Defensible Space, and Structural Material Needs.	High
Equipment/Facility Needs	Fire Protection Districts, CWPP Coordinator	Improve Firefighting Capacity.	High
BLM Coordination	CWPP Coordinator,	Improve Cooperation With the BLM	Moderate

	Emergency Management	and Fire Protection Districts.	
Railroad Maintenance	CWPP Coordinator, County Public Works	Decrease Ignition Risk From Railroad Fires.	Moderate
Wildfire Prevention	ODF, BLM, Soil and Water Conservation District, CWPP Coordinator	Decrease Wildfire Ignitions. Increase Public Awareness of Wildfire Hazards and Risk.	High
Address Locator Signs	Fire Protection Districts, CWPP Coordinator, Emergency Management	Improve Response Time From Firefighters.	High
Brush Disposal Sites	CWPP Coordinator, ODF	Decrease Debris Caused Wildfires	Moderate
Adopt SB-360 Provisions Countywide	County Planning Officials, ODF	Reduce Wildfire Risk Countywide	Moderate
Driveway Standards Maintenance Ordinance	County Planning Officials	Improve Homeowner and firefighter Safety	High
Communication Towers	CWPP Coordinator, Emergency Management	Reduce Wildfire Risk to Communication Towers	Moderate

VII. Continuing Actions

The Yamhill County Fire Defense Board Chief will be responsible for keeping this CWPP up-to-date and for its implementation. The Chief may appoint a CWPP Coordinator and Steering Committee to assume these duties. The plan should be reviewed at least biannually and revised as necessary. Periodic meetings will be held to address wildfire hazards and concerns. Wildfire hazard reduction projects as listed in the CWPP will be evaluated and updated as needed. Decisions as to project priority for grant application will be made by the Steering Committee. As new projects are identified they will be added to the CWPP as an addendum, completed projects will be deleted from the plan. The County Wildfire Coordinator will keep notes of Steering Committee meetings and distribute them to the Steering Committee members and the County Commissioners.

The success of this CWPP will be measured over time by the accomplishment of the wildfire reduction projects identified in Chapter VI. The CWPP Coordinator should monitor and keep records of accomplishments. The coordinator should also identify barriers to the successful completion of projects. Opportunities should be sought to keep momentum going in the continued implementation of all aspects of this plan.

Since this is a working document it is expected that any minor additions or changes will not require the plan to be re-signed unless those changes result in significant adjustments or changes in the overall philosophy of the plan.

VIII. Appendices

Appendix A. Wildfire Hazard Survey Criteria

National Fire Protection Association Standard 1144 (NFPA 1144)

A	**Subdivision Design**	Points
1	Ingress & Egress	
	Two or more in/out	0
	One way in/out	7
2	Primary Road Width	
	Greater than 24ft	0
	Between 20 and 24 feet	2
	Less then 20 feet	4
3	All Season Road Condition	
	Surfaced, grade < 5 percent	0
	Surfaced, grade > 5 percent	2
	Non-surfaced, grade < 5 percent	2
	Non-surfaced, grade > 5 percent	5
	Other than all-season	7
4	Fire Service Access	
	< 300ft, with Turnaround	0
	> 300ft, with Turnaround	2
	< 300ft, No Turnaround	4
	> 300ft, No Turnaround	5
5	Street Signs	
	Present [4in (10.2 cm) in size and reflectorized]	0
	Not present	5
B	**Vegetation (Fuel Models)**	
1	NFDRS fuel models	
	Light (Grasses, forbs, sawgrasses and tundra.)	5
	Medium (Light brush and small trees)	10
	Heavy (Dense brush, timber and hardwoods)	20

	Slash (Timber harvesting residue)	25
2	Defensible space	
	More than 100ft (30.48m) of treatment from buildings	1
	More than 71 - 100 ft of treatment from buildings	3
	30 - 70ft of treatment from buildings	10
	Less than 30ft	25
C	**Topography**	
1	Slope	
	Less than 9%	1
	Between 10 and 20 percent	4
	Between 21 and 30 percent	7
	Between 31 and 40 percent	8
	Greater than 41 percent	10
D	**Additional Rating Factors**	
1	Topography that adversely effects wildland fire behavior	0 - 5
2	Areas with a history of higher fire occurrence	0 - 5
3	Areas of unusually severe fire weather and winds	0 - 5
4	Separation of adjacent structures	0 - 5
E	**Roofing**	
1	Construction Material	
	Class A roof [metal, tile]	1
	Class B roof [composite]	3
	Class C roof [wood shingles]	15
	Not rated	25
F	**Existing building construction**	
1	Materials (predominant)	
	Noncombustible siding/deck	0
	Noncombustible siding/wood deck	5
	Combustible siding and deck	10
2	Setback from Slopes > 30 percent	

	More than 30 ft to slope	1
	Less than 30 ft to slope	5
	Not Applicable	0
G	**Available Fire Protection**	
1	Water Source availability (on site)	
	500 gpm (1892.7 lpm) hydrants <1000ft (304.8m) apart	0
	250 gpm (1892.7 lpm) hydrants <1000ft (304.8m) apart	1
	More than 250 gpm non-pressurized, 2hrs	3
	Less than 250 gpm non-pressurized, 2hrs	5
	No hydrants	10
2	Water source availability (off site)	
	Sources within a 20 min round trip	1
	Sources within a 21 - 45 min round trip	5
	Sources > 46 min round trip	10
H	**Utilities (Gas and Electric)**	
1	All underground utilities	1
	One underground, one above ground	3
	All above ground	5
I	Totals for subdivision	
	Point totals	
	Low Hazard < 39 points	
	Moderate Hazard 40 - 69 points	
	High Hazard > 70 points	

Appendix B. Fire Suppression Rating Schedule (FSRS)

The Fire Suppression Rating Schedule (FSRS) is the manual ISO (Insurance Service Office) uses in reviewing the fire-fighting capabilities of individual communities. The schedule measures the major elements of a community's fire-suppression system and develops a numerical grading called a Public Protection Classification (PPCTM). Here's how it works:

Fire alarms
Ten percent of the overall grading is based on how well the fire department receives fire alarms and dispatches its fire-fighting resources. Field representatives evaluate the communications center, looking at the number of operators at the center; the telephone service, including the number of telephone lines coming into the center; and the listing of emergency numbers in the telephone book. Field representatives also look at the dispatch circuits and how the center notifies firefighters about the location of the emergency.

Engine companies
Fifty percent of the overall grading is based on the number of engine companies and the amount of water a community needs to fight a fire. ISO reviews the distribution of fire companies throughout the area and checks that the fire department tests its pumps regularly and inventories each engine company's nozzles, hoses, breathing apparatus, and other equipment.

ISO also reviews the fire-company records to determine:

- type and extent of training provided to fire-company personnel
- number of people who participate in training
- firefighter response to emergencies
- maintenance and testing of the fire department's equipment

Water supply
Forty percent of the grading is based on the community's water supply. This part of the survey focuses on whether the community has sufficient water supply for fire suppression beyond daily maximum consumption. ISO surveys all components of the water supply system, including pumps, storage, and filtration. To determine the rate of flow the water mains provide, fire-flow tests at representative locations in the community are completed. Finally, the distribution of fire hydrants is evaluated.

Appendix C. Wildfire Risk Rating System.

Ignition Risk is the likelihood of a wildfire beginning within a particular area. The assessment for Ignition Risk looks at three criteria; historic fire occurrence (number of fires per 1000 acres per 10 years), density of homes per 10 acres, and other risk factors The rating scores for Ignition Risk criteria are:

Fire Occurrence – per 1,000 acres per 10 years

0-0.1	5 points
0.1-1.1	10 points
1.1+	20 points

Home Density (homes per 10 acres)

0-0.9(rural)	0 points
1-5(suburban)	5 points

5.1+(urban) 10 points

Other Ignition Risk Factors Present in Vicinity (transmission power lines, power substations, active logging, construction, debris burning, slash burning, mining, dispersed or developed camping, off road vehicle use, flammables present, fireworks, mowing grass, woodcutting, railroads, highways, lightning prone areas, arson, schools, business, ranch/farm, dump.)

<8 present 0 points

8-15 present 5 points

>15 present 10 points.

(if railroad present add 5 points to each category)

Ignition Risk Factor Rating(cumulative score of the three criteria)

0-13 Low

14-27 Moderate

28-40 High

Wildfire Hazard is the resistance to control once a wildfire starts. It includes weather, topography, and vegetation (fuel) that adversely affects suppression efforts. The criteria and scoring system for Hazard follows:

Weather (The number of days per season that forest fuels are capable of producing a significant fire event) All communities and zones in eastern Oregon are assigned the maximum score of 40 points by default.

Slope

0-25% 0 points

26-40% 2 points

>40 % 3 points

Aspect

N,NW,NE 0 points

W,E 3 points

S,SW, SE 5 points

Elevation

5000 + 0 points

3,500-5,000 1 point

0-3,500 2 points

Surface Fuels (based on Fire Behavior Fuel Models). Hazard Value 1 or HV1 produces flame lengths up to five feet with little spotting, torching or crowning. HV2 has flame

lengths from 5-8 feet with sporadic spotting, torching or crowning. HV3 has flame lengths of over 8 feet with frequent spotting, torching and crowning.

Non-forest	0 points
HV1	5 points
HV2	10 points
HV3	30 points

Aerial Fuels (Crown Fire Potential)

Passive – Low	0
Active-Moderate	5
Independent	10

Hazard Factor Rating (cumulative score of the six criteria)

Low	0-9
Moderate	10-40
High	41-60
Extreme	61-80

Values Protected is the human and economic value associated with communities or landscapes. Protection of life is the number one priority with all agencies and is measured by the density of homes. In addition, the presence of community infrastructure is another consideration.

Home density (homes per 10 acres)

0.1-0.9 (rural)	2 points
1.0-5.0 (suburban)	15 points
5.1+ (urban)	30 points

Community infrastructure (power substations and corridors, communication sites and facilities, transportation corridors, major manufacturing and utilities facilities, municipal watersheds, fish habitat, watershed hydrology, water storage and distribution, fuel storage facilities, hospitals and health care facilities, landfills and waste treatment sites, schools, churches, community centers, and stores).

None present	0 points
One present	10 points
More than one	20 points

Values Protected Rating (cumulative score of the two criteria)

Low	0-15 points
Moderate	16-30 points

High 31-50 points

Protection Capability includes the capacity and resources to undertake fire suppression and prevention activities. It involves a combination of the capacity of the fire protection agencies, local government and community organizations. A high score represents a high risk/low protection capability.

Fire Response

Organized structural response < 10 minutes	0 points
Inside fire district, but structural response > 10 minutes	8 points
No structural protection, wildland response < 20 minutes	15 points
No structural response & wildland protection > 20 minutes	30 points

Community Preparedness (proven mitigation efforts by the community that will make the fire response effective)

Organized stakeholders group, community fire plan, phone tree, mitigation efforts	0 points
Primarily agency efforts	2 points
No effort	4 points

Protection Capability Rating (cumulative score of the two criteria)

Low	0-9 points
Moderate	10-16 points
High	17-40 points

Overall Wildfire Risk Rating

An overall Wildfire Risk rating for each zone was assigned based on the cumulative scores of the four risk factors (Structural Vulnerability is treated separately because only one zone has structures). The break points for the overall rating are:

Low	0-46
Moderate	47-113
High	114-190

Appendix D. Fire Regime, Condition Class.

A natural Fire Regime is a classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning[13]. The five natural (historical) Fire Regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant vegetation. The five regimes are:

- Regime I, 0-35 years frequency and low intensity (surface fire most common) to mixed severity (less than 75% of the dominant over story vegetation replaced.
- Regime II, 0-35 year frequency and high severity (greater than 75% of the dominant over story vegetation replaced).
- Regime III, 35-100 plus year frequency and mixed severity (less than 75% of the dominant over story replaced).
- Regime IV, 35-100 plus year frequency and high severity.
- Regime V, 200 plus year frequency and high severity.

A Fire Regime Condition Class (FRCC) is a classification of the amount of departure from the natural regime[14]. Three classes have been described[15]:

- Condition Class 1, These areas are within the natural (historical) range of variability of vegetation characteristics including fuel composition, fire frequency, severity and pattern, and other associated disturbances.
- Condition Class 2, Moderate departure from the natural regime of vegetation characteristics. Fire behavior and effects are moderate and risk of loss of key ecosystem components is moderate.
- Condition Class 3, High departure from the natural (historic) regime of vegetative characteristics. Fire behavior and effects are high and risk of loss of key ecosystem components is high.

[13] Agee 1993, Brown 1995.

[14] Hann and Bunnell, 2001

[15] Hardy, et al.,

2001 and Schmidt et al., 2001

Appendix E. Agriculture Facts.

Quick Facts on Yamhill County Agriculture

Total farm gate value of all agricultural production: $296.1 million in 2007 (excludes wine production and food processing) (see Table 1 for a breakdown by crop and livestock categories).

Major crops and livestock produced: In order starting with the highest farm level value of production in 2007 – nursery crops, grass and legume seeds, dairy products, tree fruits and nuts, wine grapes, Christmas trees, poultry, grain and hay, and vegetables.

Yamhill County is recognized as the leading production area for Oregon's wine industry: Yamhill County has the largest wine grape harvest in the state by a wide margin, with the 2007 tonnage of 10,719 tons exceeding the combined tonnage of the second and third counties (Polk and Washington). Yamhill wineries handled 44% of the state's total grape crush in 2007.

Total land in crop production (2007 estimate): 105,420 acres which is 23% of the total county land area (see Table 2).

Total land in pasture/grazing (2007 estimate): 77,100 acres, equaling 17% of the county land area (see Table 2).

Location of crop production: Most crops are grown at lower valley elevations with warmer and longer growing seasons. Vineyard acreage has expanded from about 4,250 planted acres in 2003 to 5,500 planted acres in 2007, with expansion in both valley and foothill sites (see Table 3).

Livestock production: Cattle, hog, sheep and goat production occurs on small farms located throughout the county. Fewer than five dairies remain in the county and all other categories of livestock production also have been declining in recent years.

Soil variability: Valley soils are not uniformly suited to crop production. Heavy clay soil that is poorly drained is interspersed with highly fertile, well drained soils. Drainage systems are commonly installed to increase the productive capacity of valley soils. Wine grapes in foothill areas are produced on soil that has traditionally been considered unsuitable for agricultural crops.

Supplemental irrigation is needed for most high value crops: wine grapes, tree fruits and nuts, specialty vegetable seeds and berries. About one acre out of every five crop acres is irrigated. Two irrigation districts serve portions of Yamhill County and these districts cannot accept new irrigators due to restricted water supply. Additional irrigation water must be obtained from wells.

Other Quick Facts on Yamhill County Agriculture from the 2002 Census of Agriculture*	
Farms with annual sales over $1,000:	2,329
Farms with operator indicating farming as principal occupation:	1,144
Average farm size:	84 acres
Median farm size:	24 acres
Irrigated harvested cropland as a percentage of land in farms:	22.0 percent
Percentage of farms operated by a family or individual:	89.4 percent
Average age of principal farm operators:	54 years

* Data from the 2007 Census of Agriculture will be available in early 2009.

Agriculture is a major contributor to the Yamhill County economy. In 2007 the agricultural producers generated about $300 million of farm gate sales from a wide range of products. This does not include sales from winery production or food processing.

The strength of Yamhill County agriculture lies in the broad base of crops produced, processed and marketed. The county's most visible agricultural enterprises are the vineyards and wineries, which have grown and prospered along with their reputation for premium wines. Yet many other aspects of the county's agriculture sector are large and have enjoyed their share of growth in recent years. This report provides a foundation for understanding Yamhill County agriculture as it currently exists by highlighting the major characteristics of this dynamic industry.

Since the 1840s when Yamhill County was formed agriculture has played a rich and prominent role in the lives of residents.[16] The early settlers came to the valleys of what is now eastern Yamhill County and practiced subsistence agriculture that included raising cattle. Soon cattle grazing moved to the hills and the valley was devoted mainly to wheat production. By the early 1900s dairy production came into the area and gradually expanded. Expansion of clover production was beneficial to the livestock industry and the county saw increasing numbers of beef cattle, hogs, sheep, goats and poultry.

Fruit and nut production started in earnest by 1910. By 1925 it was estimated that Yamhill County had 2,864 farms at an average farm size of about 83 acres. Between 1925 and 1950 the apple and pear orchard acreage declined while hazelnut production expanded. Commercial production of the small berry fruits that included strawberries, loganberries, raspberries, blackberries, and gooseberries took hold following World War I. The dominant crop was strawberries. Walnuts were also introduced after WWI.

[16] Much of the information for the discussion of the agricultural history is from *Lower South Yamhill – Deer Creek Watershed Assessment*, by Yamhill Basin Council, September, 2000.

In the 1962 Columbus Day Storm, most of the county's prune orchards were flattened. This ushered in a down period as growers worked to recover their losses and farm land prices declined. Although wine grapes had been grown previously in the valley areas, by 1970 commercial plantings of wine grapes began appearing on former orchard ground. This industry has steadily advanced since that time.

As in other areas of the Willamette Valley, grass seed production has changed the face of Yamhill County agriculture since the 1960s. Ground that was too wet for other crops was tiled or otherwise drained to allow for many types of perennial grass and legume seed crops. Large farms, some owning and leasing several thousand acres and in their second or third generation of family ownership, have taken advantage of modern equipment to expand and increase their productivity. Many of these farmers have also responded to the natural resource diversity in Yamhill County to increase the range of crops they grow.

In the 1980s the ornamental plant nursery industry began its path of expansion in the county. Nurseries of all sizes were established, including some of the largest in the state. Today over 100 nurseries make horticulture the largest contributor to farm gate income of all agricultural sectors – and they also employ more workers than any other sector.

Yamhill County has always had a large number of small farms. However, over the past decade there has been a resurgence of small, diversified truck farms. Many tend to grow a profusion of crops on five, ten or more acres; with some producing 30 or more different vegetable and fruit crops. Other farms specialize in livestock or combine livestock with truck crop farming. Often these new farms follow organic or bio-dynamic practices. They tend to market their crops in several ways including farmers markets, on-farm sales and specialty retail stores.

Adapting to natural resource conditions and maximizing market opportunities are hallmarks of Yamhill County growers. They have led this industry to prominence in the local economy. The natural resources and skills of the farmers have resulted in a large and diverse industry, one that is hard to equal elsewhere – even in a state as agriculturally oriented as Oregon.

Present Agricultural Activity

Yamhill County is a diverse agricultural production area. Principal non-food crops are grass and clover seed, nursery plants, hay, specialty vegetable seed, and corn for silage. Grain crops such as wheat, barley, and oats are grown in rotation with the seed crops. Between 50,000 and 60,000 acres of county land is devoted to seed crop production, making it the major crop category in terms of agricultural land use in the county. This is a less visible but very solid contributor to the prosperity of the farm and agricultural sector.

In addition to the grain crops mentioned above, other major ***food*** crops grown in Yamhill County are hazelnuts (also known as filberts), corn, small fruits, and tree fruits. Wine grape production has rapidly expanded to about 232 growers with 5,500 planted acres in 2007. This sector is well established as a major part of the Yamhill County agriculture. Wineries are expanding in pace with the vineyard expansion.

The number of dairies has dwindled to fewer than five. Beef, sheep, hogs and chickens are produced on small and diversified farm enterprises in many locations throughout the

valley and foothill areas. Two local livestock slaughter facilities provide good market outlets for beef and hog producers to market their animals.

Variations in climate, water availability and soils combine to give Yamhill County growers latitude in where they raise their crops. However, there is a clear tendency to raise the vegetable and fruit crops at the lowest elevations at the valley floor which offer the warmest growing season temperatures.

Dayton is considered the center of the fruit and vegetable producing area. Nurseries are located in many valley locations with consideration given to flat land, good soils and water supply. Good soils are needed for field production of trees and shrubs, with less attention to soils for "container" nursery operations which grow above ground in pots.

The small fruits which include raspberries, blackberries, blueberries and strawberries are still produced but in declining acreage in Yamhill County. Some new plantings of blueberries are reported. Well drained soil and warm growing season temperatures create optimum conditions for these crops so there are limited suitable locations. These crops are found in the valleys and in the warmest areas of the county. Generally they require more labor than other crops so this also a constraint.

Wine grapes are grown principally in the foothills above the valley floor, because the valleys have generally highly fertile soils that remains too wet for premium wine grape growing. Wine grapes thrive on less fertile soils that are unsuited to fruit, vegetable and seed crops.

Grass and legume seed favor the best soils for optimum yields but these crops are also grown on heavier, less well drained soil, especially of drainage tile as been added to lower the water table. Hay and other forage as well as grazing of livestock is generally found on the least productive valley and foothill soils.

Total Value of Agricultural Production

The 2007 value of agricultural production in Yamhill County is estimated at $296.1 million, placing Yamhill County seventh among all Oregon counties.[17] Table 1 shows the distribution of the farm gate value of production. Note that this does not include the value added from winery or other food processing.

[17] See http://www.nass.usda.gov/Statistics_by_State/Oregon/Publications/facts_and_figures/facts_and_figures.pdf

Table 1

Yamhill County Value of Agricultural Production, 2007

All Crops	**Value ($000)**	**Percent of Total**
Nursery & Greenhouse Crops	$133,724	45.2%
Grass & Legume Seeds	$56,889	19.2%
Nuts & Tree Fruit	$24,684	8.3%
Small Woodlots and Christmas Trees	$13,204	4.5%
Grain & Hay	$9,600	3.2%
Vegetable & Truck Crops	$3,185	1.1%
Other Crops (Wine Grapes)	$13,387	4.5%
Sub total	$254,673	86.0%
All Livestock		
Dairy Products	$20,482	6.9%
Poultry	$9,780	3.3%
Cattle	$6,267	2.1%
Other Animal Products	$4,903	1.7%
Sub total	$41,432	14.0%
All Crops and Livestock	$296,105	

Source: Oregon Agricultural Information Network.

Acreages for Major Crops and Pasture Land

There are about 182,500 acres in agricultural use in the county (see Table 2). Crop land use accounts for 58 percent of this land area and the remainder is devoted to pasture. Almost 30 percent of all agricultural land is producing grass and legume seed crops (52,700 acres). The grain acreage is also closely associated to the grass and legume seed land area because this is a common rotation crop when land comes out of seed crops. Other main crops are hay and forage, filbert nuts, vegetable and truck crops, wine grapes and nursery plants.

Table 2

Utilization of Agricultural Land Base in Yamhill County - 2007

Agricultural Use	Acres	Percent of Total
Cropland		
Grass Seed	52,700	28.9
Hay & Forage	19,550	10.7
Tree Nuts	6,720	3.7
Vegetable & Truck Crops*	6,650	3.6
Wine Grapes**	5,550	3.0
Nursery***	5,500	3.0
Grain	4,450	2.4
Tree Fruits	1,570	<1.0
Specialty Field Crops	1,310	<1.0
Small Fruits and Berries	1,210	<1.0
Christmas Trees	210	<1.0
Subtotal Crop Land	105,420	57.8
Pasture		
Pasture/Grazing	77,100	42.2
Total All Agriculture	182,520	100.0

* 2007 data not available for vegetable/truck crops; used 2002 Agriculture Census estimate

** Planted wine grape acres from USDA NASS Vineyard and Winery Report

*** USDA NASS Oregon Greenhouse and Nursery Survey 2007

Source: Oregon Agricultural Information Network, except wine grapes and vegetable truck crops

Grass and Legume Seed

Yamhill County is a top producer of grass and legume seed crops for lawn turf, pasture grass and legumes such as red and white clover. Farm level sales were about $56.8 million in 2007 on 52,700 acres. Value of production has expanded significantly from 2000 to 2007, with average per acre value up over 65 percent from $595 per acre in 2000 to just over $1,000 per acre in 2007.

Acreage devoted to grass and legume seed peaked in 2000 at 60,525 and has ranged between 50,000 to 60,000 acres since that time. Grass seed acreage constantly fluctuates year-to-year as the fields need to be rotated out of grass or legume seed production every 3-4 years. Growers also shift crops to take advantage of alternative crops as they assess relative profitability and adjust their preferences for diversity and risk management.

Nuts and Tree Fruits

The major nut crop in Yamhill County is hazelnuts and the county is a leader among the Willamette Valley production areas in production. The OAIN (Oregon Agriculture Information Network) data shows nut and tree fruit acreage holding steady at about 6,245 to 6,350 acres from 2002 to 2007. The 2007 value of production for filberts (hazelnuts) is $6.4 million. OSU Extension personnel report that there is resurgent grower interest in planting this crop because of the research progress to develop cultivars resistant to Eastern Filbert Blight. Walnuts are a minor and declining crop in Yamhill County. Current walnut acreage stands at about 370 acres with a 2007 value of $580,000.

The main tree fruit acreages in the county in 2007 according OAIN, are:

- Sweet cherries: 580 acres
- Prunes and plums: 360 acres
- Tart cherries: 300 acres
- Apples: 240 acres
- Peaches: 70 acres
- Asian and Bartlett pears: 50 acres

The estimated 2007 farm gate value of production for the tree fruits is just over $1.0 million. Additional value is generated in the county from packing, storing and shipping the local fruit.

Hay and Grain

There is a sizable segment of hay and forage production in the county. Hay and forage is produced on an estimated 19,550 acres in 2007. This does not include the 77,000 acres that are used for grazing cattle, sheep, horses and other livestock, although at times fields that are principally devoted to harvested forage production may be temporarily grazed. Most of the forage land produces grass hay. The 2007 data shows about 1,250 acres is in alfalfa hay and about 2,500 acres produced corn silage for feeding dairy and beef cattle.

In 2007 grain prices spiked upward in response to the rapid rise in demand for corn and other crops for bio-fuels. This gave Yamhill growers an added incentive to plant grain. In total, hay and grain contributed $7.0 million in value to agricultural sales last year.

Specialty Seed Production

A relatively small but lucrative niche for a group of experienced Yamhill County seed growers is the production of vegetable seed crops. Growers who have established relationships with seed companies produce small acreages of radish, lettuce and other vegetable seeds. The crops must meet exacting specifications for size, weight, and purity (free from weeds and other extraneous materials). Growers with the knowledge and experience to meet the seed company requirements can earn very high gross and net returns per acre. Little is known about the exact acreage or gross returns since this is very tightly controlled market and production channel.

Wine Grapes & Winery Production

Yamhill County is the center of wine grape and wine production in Oregon. In 2007 an estimated 4,634 acres were harvested, out of total planted acres of 5,500.[18] While each year a small amount of planted acres is taken out of production, most of the 866 acre difference between harvested and planted acres represents new plantings. Future production is on a clearly rising trend line.

In 2007 Yamhill County wine grape producers harvested 11,910 tons of wine grapes. This is more than double the production in the second highest county, neighbor Polk County which harvested 5,097 tons. Washington and Marion Counties were third and fourth respectively, with reported harvests of 4,122 and 3,801 tons. The estimated value of Yamhill County's wine grape production is approximately $16 million. This is the value at the grower level and does not include the considerable incremental value created by wineries for producing, bottling and marketing the wines.

Yamhill's wine grape industry has a world class reputation for premium pinot noir wine and the production of pinot noir varietal wine far surpasses all other varietals. Table 3 presents acreage data for the main wine grape varieties grown in Yamhill County in 2003 to 2007. Eighty percent of Yamhill County's vineyard acreage is in pinot noir grape production.

The winery industry is clearly thriving and growing in the county. NASS reports 141 operating wineries in 2007. Cooperage (wine in barrels) is a measure of annual wine production and it increased by 40 percent when looking at the 2003 and 2007 years. Yet growth in the intervening year-to-year periods has been uneven due to variations in the annual grape crush. The purchases of non-estate crush are included in cooperage totals and significant amounts of unfermented juice come from outside Yamhill County.

Berry Fruits

Caneberries include all varieties of blackberries, raspberries, boysenberries and loganberries. Yamhill County ranked fourth among Oregon counties in Caneberry production in 2007 with farm-level sales of $2.0 million. Caneberries are grown for both processing and fresh sales. These crops work well for smaller diversified farms where a small number of workers are kept for the growing season and harvest months. The fruits are also popular when the growers have u-pick and fresh sales through farmers markets and other direct markets.

In 2006 Yamhill County had a reported harvest of 1.6 million pounds of strawberries or about 8 to 10 percent of the total Oregon crop. This placed the county fourth in Oregon production behind Marion County (which had an 11 million pound harvest), Multnomah and Washington Counties.

Blueberries are the other small berry fruit grown on a modest acreage in the county. Data on production and acres are not available.

[18] 2007 USDA NASS Vineyard and Winery Report.

Vegetable Crops for Processing and Fresh Markets

Yamhill County has both large growers and smaller growers producing a surprising range of vegetables. Corn and green beans are popular crops produced by the larger growers for processors in the Willamette Valley. An astounding range of seasonal fresh vegetable crops are available from the smaller growers who have trained their sights on the expanding market scene for local sustainable food. The fresh market vegetables that are labor intensive and hand picked are generally produced by smaller farms that have subscribers (Community Supported Agriculture), stalls at the local farmers markets, and other direct sales channels via roadside stands, restaurants or food retailers. Some of the most popular fresh vegetables are the green leafy vegetables, tomatoes, broccoli, brussel sprouts, cabbage, cauliflower, carrots, green/dry onions, potatoes, beets, radishes, squashes, pumpkins, asparagus, celery, garlic, leeks, onions, shallots, mushrooms, and culinary (leafy) and medicinal herbs and spices.

Livestock & Livestock Products

The livestock numbers have been showing trends of either flat or declining activity in Yamhill County. However there is still a reasonable size livestock industry present and in aggregate the sector generated over $41.4 million in 2007 according to OAIN. Cattle numbers that include beef cows (6,200 head) and dairy cows (7,200 head) plus younger feeder cattle and dairy replacement heifers add up to a total of 24,000 head. Results from the 2007 Census of Agriculture will give a new benchmark number to help clarify the state of the cattle sub-sector. Dairy cows are showing a slight gain over 2005 and 2006 but industry observers report the dairy sector is slumping. Hog numbers have fallen sharply from a reported 6,000 head in 2000 to under 2,000 head in 2008. Sheep numbers have been erratic but there is a strong potential that this sector is also declining. Poultry appears to be a modest industry with no large broiler operations known to operate in the county, but the value of sales is reported to be $9.8 million.

Yamhill County has a major plus in the livestock sector because it is home to two meat slaughter and processing facilities. However, both facilities attract cattle and hogs from beyond Yamhill County, and apparently much more attractive options exist for Yamhill County agriculture producers than raising livestock. McMinnville also has a milk processing plant which is a boost to the dairy producers.

Christmas Trees and Specialty Woodlot Products

Yamhill County has some large and small Christmas tree producers. Oregon is a major Christmas tree producing state and Yamhill County can produce very good evergreen trees for the market. This sector is becoming highly specialized with large tree farmers gaining cost advantages over the small less capitalized producers. Recent forecasts that foresee over-supply conditions have dampened this business outlook. Christmas wreaths, swags and other decorative items are also produced by local tree farmers and woodlot owners.

Organic Agriculture

Yamhill County was estimated to have 21 farms with 1,666 acres in certified organic production in 2006 according to data complied by Washington State University.[19] Some of the certified acreage includes vineyard as well as food crop land. Some of the diversified truck farms that supply fresh vegetables and fruits to local markets are using practices such as bio-dynamic crop production. However these farms are not always opting for organic certification of their crop or livestock products.

A small number of wineries are producing wine made from organic grapes or grapes otherwise grown under high environmental standards. The acreage and volume of wines produced in this manner can be expected to expand to meet evolving consumer values and expectations related to environmental stewardship.

[19] See Profile of Organic Crops and Livestock in Oregon – 2006 by David Granatstein and Elizabeth Kirby, Center for Sustaining Agriculture and Natural Resources, Washington State University, Wenatchee WA.

Appendix F

Map with WUI and Wildfire Risk Assessment Zones

Appendix G

Maps with Wildfire Hazard Reduction Projects