Executive Summary

Recent fires in Oregon and across the western United States have increased public awareness of the potential losses to life, property, and natural and cultural resources. In June of 2004, the Board of Clackamas County Commissioners (BCC) directed the County Departments to work with state and federal agencies, fire agencies, and community organizations to develop an integrated Community Wildfire Protection Plan. The BCC adopted this plan in 2005 in a commitment to reduce wildfire risk to citizens, the environment, and quality of life within Clackamas County. This 2017 Update was adopted to ensure that the CWPP remain an up-to-date and relevant document.

Clackamas CWPP Mission Statement

The mission of the Clackamas County Community Wildfire Protection Plan (CWPP) is to provide a consolidated reference documenting wildfire hazards, prevention and response efforts, and resourcesharing information for all participating local, state, and federal fire agencies. The CWPP improves upon historical fire planning efforts by providing a more localized and accurate approach for determining wildfire hazards and implementing best practices for wildfire protection in balance with sustainable ecological management and economic activities throughout Clackamas County.

2012-2017 Clackamas CWPP Accomplishments & Action Plan

The 2012 CWPP included an action plan to address the following focus areas: Risk Assessment, Fuels Reduction & Biomass Utilization, Emergency Operations, Education & Outreach and Structural Ignitability. The CWPP Action Plan has been updated and revised to ensure that actions are clear, implementable and relevant (Table 1-1. 2017 CWPP Action Plan).

The CWPP enabled CWPP partner agencies to be more competitive for grant funds to build capacity for implementing projects. These accomplishments are illustrated in Table 1-2. CWPP Grant-Funded Projects 2012-2017. The total grant-funded accomplishments are as follows:

- Fuels Reduction: \$1,121,957
- Outreach/Protection: \$1,242,286
- Total Funding Generated from the Clackamas CWPP: \$2.36 Million

Fire District Coordination

The 2017 CWPP Update continued a focus on taking a localized approach to wildfire planning by creating individual CWPP's for each fire agency. *Chapter 10: Fire Agencies* includes a brief description of wildfire hazards, emergency operations, structural ignitability, community outreach and education and fuels reduction priorities for each local fire agency. Local Communities at Risk were also identified. Each local CWPP is complete with an action plan to address wildfire issues specific to the community.

Clackamas CWPP Planning Process

A Wildfire Planning Executive Committee (WFPEC) guided the development of the CWPP, identifying the primary issues to be addressed and collaborating with the Clackamas Fire Defense Board to develop priorities for action. The CWPP Action Plan includes over fifty actions that can be taken to reduce wildfire hazards and improve response efforts. The following chapters of the CWPP document the objectives of the CWPP and highest priority strategies for action:

Clackamas CWPP Focus Area	Priority Actions		
Wildfire Risk Assessment (Chapter 4)	 Maintain and update the Fuels Reduction (FR) and Communities at Risk (CAR) maps and databases. 		
	2.) Continue to track structural vulnerability data throughout the County through structural triage assessments.		
	3.) Update the Overall Wildfire Risk Assessment as new data becomes available.		
Hazardous Fuels Reduction and	 Develop and maintain and inventory of potential and successful FR projects by meeting with parks and natural lands managers quarterly. 		
Biomass Utilization (Chapter 5)	2.) Continue securing funding to implement projects/ hire seasonal ODF staff.		
	1.) Develop an FDB Communications Work Group.		
Emergency Operations (Chapter 6)	2.) Conduct a Conflagration Exercise.		
	1.) Develop Firewise toolkit for CAR's.		
	2.) Create incentives for fuels reduction.		
Education and Community Outreach	3.) Update and distribute the Burn Permitting and Fire Restrictions Brochure.		
(Chapter 7)	4.) Continue to improve address signage throughout the County.		
	1.) Identify a DTD representative for the WFEPC.		
Structural Ignitability Policies and	2.) Improve coordination with Rural Fire Agencies.		
Programs (Chapter 8)	3.) Integrate WUI into Plan Map and include a public outreach strategy.		

2017 Clackamas CWPP Major Revisions

The 2017 Clackamas CWPP improves upon the Forest Conditions section. Drier weather has played a big role in the wildfires in this area and therefore it has been addressed in chapter 3. The update also sets more realistic goals based on current funding. In 2012, there was grant money to finance projects but now in 2017 those sources for funding are strained, which means less can be accomplished. Now that each action has been examined, we have created a list of realistic, obtainable goals.

Sustaining Fire Plan Efforts

The Wildfire Planning Executive Committee (WFPEC) is responsible for guiding Clackamas CWPP implementation and is comprised of representatives from the Clackamas Fire Defense Board, Clackamas County, and public land management agencies. This oversight committee meets annually to facilitate a collaborative approach to CWPP implementation.



Chapter 1: Introduction

The Board of Clackamas County Commissioners (BCC) is concerned with the risk that wildfires pose to citizens and valued forest resources. In May 2004, the BCC directed county departments to facilitate a collaborative community wildfire planning effort including local, state and federal agencies, community organizations, and individuals that have a vested interest in reducing wildfire hazard. The collaborative group identified wildfire risks, developed priorities for project funding, and developed programs to reduce the risk of wildfires to citizens and communities in Clackamas County. The first iteration of the Clackamas CWPP was adopted in 2005.

This 2017 CWPP Update has been accomplished in accordance with the suggested 5-year update process outlined in Chapter 9: Sustaining Efforts, Monitoring and Evaluation. The update process requires staff and resources, which were made available through a 2014 Title III Grant.

Clackamas CWPP Mission, Goals and Objectives

Mission

The mission of the Clackamas County Wildfire Protection Plan is to provide a consolidated reference documenting wildfire hazards, prevention and response efforts, and resource-sharing information for all participating local, state, and federal fire agencies. The CWPP improves upon historical fire planning efforts by providing a more localized and accurate approach for determining wildfire hazards and implementing best practices for wildfire protection in balance with sustainable ecological management and economic activities throughout Clackamas County.

Goals

Protect Life and Property

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Improve hazard assessment information to make recommendations for regulating new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards.
- Ensure that new development meets the criteria set forth in the plan, thereby creating a more fire safe community.
- Provide evacuation procedure information to the public.

Increase Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.
- Utilize existing public outreach/education programs, including: Chamber of Commerce, Citizen Planning Organization, Community Emergency Response Teams, Neighborhood Watch, Parks Development Volunteers, Parent Teacher Associations, etc. to communicate information about wildfire hazard and prevention.

Enhance Natural Systems

- Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

Develop Partnerships and Support Implementation

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

Strengthen Emergency Services

- Recommend policies and projects that reduce vulnerability of critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Objectives

- Develop a coordinated wildfire plan for the county that builds on the Natural Hazard Mitigation Plan. The CWPP will also provide a foundation from which to build local fire district plans.
- Coordinate planning efforts with appropriate local, state, and federal agencies to ensure that the plan addresses National Fire Plan and Healthy Forest Restoration Act criteria and meets the intent of Senate Bill 360.
- Implement an effective public outreach campaign to incorporate citizen input and provide the public with information regarding wildfire prevention and structural protection capabilities.
- Provide technical assistance to the fire districts for developing local plans.
- Obtain necessary data for developing a county-wide wildfire risk assessment and coordinate methodology with appropriate local, state, and federal partners.
- Review County regulatory standards addressing wildfire hazards and provide recommendations for improvement.
- Document potential funding sources and increase eligibility for future grant opportunities by providing a more accurate assessment of risk and a prioritized list of risk-reduction projects.
- Ensure effective coordination between county departments and fire districts.
- Review emergency operations procedures (communications, evacuations, etc.) and provide recommendations for improvement.
- Develop fuels reduction projects in concert with biomass utilization projects to reduce wildfire hazards while promoting economic sustainability.
- Consider public land management policies and the potential effects these policies could have on wildfire risks and hazards in the county.

2005-2012 CCWPP Accomplishments & Action Plan

The 2012 CWPP included an action plan to address the following focus areas: Risk Assessment, Fuels Reduction & Biomass Utilization, Emergency Operations, Education & Outreach and Structural Ignitability. CWPP Partners have made great progress toward implementing these actions, as shown in Table 1-1. 2017 CWPP Action Plan. The CWPP Action Plan has also been updated and revised to ensure that actions are clear, implementable, and relevant.

The CWPP also enabled CWPP partner agencies to be more competitive for grant funds to build capacity for implementing projects. These accomplishments are illustrated in Table 1-2. CWPP Grant-Funded Projects 2012-2017. The total grant-funded accomplishments are as follows:

- Fuels Reduction: \$1,121,957
- Education/Outreach: \$1,242,286

Total Funding Generated from the CCWPP: \$2.36 Million

2017 Clackamas CWPP Major Revisions

The 2017 Clackamas CWPP Update process was developed in collaboration with the Clackamas Fire Defense Board and the Clackamas Wildfire Executive Planning Committee. These collaborative groups evaluated the effectiveness of the plan with regard to oversight of the CWPP as well as the five focus areas: Risk Assessment, Fuels Reduction, and Emergency Operations, Education and Outreach, and Structural Ignitability.

The 2017 Clackamas CWPP improves upon the Forest Conditions section. Drier weather has played a big role in the wildfires in this area and therefore it has been addressed in chapter 3. The update also sets more realistic goals based on current funding. In 2012, there was grant money to finance projects but now in 2017 the budget is strained, which means less can be accomplished. Now that each action has been examined, we have created a list of realistic, obtainable goals.

Table 1.1 2017 Clackamas CWPP Action Plan							
Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress
Risk Assessment							
1.) Maintain and Update the Fe at Risk Maps and databases.	uels Reduction and Communities	Clackamas GIS	ODF, WFPEC	Annually	High	New Action 2012	This is a work in progress and will be completed for the 2017 update.
2.) Continue to track structural vulnerability data throushout the County	 a.) Work with fire districts to utilize the GPS units for obtaining home locations and structural vulnerability data. 	Fire Districts, ODF	Fire Co-op	Ongoing	High	ODF has completed structural triage with home locational data for 10,000 homes in the ODF protection boundary. Hoodland completed 375 home assessments.	ODF provides structural triage assessments each year through the Firewise USA program.
throughout the County through strucutral triage assessments.	b.) Provide local structural triage data and maps to all fire agencies.	Clackamas GIS	ODF	1 Year	High	New Action 2012	This was completed for the 2012 update but there has been no new data since then, so no new maps have been produced.
3.) Update the Overall Wildfire available.	e Risk Assessment as new data is	Clackamas GIS	ODF	Long Term	High	New Action 2012	No new data available for the 2017 update.
4.) Utilize GPS technology to get accurate spatial and attribute data (e.g. size, access, water source volume, etc.) for fire suppression resources including.		ODF, USFS, BLM, Fire Districts	GIS	Ongoing	High	ODF has GPS locations for all water sources. County GIS has data for some fire districts.	ODF continues to utilize GPS technology to update water holes.
5.) Work with local fire districts to develop more detailed risk assessments using local and community-derived data.		Fire Districts, ODF	GIS	Ongoing	Low	All county fire agencies identified Communities at Risk and developed localized action plans to address risks. Maps of these areas as well as potential fuels reduction projects were provided to each fire agency.	All county fire agencies updated Communities at Risk.

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress		
Fuels Reduction									
1.) Obtain funding to implemer	nt fuels reduction projects.	ODF, USFS, Fire Districts	Clackamas County	Ongoing	High	CWPP Partners have received 1.7 million to implement fuels reduction projects on public and private land.	ODF no longer recieves the Title 3 grant money which funded most of the fuels reduction projects that have occurred in the last 10 years. At this time there is no new funding in sight, but a high need for fuels reduction.		
2.) Develop and maintain a list of potential and successful fuels reduction projects.		ODF, USFS, Fire Districts	FDB	Ongoing	Medium	ODF has made presentations at the CCFFA Tree School, Home Owners Association Meetings, and Community Planning Organization Meetings to gain support for fuels reduction projects.	ODF continues to encourage fuels reduction projects, but can not offer any assistance at this time without more funding.		
3.) Develop a process to assist land owners with removing woody debris.	a.) Promote community clean-up days and utilize portable saw mills, chippers, etc. to assist land owners in removing hazardous vegetation.	ODF, Fire Districts	Fire Co-op, CCFFA	Ongoing	High	Molalla Community Clean Day Spring 2006, 2007; Government Camp and Zig Zag Village Annual Community Clean Up Days	Government Camp and Zig Zag Village still participate in Annual Clean Programs.		
4.) Provide fire agencies and landowners with tools necessary for promoting fuels reduction as a management	a.) Coordinate a Fuels Reduction Project Tour to educate fire districts and natural resources managers.	ODF, OSU Extension, CCFFA	ODF	Ongoing	Low	ODF provides a class at Tree School to educate landowners about fuels reduction and defensible	There has been no demand for a tour recently. As ODF is contacted by different resource managers, it develops an appropriate education to fit their needs. ODF also continues to attend prevention events and educate landowners.		
practice to reduce wildfire hazards and restore ecosystems.	b.) Provide landowners with a guide that can provide technical assistance in assessing and reducing wildfire hazards.	ODF, OSU Extension	Fire Co-op	Ongoing	High	managers and landowners is needed.	OSU extensions and ODF partnered to put on an event for forest and landowners that educated them on the need for defensible space and the importance of assessing ones own risk to fire.		
5.) Work with natural land managers and watershed managers to protect	a.) Develop Bull Run Watershed forest management prescription to address heavy fuel load and high risk fire potential.	ODF, USFS, Portland Water Bureau, Sandy Fire	USFS/Sandy Fire	Ongoing	High	USFS, ODF, Portland Water Bureau and Portland Fire continue to have annual meetings.	The Eagle Creek fire posed a serious threat to the Bull Run Watershed. Policies need to be changed to allow more fire prevention/mitigation activities. USFS, ODF, Portland Water Bureau and Portland Fire continue to have annual meetings.		
ecosystems and water quality in high risk natural areas and parks.	b.) Work with natural resources managers county-wide to improve forest health and resistance to wildfire in projects in critical watershed areas.	ODF	County Parks, City Parks, Metro, USFS, BLM	Ongoing	High	The natural resources managers in the County identified fuels reduction projects in and around critical watershed areas for the 2012 Clackamas CWPP Update.	Stewardship foresters promote healthy forests and enforce the Oregon Forest Practices Act which protects critical watersheds.		
7.) Identify opportunities to assist special needs populations in creating defensible space around homes and communities.		ODF	Social Service Agencies	Ongoing	Medium	ODF uses the Title III crew to assist in creating defensible space for landowners with special needs.	ODF has utilized Crew#58, Coffee Creek Crew, and multiple cost-share/rebate programs that are available for people with special needs.		
Completed Fuels Reduction	Action Items								
Encourage Stewardship Foresters and Consulting Foresters to integrate fuels reduction into management plans and utilize cost share programs.	a.) Utilize stewardship to assist in being SB 360 compliant.	ODF	ODF	3 Years	High	ODF Stewardship Foresters have begun integrating Fuels reduction and defensible space actions into stewardship management plans.	Completed		

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress	
Emergency Operations								
1.) Develop a Communications Work Group to address communications needs and deficiencies.	a.) Create a list of communication needs and resources (radios, repeaters, etc.) and develop a deployment strategy that can be utilized during an event.	CC Fire Agencies, CCOM	Clackamas County	Ongoing		New Action 2012	Ongoing	
	 b.) Identify and pursue funding sources to address communication deficiencies. 	CC Fire Agencies	Clackamas County	Ongoing	High	UASI and other Homeland Security grants have addressed regional communication needs, including Clackamas County. Clackamas County has implemented a reverse 9-11 system called: Clackamas County Emergency Notification System (CCENS)	Passed county wide 800 MHz Bond.	
	 a.) Conduct a conflagration exercise including dispatching of resources, staging, and coordination with Clackamas County Departments for potential evacuations and EOC activation. 	FDB	CC Fire Agencies	5 years		No Progress	Last conflagaration exercise was conducted in 2013. It turned out to be very helpful with the 36 pit incident in 2014. Another Conflagaration exercise should be conducted before the next Clackamas CWPP update.	
2.) Provide exercises and training to build capacity for responding to wildfires.	b.) Clarify EOC/IMT roles and relationships.	FDB	CC Fire Agencies	2 Years	High	Unified Command has been exercised and utilized regularly during emergencies since 2005.	In 2014 Clackamas County had a conflagration with the 36 Pit Fire. Many lessons learned. Continue to clarify EOC/IMT roles.	
	c.) Identify opportunities to provide Live Fire Training for CC Fire Agencies.	FDB	Metro, City/County Parks	Ongoing		NAFT is working on a Western Oregon Wildland School (to supplement Central Oregon Wildland School)	Working with Clackamas Community College Wildland Program as well as NAFT.	
	e.) Work with natural resources managers to determine their role in responding to wildfires in parks and natural areas.	FDB	ODF	Ongoing		New Action 2012	Preseason agreements are put in place with natural resource managers to let them know their responsibilities in the event of a fire. There is also an annual operators dinner in order promote wildfire training.	
3.) Strengthen public education and agency	 a.) Invite CCSO to FDB to discuss evacuation authority, limitation and opportunities to collaborate. 		CC Fire			Emergency Management has an evacuation plan template and is developing an evacuation plan for	Ongoing	
coordination on evacuation procedures.	b.) Clarify roles and responsibilities for evacuation procedures based on different types of incidents (wildland, structural, Haz Mat) and ensure that all participating agencies are aware of roles.	FDB	Agencies, Law Enforcement	Ongoing	ng High	Mount Hood.	Ongoing	
4.) Develop a more efficient system for utilizing intra and intercounty resources.	a.) Work with Washington and Multnomah Counties to determine the best strategy for utilizing resources. Consider alternate dispatch run cards.	FDB, Dispatch	CC Fire	Ongoing	High	Run cards have been updated; Unified Command is used consistently during incidents; there is a Tri- County Mutual Aid Agreement, but the group needs to develop and refine operational strategies for utilizing resources.	Working with new CAD system to refine strategies for utilzing resources.	
	b.) Consider creating structural and wildland strike teams for Clackamas County (including resources that are not in the Mob Plan).	Centers	Agencies			New Action 2012	Used ST/TF for the 30 Pit Fire in 2014. Continue to work on strategies for ST/TF in County	

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress		
Emergency Operations									
	a.) FDB Chief will work with ODF to analyze daily conditions using the Fire Severity Rating Matrix to determine open/closed burn days.	FDB Chief, ODF		Ongoing		The Clackamas Fire Defense Board has improved the understanding of burning policies countywide and is wokring with ODF to determine burn days.	The Clackamas Fire Defense Board continues to improve its understanding of the different burning policies around Clackamas County and working with ODF to determines the burn days.		
5.) Encourage consistent application of and regular review/revision of the Open Burning Policy adopted by the Fire Defense Board.	 b.) Continue to refine the Open Burning Policy; Develop consistent definitions for "campfires" and "designated sites." 	FDB Chief, ODF	CC Fire Agencies	Ongoing	High	The FDB updated the Open Burning Policy in 2010, and it should be evaluated and reviewed again in 2012-2013.	Updated policy, continue review 2018-19		
	c.) Consider using a single source website (ODF Dispatch) to update Fire Severity Rating and public use restrictions.	FDB, ODF		Ongoing		New Action	ODF updates Fire Severity Ratings and public use restrictions through the main ODF website.		
6.) Develop and implement training standards for Fire Operations Center (FOC) positions.	a.) FDB will identify classes/training specific to FOC positions and make recommendations to FDB for FOC training.	CWOG, FDB	CCEM, Public Works, RISK, Fire Districts,	Ongoing	High	New Action All Fire Chiefs that staff the FOC are trained at least to theICS 300 level.	Ongoing		
7.) Develop a consolidated document for reporting resource minimums on fire district, county-wide, and state-wide levels.	b.) ODF and USFS will provide morning resource status to the FDB via the CFOG website.	CWOG, FDB	CC Fire Agencies	Ongoing	Medium	ODF uses Web EOC. USFS does not.	ODF issues a daily report and reports all fires on Web EOC. USFS does not use Web EOC		
Completed Emergency Oper	rations Action Items					•	•		
Develop 12 hour operational p	eriod for Mutual Aid Agreement	FDB	FDB, BIA, Multnomah County	6 months	High	An intracounty Mutual Aid Agreement has been adopted by FDB agencies. An intercounty mutual aid agreement is being developed. An amendment will be made to the 2005 Fire Agreement to clarify that operational periods are 12 hours.	Completed		
7.) Develop a consolidated document for reporting resource minimums on fire district, county-wide, and state-wide levels.	a.) The next iteration of the resource minimum document.	CWOG, FDB	CC Fire Agencies	Ongoing	Medium	There is a resource minimum list for the County (but it does not include ODF). ODF can include theirs, but it varies throughout the year due to fire season.	Completed		
Develop and implement a radio geographic area.	o numbering system that reflects	Radio Committee	FDB, ODF	Long Term	Low	An attempt to do this was made in 2006, but did not generate adequate regional support. The Regional Fire Operations Group is tasked with this, although it may be a statewide issue.	Completed		
Encourage consistent resource typing among NIMS, NWCG,and the SFMO.	a.) FDB will provide recommendation to the State Fire Marshal's Office that the equipment and staff typing should be consistent in NIMS, NWCG, and the Mob Guide.	CWOG, FDB	Fire Districts	Long Term	Low	ODF follows the NWCG guidance for resource typing. The SFMO follows NIMS. Some progress has been made to bring NIMS and NWCG into alignment.	Completed		

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress			
Education & Outreach	Education & Outreach									
1.) Develop a step by step proc at Risk; including Firewise pres	tess for outreach to Communities sentations.	ODF	Fire Co-op	Ongoing	High	Firewise presentations have been given at 15 Communities at Risk. ODF received grant funds to create 2 Firewise Communities in 2012.	ODF has remained the lead organization with the Firewise USA program in the county. Although the amount of Firewise communities has fluctuated, ODF continues to develop outreach material and give Firewise presentations.			
2.) Develop relationships and Program.	incentives for a Fuels Reduction	ODF, USFS, County/City Parks, Metro, SWCD	Fire Districts	Ongoing	High	Collectively, partners were awarded over \$1 million to implement fuels reduction projects in Clackamas County; about half of which was an ODF a cost share program for removing hazardous fuels.	ODF does not have any more funding available to finance a fuels reduction program, but there are still plenty of areas that could benefit.			
3.) Update the burning brochur based on the Communities at F	re and target areas for mailing Risk.	Fire Co-op	Fire Defense Board	Ongoing	High	Defensible Space and Debris Burning brochures were created and mailed to all WUI residents in 2006	Ongoing			
4.) Develop and distribute add potential water sites in the Wi	ress signs for homes and JI.	Fire Co-op	Fire Districts	Ongoing	High	ODF received Title III funds to purchase and distribute address signs in the WUI.	Keeping address signage up to date is an ongoing task. ODF has been utilizing GPS to mark watersite locations.			

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress
Structural Ignitability							
1.) Continue to enhance	 a.) Identify a DTD representative to serve on the Wildfire Planning Executive Committee. 	CCEM	WFPEC	Ongoing	High	WFPEC will identify a liaison for DTD.	Representatives will be Planning and Zoning Director and Deputy Building Codes Administrator, or their designees.
Clackamas Fire Districts and County DTD.	b.) Promote an open dialogue between County DTD and fire agencies by utilizing the DTD website, monthly emails, and the Velocity Hall System.	FDB	SFMO	Ongoing	High	Continues to be effective in most areas. Rural Fire Districts need Velocity Hall training and are not receiving monthly emails.	Ongoing- County DTD does not currently participate on this committee. Velocity Hall no longer exists in the form it was previously and has been replaced with a different kinds of access portals.
2.) Support Building Officials in their requirements for the structure to maximize fire resistiveness	Building Codes have limited the ability of the fire service to require or approve any fire resistive measures or systems as it relates to the structure. The Fire Service must work with the Building Officials by supporting and collaborating with them in any details of the structure, so to meet the best practices for survivability and risk reduction.	Local FD, CC Buidling Dept., FDB	SFMO	Ongoing	High	New Action 2017	The local fire service providers have been made aware of the limitations on their ability to provide input and make requirements on structures in the State of Oregon. Authority for the structure itself resides solely with the Building Official. Partnership, communication, and collaboration is necessary to help ensure the structure meets roofing, roofing assembly, building materials, and set-backs that promote survivability.
3.) Work with Clackamas Count Districts of new buildings on ex driveways.	ry Engineering to notify Fire kisting lots that have >150 ft.	CC Building Dept.	Fire Districts	2 Years	High	New Action 2012 Clackamas County DTD is installing a new system that could facilitate this process.	Ongoing
4.) Encourage use of fire- resistant construction materials, compliance with	a.) Consider flagging the lots that are in the designated WUI and send the applicant an educational packet that includes suggestions for fire-safe construction materials, access, water supply, and fuel breaks.	County DTD	County GIS, DTD Comp. Users Group	1-2 years	High	No Progress	County GIS will coordinate with Building Codes and Planning on possible use of WUI layers for flagging in Plan Map program.
access requirements, adequate water supply, and incorporation of fuel breaks in the Wildland Urban Interface.	b.) Utilize Section R3247 of the Residential Specialty Code "Wildfire Hazard Mitigation," which requires at least Type- C roofing for homes in the WUI.	County DTD, ODF, Fire Districts	FDB	1-2 years	High	New Action 2012	Building Codes cannot require the use of such materials as outlined in Section 327 of the Oregon Residential Specialty Code because Clackamas County has not adopted zoning provisions requiring compliance. Planning and Zoning may consider ZDO updates for future Work Plans.
5.) Enhance structural	a.) Support ODF in working with the County Tax Assessor to change the language on property tax statements for ODF assessment from "fire protection" to ODF "non-structural fire suppression" so homeowners and insurers are not led to believe they have structural fire protection.	ODF, County Tax Assessor	ODF	1 Year	Medium	No Progress	No Progress
protection in unprotected areas and comply with the Governor's policy in unprotected areas to be eligible for conflagration	 b.) Inform homeowners in unprotected areas of their unprotected status (using mailings) and provide them with information about options for enhancing structural protection. 	ODF	Fire Co-op, Adjacent Landowners	Ongoing	Medium	No Progress	ODF sends out mailers to communities at risk to inform them of their status and to educate them on different strategies to mitigate high fire risk.
resources.	c.) Encourage communities in unprotected areas to develop local community wildfire protection plans and/or become Firewise.	ODF	Fire Coop	Ongoing	Medium	No Progress	ODF has signed up several new Firewise Communities which includes developing localized CWPPs for each of them.
	d.) Research opportunity to provide disclosure of unprotected status on lots through deed restrictions.	ODF	County	1 Year	Medium	No Progress	No Progress

Action Item	Details	Lead	Partners	Time	Priority	2012 Progress	2017 Progress			
Structural Ignitability	Structural Ignitability									
	a.) Ensure that homes in rural settings have adequate access and water supply when considering insurance eligibility; especially homes > 3,600 ft ² .			Ongoing	Medium					
6.) Work with insurance providers to improve their	 b.) Expand criteria used by insurance providers to include fire breaks, fuels reduction, and fire prevention activities. 			Ongoing	Medium	Western States Fire Chiefs are currently working				
represent level of structural fire protection in residential structures, especially in high- risk areas.	c.) Provide an educational component to developers/builders regarding fire insurance considerations of homes built without adequate access and water supply.	FDB, SFMO, Insurance Providers	FMO, Regional Fire ance Operations Jers Group Ongo	Ongoing	Medium	with ISO to recognize reduced fire risk through prevention activates and develop incentives for promoting creation and maintenance of defensible space.	Iso has completed a regrading matrix that includes prevention and defensible space credits.			
	b.) Work with insurance providers to encourage homeowners to be proactive in maintaining fire safe vegetation and reducing hazardous fuels.			Ongoing	Medium					
7.) Improve upon current procedures for integrating fire codes into the regulatory process.	a.) All county fire agencies should come to consensus on the minimum fire code standards they will be enforcing and gain approval from the jurisdiction in which they serve.	FDB	BCC SFMO	January '05	Low	FDB has adopted the State Fire Marshal's Metro Code Committee Fire Applications Guide. It is currently in the process of being revised to make it more user friendly.	Ongoing			
Completed Structural Ignital	bility Items									
Continue to enhance coordination between Clackamas Fire Districts and County DTD.	b.) Develop and provide a residential construction checklist to identify those projects with access and water supply challenges.	Structural Ignitability Committee	DTD	1 Year	High	The checklist is complete and will be provided by DTD during the permit application process.	This was completed and is being used, but the last checkbox cannot be used because the WUI has not been loaded into Plan Map.			
Improve upon current procedures for integrating fire codes into the regulatory process.	b.) Continue to make improvements on the Permits Plus Program to ensure that conditions for fire code compliance are translated from land use planning to building permitting.	County DTD	County Engineering, IS	November '04	Low	Significant improvements have been made to the Plan Map system to ensure that all input given during the land use reviews is available to building officials.	Permits Plus was replaced by Accela Automation effective September 2013. We all use the Automation database to share information currently.			
Enhance structural protection in unprotected areas and comply with the Governor's policy in unprotected areas to be eligible for conflagration resources.	e.) Consider flagging the lots that are in unprotected areas to educate the property owners about the lack of structural protection and provide options for enhancing structural protection.	County DTD	County	Ongoing	Medium	The County currently requires any new lot of record to have structural fire protection.	Complete			

Table 1.2 Clackamas CWPP Grant Funded Projects 2012-2017								
Grant	Amount \$	Acres Treated	Federal Acres	Accomplishments				
		О	regon Dep	artment of Forestry				
Title III- Firewise (2012-2015)	\$180,020	0	0	ODF received Title III funding to promote the Firewise USA™ Program, with the goal of creating certified communities in high priority Communities at Risk.				
Title III- Fuel Reduction Crew (2012- 2013)	\$288,288	82	0	The ODF Fuels Reduction Crew was an eight to twelve-member seasonal crew responsible for implementing fuels reduction projects on public land or in community common areas.				
Title III- Wildfire Prevention Plan (2012- 2013)	\$67,895	0	0	ODF received Title III funding to facilitate the 2012 Clackamas CWPP update. Grant Coordinator provided coordination and planning with the rural fire districts, County Emergency Management, and other officials in cities and county government.				
WSFM- East Clackamas (2012- 2018)	\$263,081	170	0	Western States Forest Managers funds an ODF program that is designed to help forest land owners that have limited budgets for implementing fuels reduction projects.				
Title III- Firewise/ Coffee Creek (2016)	\$150,383	50	0	Coffee Creek Fuels Reduction Crew, 1 designated Firewise community, Prevention and Firewise events				
Title III- Firewise/ Coffee Creek/ Clack CWPP (2017)	\$240,186	78	2	Coffee Creek Fuels Reduction Crew, 1 designated Firewise community, Prevention and Firewise events				
Total	\$1,189,853	380	2					
		C	lackamas F	Fire Department #1				
ODF Water Tank Grant	\$10,000	0	0	CCFD#1 received \$10,000 in funding for a 30,000 gallon water tank at the Clarkes Station. This site is located in the Beavercreek area and serves as a fill site for both CCFD#1 and ODF.				
SAFER Grant	\$1,174,390	0	0	The SAFER grant was awarded in order to create 6 new paid positions. These new positions will lead to more coverage in the Eagle Creek and Boring areas.				
Total	\$1,174,390	0	0	Total Acres Treated: 282				
Grand Total	\$2,364,243	380	2					



Clackamas Community Wildfire Protection Plan 2017 Update Process

The 2017 Clackamas CWPP Update process was developed in collaboration with the Clackamas Fire Defense Board and the Clackamas Wildfire Executive Planning Committee. These collaborative groups evaluated the effectiveness of the plan with regard to oversight of the CWPP as well as the five focus areas: Risk Assessment, Fuels Reduction, and Emergency Operations, Education and Outreach, and Structural Ignitability. The 2017 Clackamas CWPP improves upon the Forest Conditions section. Drier weather has played a big role in the wildfires in this area and therefore it has been addressed in chapter 3. The update also sets more realistic goals based on current funding. In 2012, there was grant money to finance projects but now in 2017 the budget is strained, which means less can be accomplished. Now that each action has been examined, we have created a list of realistic, obtainable goals.

Wildfire Planning Executive Committee (WFPEC)

The Wildfire Planning Executive Committee was charged with oversight of the CWPP. Although the WFEPC continued to meet annually, the roles of the WFPEC member agencies were difficult to sustain over the last several years due to staffing and programmatic changes of partner agencies. The 2017 CWPP Update process strengthened the WFPEC by providing more structure for meetings and creating a more realistic action plan. The WFPEC is also developing a series of bylaws for consistency in agency representation and participation.

Clackamas Fire Defense Board

Technical Subcommittees

Since 2012, the responsibilities of the technical subcommittees have been transferred to the Clackamas Fire Defense Board (FDB). The FDB meets monthly to discuss issues surrounding fire operations and emergency response. The board consists of rural fire districts, County Emergency Management, wildland fire agencies, and other officials. The FDB also appoints a chairman, who is the point person for the FDB for State Mobilization requests and also serves on the State Fire Defense Board.

Emergency Operations

The Clackamas Fire Defense Board is responsible for coordinating fire operations issues and procedures for all fire districts in Clackamas County. The FDB extended its membership to wildland fire agencies to address potential wildfire issues. This also allows for better communication during the wildland fire season, as the rural and wildland agencies often work together. The FDB meets monthly and addresses the different issues surrounding fire operations and emergency response.

Education and Outreach

The Clackamas County Fire Prevention Cooperative (Co-op) is a consortium of structural and wildland fire agencies, and other fire prevention stakeholders. The Co-op has been successful in implementing proposed CWPP activities. The Fire Co-op meets monthly and works collaboratively to seek grant funding to continue supporting projects identified in these action plans.

Structural Ignitability

In order to effectively reduce structural ignitability, there must be coordination and communication between fire professionals and regulatory agencies. Since 2005, a great deal of progress has been made to strengthen these relationships, which has resulted in more effective implementation of the Oregon Fire Code. The 2017 CCWPP Update process identified additional actions that will continue to enhance coordination and reduce structural ignitability.

Wildfire Risk Assessment

The Overall Wildfire Risk Assessment is shown in Map #4. The primary landscape-level change would be additional development in the WUI, which is captured in the Wildland Urban Interface Map #3. The data used to determine the Overall Wildfire Risk Assessment are outlined in Table 4-2.

Clackamas CWPP Map Directory Map # 1 Clackamas Fire Agencies Map # 2 Clackamas CWPP Communities at Risk Map # 3 Wildland Urban Interface Map # 4 Overall Wildfire Risk (County) Map # 5 Fuels Reduction Projects Map # 6 Communities at Risk & Fuels Reduction Projects Map # 7 Structural Triage & Home Assessments Map # 8 Aurora Fire Map # 9 Canby Fire Map # 10 Clackamas Fire Map # 11 Colton Fire Map # 12 Estacada Fire Map # 13 Gladstone Fire Map # 14 Hoodland Fire Map # 15 Lake Oswego Fire Map # 16 Molalla Fire Map # 17 Monitor Fire Map # 18 Sandy Fire Map # 19 Silverton Fire Map # 20 Tualatin Valley Fire and Rescue Map # 21 Wildland and Unprotected Areas

Table 2.1 Clackamas Communities Wildfire Protection Plan Maps

Fire Agency Coordination

Each fire agency (including ODF and USFS) was interviewed during the 2017 CWPP process to receive feedback on countywide wildfire issues, assess local wildfire hazards, identify local Communities at Risk, and develop a series of action items to guide local wildfire prevention and response efforts. These interviews resulted in individual CWPP subsections for each fire agency, found in chapter 10.

History of Wildfire in Clackamas County (since 2005)

Clackamas County has escaped the recent large fire occurrences of other western Oregon counties. However, weather, fuels buildup, and climatic changes have provided conditions conducive for a large fire event. Residential development in Clackamas County is heavily interwoven with forest land, so a relatively small fire of only a few hundred acres would pose a significant risk to many residents and their homes. Oregon Department of Forestry places the number of homes on forest land within ODF's boundary in Clackamas County at over 11,000.

Since 2005, there have been eight significant fires on USFS land in or affecting Clackamas County (Table 3.1). The majority of these had a wildland urban interface component, triggering voluntary and/or mandatory evacuations.

Year	Name	Acres	Cause	Area
2014	36 Pit	5,508	Human	Hwy 242 SE of Estacada
2011	Mother Lode	2,700	Lightning	Bull of the Woods Wilderness
2011	Nasty Fire	< 100	Lightning	Opal Creek Wilderness
2011	Dollar Lake	5,000	Lightning	Mount Hood
2010	View lake	2,900	Lightning	Ollalie Lake/ Bull of the Woods
2009	Microwave	2,100	Lightning	Mosier/Hood River
2008	Lake Lenore	450	Lightning	Bull of the Woods Wilderness
2008	Ruddy	47	Lightning	Ollalie Lake
2006	Blister	790	Lightning	North of Bagby Hot Springs
Total USFS .	Acres Burned	21,695		

Table 3.1. Significant USFS Fires in the Clackamas County Area 2005-2012

ODF North Cascade District Fire Ignitions

In addition to the USFS fires reported above, ODF responded to a total of 268 wildfire ignitions since 2012, burning approximately 2,516 acres. Most of these fires were controlled during initial attack, and thus did not result in significant losses. The 36 pit fire in 2014 was not caught during initial attack and is responsible for burning nearly 1,700 acres of ODF protected lands. However, the number of ignitions underscores potential for a large scale wildland urban interface fire in the

ODF protection boundary. Causes of these fires are tracked to assist in directing public outreach and prevention efforts:

Cause	Fire Ignitions	ODF Protected Acres
Lightning	10	2
Rail road	1	1
Equipment Use	71	61
Recreation	41	1,692
Smoking	7	2
Debris Burning	94	657
Arson	10	3
Juveniles	5	1
Miscellaneous	29	97
Total	268	2,516

Table 3.2. ODF Ignition Sources in the Clackamas County Area 2012-2017

Forest Conditions

There have been no significant changes to forest conditions since 2012. The majority of forest lands in Clackamas County have a Moderate to High Severity Fire Regime in Condition Class 1.

Climate and Future Conditions

According to the *Third Oregon Climate Assessment Report*¹, in the Willamette Valley, declining snowpack, earlier snowmelt, and greater summer water demand may increase summer water scarcity; and wildfire activity is expected to increase.

Over the last several decades, warmer and drier conditions during the summer months have contributed to an increase in fuel aridity and enabled more frequent large fires, an increase in the total area burned, and a longer fire season across the western United States, particularly in forested ecosystems. The lengthening of the fire season is largely due to declining mountain snowpack and earlier spring snowmelt. In the Pacific Northwest, the fire season length increased over each of the last four decades, from 23 days in the 1970s, to 43 days in the 1980s, 84 days in the 1990s, and 116 days in the 2000s.

Under future climate change, wildfire frequency and area burned are expected to continue increasing in the Pacific Northwest. Model simulations for areas west of the Cascade Range project that the fire return interval, or average number of years between fires, may decrease by about half, from about 80 years in the 20th century to 47 years in the 21st century. The same model projects an increase of almost 140% in the annual area burned in the 21st century compared to the 20th century.

Prolonged periods of warm temperatures, low humidity, and low soil moisture can lead to tree mortality and make trees more susceptible to insect and disease outbreaks and wildfires.

¹ The Third Oregon Climate Assessment Report (2017), OCCRI.net

Chapter 4: Wildfire Risk Assessment

Wildfire risk to forest lands and homes is inseparable. Forest fires can endanger and burn homes. Fires that start as structural fires can quickly spread to the forest. Although the threat of wildfire is not as great in Clackamas County as in other parts of the state, wildfire officials are cognizant of the growing potential. One of the core elements of the Clackamas Community Wildfire Protection Plan is developing an understanding of the risk and potential losses to life, property, and natural resources during a wildfire in order to identify and implement the most effective strategies for preventing losses from fire, while allowing natural fires to take their course in shaping a more healthy and sustainable forest.

The Healthy Forests Restoration Act, the National Fire Plan, FEMA's Disaster Mitigation Act of 2000, the National Association of State Foresters, and Oregon Department of Forestry provide guidance on conducting a hazard and risk assessment for wildfire. The CCWPP's wildfire risk assessment followed the methodology of the Oregon Department of Forestry. Geographic Information Systems (GIS) was used to analyze and integrate the spatial layers of information for fire hazard, risk, location of values, and protection capabilities. Structural vulnerability should be the final piece of this risk assessment, but couldn't be adequately mapped at a county-wide level and was to be assessed at the local plan level. The hazard layer was comprised of several additional layers including fuels, slope, and weather.

Risk Assessment Objectives

- I. Develop and conduct a wildfire risk assessment to accurately portray vulnerable populations, property, and infrastructure.
- II. Utilize fire district boundaries to identify Communities-at-Risk (CARs), and encourage the identification of more detailed CARs during local planning processes
- III. Coordinate with fire districts to determine risk level of highly vulnerable and/or unprotected areas.
- IV. Develop a risk assessment at a level detailed enough to use in prioritizing fuels treatment and other fire prevention projects, but broad enough to encompass entire county.
- V. Develop a risk assessment that can be adapted to reflect changing forest conditions.
- VI. Develop an appropriate point distribution system for risk assessment (protection capability, structural vulnerability, values, etc.) consistent with fire district priorities.
- VII. Utilize state, county, and local data to create a seamless risk assessment that can be used as a foundation for fire districts can build their own more localized risk assessments for their community fire plans.

Risk Assessment Accomplishments

The primary Risk Assessment Actions on which progress has been include:

- 1.) Improved the understanding of local wildfire risks.
 - ✓ Determined Local Communities at Risk and encourage the creation of Firewise Communities (Map #2)

- ✓ Refined Wildland Urban Interface Map (Map#3)
- 2.) Improved structural location data.
 - ✓ GPS units were used to capture structure locations in the vulnerable Wildland Urban Interface (Map #7).

Risk Assessment Priority Actions

The Risk Assessment Action Plan has been updated since 2005 to reflect accomplishments and ensure that the action plan remains relevant to current issues (Table 1-1.2012 Clackamas CWPP Action Plan). The high priority risk assessment actions to be addressed by the wildfire planning team will be to:

- 1) Maintain and Update the Fuels Reduction and Communities at Risk Maps and databases.
- 2) Continue to track structural vulnerability data throughout the County through structural triage assessments.
- 3) Update the Overall Wildfire Risk Assessment as obtaining new data becomes possible. New vegetation data is needed in order to update the fuel hazard layer which is critical to the overall risk assessment.

Communities at Risk

Different scales of CAR's are necessary to direct large-scale State and Federal planning efforts as well as local outreach projects. The Clackamas CWPP addresses wildfire hazards county-wide (not just those areas in close proximity to state or federal lands) and as such, identified each local fire district or department as individual Communities at Risk.

Local Communities at Risk/ Strategic Planning Area

Clackamas CWPP partners also acknowledge that there are locally recognized Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map # 2 CWPP Communities at Risk and in the individual fire district maps. Map #2 also shows Active and Inactive Firewise Communities. The Communities at Risk are also listed in Table 4-1. Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach/awareness
- Communication issues

Aurora Fire District	• Eilers/ Myley Rd.	• Whiskey Hill/ Meridian Rd.
	Butteville Road	Cedarbrook Lane
Canby Fire District	Adkins Circle	North Side Molalla River
	Sundowner	Bluff
	Dutch Vista/ Madrona	• South End
	Public Works Infrastructure	Molalla State Park
Clackamas County	Forest Park/ Leisure Woods	Scouters Mountain
Fire District #1	• Diane Drive Shelly Rd.	Mount Talbert
	• Redland Rd./ Fishers Mill	Holocomb
	Area	• 3 Creeks
	Clarkes/ Beavercreek	Beaver Lake
Colton Fire District	Deardorf	Dhooghe
	Boomer Springs/ Schieffer	• Holt Rd.
	Walton/ Tiffany	• Hunter Rd.
	Fernwood/ Young Road	Ellwood Engstrom Area
	Area	5
Estacada Fire	Garfield/ Porter	• McIver Park, Parkview,
District	Community/ Eagle Creek	Riverlake Community
	Youth Camp	Metzler Park
	Dodge/ Hillock Burn Area	Ranger Woods
	George Community	• Silver Fox RV Park
	• Paradise Park, Twin Island,	• Redland Rd./ Viola Area,
	Star Rd.	Fellows Rd.
Gladstone Fire	Parkway Woods	Risley Wetlands
Department	Billy Goat Island	Meldrum Bark Park
	Dahl Beach	
Hoodland Fire	• Government Camp/	Cherryville / Alder Creek
District	Summit Meadows	Welches/Wemme
	USFS Summer Homes	• Barlow Trail (Timberline
	• Knododendron/ Zig Zag/ Woodland	Rim Division 1-4)
	• Lolo Pass	• Brightwood/ Sleepy Hollow (Timberline Rim Div. 5)
	Lolo 1 ass Marmot	(Thildefinite Kini Div. 5)
Lake Oswego Fire	Iron Mountain Bluff	Tryon Creek State Park
Department	Palisades	Spring brook Park
	Cooks Butte	Waluga
	Mountain Park	Waldga
Molalla Fire District	Rosewood	• Fernwood/ Ramsby/
	Alder Creek	Munson/ Callahan Rd. Area
	Sawtell / Trout Creek /	Blue Road
	Lebo/ Novak/Hardy/	Big Rock Loop
	Maplegrove Rd. Area	Royal Oaks
	• Dickey Prairie Rd.	Molalla Heights
Sandy Fire District	Wildcat Mountain	• Firwood
-	Cedar Creek/ Sandy Rim	Bull Run Area
Silverton Fire	Boy Scout Camp	Marquam Circle Area
District	• South Butte Creek Rd.	• Groshong Rd.
	• South Maple Grove	• Prospect
	• South Wildcat Rd.	*

Table 4-1. Local Communities at Risk in Clackamas County

Tualatin Valley Fire District	 I-205 Corridor Ladd Hill Wilderness Park/ Camassia Park Skyline Ridge Mary S. Young Park Burnside Park and Maddax Woods Buck/ Barlow Open Space Wildwood Open Space Wilson Creek Natural/ Rosemont Area 	 Hidden Springs Robinwood Park Boeckman Creek Frobase Rd. Prospertiy Park/ Borland Rd. Hill Top Rd./ Sunnyslope White Oak Savannah Wheatland Rd. Area Frog Pond/ Newland Creek Petes Mountain
Unprotected Lands	 Ripplebrook Guard Station Timberlake Job Corps 3 Lynx Joe Graham/ Clackamas Lake Guard Station Elk Prarie Upper Sawtell Unprotected 	 East Highland Wapinitia Lower Highland Ramsbey Unprotected Laid Rd. Butte Creek Unprotected

Wildland Urban Interface (Map #3)

The 2012 Clackamas CWPP risk assessment subcommittee used the federal register and HFRA's guidance for determining the WUI. In an effort to identify the areas where "humans and their development intermix with wildland fuel," they identified the areas that have an urban density of at least one structure per forty acres *and* have hazardous fuels (Fuel Type III: tall flammable grass, heavy flammable brush, or heavy timber).

Overall Wildfire Risk

The Overall Wildfire Risk Assessment is shown in Map #4. The primary landscape-level change would be additional development in the WUI, which is captured in the Wildland Urban Interface Map. The data used to determine the Overall Wildfire Risk Assessment are outlined in Table 4-2.

Table 4-2. Risk Assessment Elements

The Assessment considers four categories in determining the relative severity of fire risk. Structural Vulnerability is a fifth category that will be examined in local plans but is not considered at the state or county level due to limited available data.

Assessment Categories	Elements	
Hazard	Fuels (developed from vegetation information), Slope, Aspect, Elevation, Weather	
Risk	Historic Fire Occurrence (derived from state and federal fire agency databases) and an estimation of ignition risk based on expert opinion and home density	
Values	Life/Property as determined by home density (homes per 10 acres) and community infrastructure	
Protection Capability	Fire Response Time (determined from fire district boundaries and district- reported response times) and Community Preparedness	
Structural Vulnerability	Roof type, Defensible space, and Access	











Chapter 5: Hazardous Fuels Reduction

Fuels Reduction in Clackamas County

Reducing hazardous fuels around homes, along transportation corridors and at a landscape scale can significantly minimize losses to life, property and natural resources from wildfire, which is a core focus of the Clackamas Community Wildfire Protection Plan.

Fuels Reduction Objectives

- I. Implement fuels reduction projects in high-risk areas.
- II. Coordinate administration of a county-wide fuels reduction program.
- III. Consider opportunities for biomass utilization and adding value to extracted vegetation.
- IV. Integrate fuels reduction into natural resources management plans to balance public safety with sustainable ecological management and economic activities.

Fuels Reduction Accomplishments

Since 2005 the Clackamas CWPP served as a tool to enable partners to be highly competitive for grant funds to implement fuels reduction projects in communities at risk and adjacent public and private forest lands. In fact, over 1.1 million dollars has been procured to support fuels reduction projects since 2012. The majority of fuels reduction projects implemented in the County have been led by the ODF, the North Clackamas Parks and Recreation District and the Clackamas Soil and Water Conservation District, using Title III and Western States Fire Manager's grant programs. Below please find the total funds received and fuels reduction acreage treated since 2005. For more information regarding the specific grants and project components, please see Table 1-2. CCWPP grant Funded Projects 2012-2017.

- Fuels Reduction Dollars: \$1,121,957
 - ✓ Federal Acres: 2
 - ✓ Public/Private Acres: 380

Total Treated Acres: 382

Fuels Reduction Actions

The Fuels Reduction Action Plan has been updated since 2012 to reflect accomplishments and ensure that the action plan remains relevant to current issues (Table 1-1.2012 CCWPP Action Plan). The high priority risk assessment actions to be addressed by the wildfire planning team will be to:

- 1) Develop and maintain and inventory of potential and successful FR projects by meeting with parks and natural lands managers.
- 2) Continue securing funding to implement projects/ hire seasonal ODF staff.

ODF Cost-Share Program

Clackamas County is home to over 10,000 small woodland owners, and is rich in forest resources. However, many of these forest land owners have limited budgets for implementing fuels reduction projects. In addition, there is a compelling need to educate landowners about wildfire potential on their forest lands how to mitigate for fire while protecting and enhancing forest stands. For this reason, the Molalla Unit of the Oregon Department of Forestry procured grant funds to support a fuels reduction program to provide technical and financial assistance to individuals and communities that have significant risk to wildfires.

The current grant programs encompass three scopes of interest: the promotion of healthy forests across the landscape, the development of defensible space around individual homes near forested lands, and the provision of support services to help communities near the forest become Firewise Communities. The cost share program is designed to offset the costs associated with forest health and defensible space projects, and are typically paid using a 75% (ODF), 25% (landowner) ratio.

ODF Fuels Reduction Crew

Crew 58

The ODF Fuels Reduction Crew (Crew#58) was an eight to twelve-member seasonal crew responsible for implementing fuels reduction projects on public land or in community common areas. Crew#58 supplemented the cost share program, which targeted individual landowners. The crew was also trained in initial wildland fire response tactics, providing them with professional skills and enhancing ODF's ability to respond to local fire ignitions. Crew#58 had been funded by Title III grants for more than ten years and became an essential element in fire prevention and response for the Molalla Unit of ODF. Unfortunately, the reduction in funding levels and eventual sunset of the Secure Rural Schools and Self-Determination Act (Title III) jeopardized ODF's ability to continue supporting the Fuels Reduction Crew. In 2014 the crew lost funding and has been unable to reinstate since.

Coffee Creek Crew

With the loss of Crew#58 the Molalla Unit of ODF lost an essential element in fire prevention and response. In order to fill the void ODF partnered with the Department of Corrections to create two 10-women inmate crew from the Coffee Creek Corrections facility. The crews were trained as a fuels reduction/fire suppression crews. One crew performed fuels reduction four days a week, while the other crew was on standby for fires or as fuels reduction substitutes. Coffee Creek Crew did similar work as Crew#58, but with more of a focus on creating 200 ft. of defensible space for individual landowners. The Coffee Creek crew was highly successful and accomplished defensible space on over 150 homes in 2 summers. While at the same time responding to 22 different fires for a combined total of 37 days spent on fire. Unfortunately, funding for the crew only lasted through the 2017 season. The crew is still available for fire suppression past the 2017 season, but it will be hard to keep the crew trained properly without the day to day experience with fuels reduction.

Clackamas Parks Wildfire Management Plan

The *Clackamas Parks Wildfire Management Plan*² provides direction for reducing wildfire risk in parks managed by Clackamas County Parks (CCP) and North Clackamas Parks and Recreation District (NCPRD). Both agencies will use this plan to guide park management activities and help make park ecosystems more fire resilient, fire resistant, and where appropriate, fire adapted.

The Wildfire Management Plan provides a county wide assessment of park fire risk, with descriptions, maps and recommendations to manage wildfire risk. The project was initiated in response to findings from the 2005 CCWPP, which found that some parks, such as Mt. Talbert Nature Park, had potentially high concentrations of natural fuels near developed residential areas. As a result, the current planning effort was undertaken to provide fire management planning for parks with the highest risk for wildfire.

The project team assessed fire risk for all 89 CCP Parks and NCPRD parks and open spaces. The list was narrowed to 50 priority parks that were divided into high, moderate and low fire risk categories. Wildfire management strategies were developed for each of these sites, and park managers began implementing these recommendations for the highest priority parks in the Spring, Summer and Fall of 2012. For more information, please see the *Clackamas Parks Wildfire Management Plan*.

² http://www.clackamasparkswildfire.org/





Fire Defense Board

Since 2012, the responsibilities of the technical subcommittees have been transferred to the Clackamas Fire Defense Board (FDB). The FDB meets monthly to discuss issues surrounding fire operations and emergency response. The board consists of rural fire districts, city fire departments, County Emergency Management, wildland fire agencies, and other officials. The FDB also appoints a chief who is the point person for the FDB for State Mobilization request and also serves on the State Fire Defense board.

Emergency Operations Objectives

- I. Enhance interoperability of fire districts, USFS, ODF, and neighboring jurisdictions.
- II. Improve upon current system for utilizing fire resources within the county and neighboring jurisdictions.
- III. Clarify and exercise policies and procedures from the Fire Operations Center (FOC) and Emergency Operations Center (EOC).

The following Objective has been completed and thereby removed from the list because ICS is now integrated pragmatically into training standards. *Strengthen Incident Command Systems and improve efficiency in wildfire response efforts by setting and implementing consistent, all-hazard training standards.*

Emergency Operations Accomplishments

Many of the action items pertaining to integration of the National Incident Management System and Incident Command System revised training standards into training programs have been accomplished. In addition, the Department of Public Safety Standards and Training (DPSST) and National Wildland Coordinating Group (NWCG) have made progress in aligning training standards for wildland and structural firefighters.

The Clackamas Fire Defense Board (FDB) had a conflagration exercise in 2013 and then put that practice to use in 2014 during the 36 Pit fire.

Emergency Operations Actions

The Emergency Operations Action Plan has been updated since 2012 to reflect accomplishments and ensure that the action plan remains relevant to current issues (Table 1-1.2012 CWPP Action Plan). The high priority risk assessment actions to be addressed by the wildfire planning team will be to:

- 1) Develop an FDB Communications Work Group.
- 2) Conduct a Conflagration Exercise.

Clackamas County Fire Prevention Cooperative

The Clackamas County Fire Prevention Cooperative is a consortium of structural and wildland fire agencies, as well as other public interest groups with a vested interest in fire prevention. The Clackamas County Fire Co-op addresses both structural and wildland fire prevention, and has incorporated the CWPP educational and outreach effort into its program.

Clackamas County Fire Prevention Co-op Objectives

- I. To unite those agencies engaged in fire prevention, safety, and public education in the Clackamas County area.
- II. To promote an interagency exchange of ideas, programs, and resources in the area of fire prevention, safety, and public education.
- III. To promote, coordinate, and actively support interagency participation in fire prevention activities.
- IV. To act as a point of contact for the exchange of professional information among its members and the public.
- V. To promote a reduction in the number of human-caused fires and preventable injuries within the jurisdiction of the Co-op through a program of public education.

Fire Prevention Cooperative CWPP Accomplishments

The Clackamas CWPP provided the catalyst for a great deal of wildfire prevention and outreach activities throughout the County. The Co-op has been successful in obtaining grant funds to implement the four highest priority actions identified in the Clackamas CWPP Action Plan:

- 1. The Co-op meets every other month to discuss pertinent educational issues regarding Fire Safety.
- 2. The Co-op staffs an informational table at the Clackamas County Fair on Senior Day.
- 3. The Co-op works with agencies for Team Teaching in the Spring (usually pairing an ODF and a structural representative to teach campfire and structural fire safety).
- 4. The Co-op offers scholarships to public education events/conferences for agencies that might not ordinarily be able to send someone to a public education conference.

Education & Community Outreach Actions

The Education & Community Outreach Action plan has been updated since 2012 to reflect accomplishments and ensure that the action plan remains relevant to current issues (Table 1-1.2017 CWPP Action Plan). The high priority risk assessment actions to be addressed by the wildfire planning team will be to:

- 1) Develop Firewise toolkit for CAR's.
- 2) Create incentives for fuels reduction.
- 3) Update and distribute the Burn Permitting and Fire Restrictions Brochure.
- 4) Continue to improve address signage throughout the County.

Firewise USA Communities

ODF received Title III funding to promote the Firewise USATM Program, with the goal of creating certified communities in high priority Communities at Risk. Using a five-step process, communities develop an action plan that guides their residential risk reduction activities, while engaging and encouraging their neighbors to become active participants in building a safer place to live.

The five steps to become a Firewise Community are as follows:

- Obtain a <u>wildfire risk assessment</u> as a written document from your state forestry agency or fire department.
- Form a board or committee, and <u>create an action plan</u> based on the assessment.
- Conduct a <u>"Firewise Day" event</u>.
- <u>Invest</u> a minimum of \$2 per house in local Firewise actions for the year.
- <u>Submit an application</u> to your state Firewise liaison.

To maintain the recognition status over time, participating sites continue to conduct annual Firewise Day events and document their local investments.

The National Fire Protection Agency's Firewise Communities/USA Recognition Program encourages and acknowledges citizen action to reduce wildfire risk. ODF received Title III funding to promote the Firewise Communities/USA Program, with the goal of creating certified communities in high priority Communities at Risk.

Several proactive communities in Clackamas County are aware of the risk of wildfire and are taking steps to mitigate this risk by participating in the National Firewise Recognition Program. There are currently six communities actively participating in the Firewise Community program including Barrington Heights, Savanna Oaks, Hunter Heights, Zig Zag Village, Beaver Lake and Government Camp. Other communities that have participated in the program in recent years include Elk Prairie, Beaver Lake, Big Rock, and Hallbacka.

Lead Agency	Effectiveness	Cause Type			
Estacada, Sandy, Hoodland	High	General			
Silverton, Estacada	High	General			
TVF&R, ODF, Silverton, Hoodland	High	General			
ODF	High	Debris Burning			
All Fire Co-op Members	High	Juveniles			
SFMO, TVF&R	High	General			
SFMO, TVF&R	High	General			
All Fire Co-op Members	High	Debris Burning			
All Fire Co-op Members	High	Smoking			
All Fire Co-op Members	High	Juveniles			
All Fire Co-op Members	High	General			
All Fire Co-op Members	High	General			
Fire Co-op	Moderate	Smoking			
Fire Co-op	Moderate	General			
Molalla, ODF, Hoodland	Moderate	Equipment Use			
SFMO	Moderate	Juveniles			
Fire Co-op	Low	Recreation			
ODF	High	General			
All Fire Co-op Members	High	General			
All Fire Co-op Members	High	Equipment Use			
Fire Co-op	Moderate	Juveniles			
USFS	Moderate	Recreation			
ODF	Moderate	Recreation			
ODF	Moderate	Equipment Use			
Fire Co-op	Moderate	General			
Fire Co-op	Moderate	Arson			
Summer					
ODF	High	Debris Burning, Equipment Use			
ODF	High	Equipment Use			
ODF	Moderate	General			
All Fire Co-op Members	High	Juveniles			
USFS, ODF	High	General			
USFS, ODF	High	General			
Annually					
All Fire Co-op Members	High	Arson			
Estacada	High	Juveniles			
Molalla	Moderate	Recreation			
Molalla, ODF	Moderate	General			
After an Incident					
All Fire Co-op Members	High	General			
	Lead Agency Estacada, Sandy, Hoodland Silverton, Estacada TVF&R, ODF, Silverton, Hoodland ODF All Fire Co-op Members SFMO, TVF&R SFMO, TVF&R All Fire Co-op Members Fire Co-op Members Fire Co-op Members Fire Co-op Members All Fire Co-op Members Fire Co-op Members All Fire Co-op Members SFMO Fire Co-op Members All Fire Co-op Members All Fire Co-op Members ODF ODF <	Lead AgencyEffectivenessEstacada, Sandy, HoodlandHighSilverton, EstacadaHighTVF&R, ODF, Silverton, HoodlandHighODFHighAll Fire Co-op MembersHighSFMO, TVF&RHighAll Fire Co-op MembersHighAll Fire Co-op MembersHighFire Co-opModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOModerateSFMOHighAll Fire Co-op MembersHighODFHighODFHighODFHighSFMOHigh<			

Table 7-1. 2017 Clackamas Fire Prevention Co-op Activities

Chapter 8: Structural Ignitability Policies and Programs

Structural Ignitability Policies and Programs

Structural Ignitability deals with the home itself and its immediate surroundings; also known as the "Home Ignition Zone." The Home Ignition Zone includes the home and an area surrounding the home within 100-200 feet. Important factors that either deter or promote Structural Ignitability include:

- The Structure Itself: roofing, roofing assembly, building materials and building setbacks on slopes
- **Defensible Space**: Distances 30-100 feet or more of fire resistant vegetation around homes
- Fire Access: Road, driveway and bridge width and condition

Structural Ignitability Objectives

- I. Review rules/laws/guidance pertaining to wildfire planning, prevention, protection, and develop recommendations for improvements.
- II. Coordinate and facilitate communication between County Planning and Building and the fire districts.
- III. Identify incentives for property owners to participate in fire prevention activities, including maintenance of defensible space, use of fire-resistant building materials, etc.
- IV. Inform public about codes and ordinances related to wildfire prevention and solicit feedback from the public regarding recommended improvements.

Structural Ignitability Action Items

In order to effectively reduce structural ignitability, there must be coordination and communication between fire professionals and regulatory agencies including the State Fire Marshal's Office, the Clackamas County Land Use Planning Division and the Clackamas County Building Division. The 2012 CWPP included a series of Structural Ignitability Action Items designed to provide direction and facilitate improved coordination among these agencies. Since 2012, a great deal of progress has been made to strengthen these relationships, which has resulted in more effective implementation of the Oregon Fire Code. For a complete listing of progress made since 2012, please see Table.1-1. CWPP 2012 Action Plan. The 2017 CWPP Update process identified the following priorities for implementation:

- 1) Identify a DTD representative for the WFPEC.
- 2) Improve coordination with Rural Fire Agencies.
- 3) Integrate WUI into Plan Map and include a public outreach strategy.

Data Collection and Assessment of Structural Ignitability (Map #7)

In 2005, ODF used Title III funds to purchase Global Positioning System (GPS) units equipped with structural triage software in an effort to improve the mapping of structures and other features important for wildland firefighting within the ODF Protection District. Over 10,000 homes have been assessed. In 2016 ODF acquired new GPS units, and continues the ongoing effort of improving structural triage data.


Chapter 9: Sustaining Efforts, Monitoring and Evaluation

Wildfire Planning Executive Committee (WFPEC)

The Wildfire Planning Executive Committee was charged with oversight of the CWPP. Although the WFPEC continued to meet annually, the roles of the WFPEC member agencies were difficult to sustain over the last several years due to staffing and programmatic changes of partner agencies. The 2017 CWPP Update process strengthened the WFPEC by providing more structure for meetings and creating a more realistic action plan. The WFPEC is also developing a series of bylaws for consistency in agency representation and participation.

Mission Statement

The Wildfire Planning Executive Committee (WFPEC) will continue to foster a collaborative and cooperative environment between members, the wider community, and interested stakeholders to understand and mitigate the risks of wildfire.

Membership, Roles and Responsibilities

The WFPEC will be composed of representatives from the following agencies.

- Clackamas County Disaster Management
 - ✓ Serve as Committee Chair (duties described below)
 - ✓ Liaison for County EOC
 - ✓ Liaison for Natural Hazard Mitigation Plan
- Oregon Department of Forestry
 - ✓ Liaison for Clackamas Fire Prevention Cooperative
 - ✓ Fuels reduction project funding, selection and implementation
 - ✓ Liaison for Clackamas Fire Operations Group
- United States Forest Service
 - ✓ Fuels reduction on USFS land
 - ✓ Secondary liaison to Clackamas Fire Prevention Cooperative
 - ✓ Secondary liaison for Clackamas Fire Operations Group
- Clackamas County Parks
 - ✓ Liaison for County Parks Program
 - \checkmark Fuels reduction project funding, selection and implementation
- Clackamas County Fire Defense Board
 - ✓ Liaison for Fire Defense Board
- Clackamas County Forestry
 - ✓ Liaison for County Forests program
- Clackamas County Geographic Information Systems
 - ✓ Lead hazard assessment process
- Clackamas Department of Transportation and Development
 - ✓ Liaison for Land Use Planning and Building Divisions
 - ✓ Coordinate efforts with State Fire Marshal's Office

The Clackamas CWPP articulates the need to extend WFPEC membership to other stakeholders such as but not limited to insurance companies, local businesses and citizen representatives. Technical advisors including but not limited to the following agencies may be called upon to offer specific expertise for project development and implementation:

Bureau of Land Management

- Oregon State Fire Marshal
- Clackamas Soil and Water Conservation District
- Keep Oregon Green

Officers

<u>Committee Chair</u> – Facilitate the activities of the WFPEC. Responsibilities include convening the committee, developing agendas, coordinate subcommittees as necessary, acting as a liaison for fire districts, and facilitating the annual review. The incumbent of this position will be from Clackamas County Disaster Management.

<u>Administrative Chair</u> – Provide administrative support to the committee. Responsibilities include the taking of and distribution of minutes and the provision of assistance with other reporting and updates. The incumbent of this position will be identified annually.

WFPEC Meeting Schedule & Structure

The WFPEC will meet on an annual basis. Designated WFPEC Members will provide progress reports on the following action plans, and will convene the Fire Defense Board as needed. FDB membership will be made up of representation proper to address the need(s) at hand.

- Risk Assessment : County GIS
- Hazardous Fuels Reduction : ODF, CC Parks, CC Forestry, USFS
- Reducing Structural Ignitability: County DTD (or Disaster Management in lieu of)
- Emergency Operations: ODF, USFS, FDB Representative
- Education and Outreach: ODF

Monitoring /Reporting

The WFPEC will monitor activities undertaken in support of and coordination with the Clackamas CWPP through regular meetings and annual progress reports. Member agencies will provide individual activity reports during regularly scheduled committee meetings. The Committee Chair will request a Progress Report from each member agency each January. Progress Reports must be completed within one month. The Administrative Chair will incorporate the progress reports into the Clackamas CWPP. The following meeting will be dedicated to sharing member activities and the developing of a collective report. Highlights will be to identify exemplary project successes, procedural difficulties, and lessons learned to guide future activities.

Clackamas CWPP Updates

The WFPEC will assess the need to update the Clackamas CWPP as part of its monitoring, project identification and reporting activities. Material changes to the Clackamas CWPP of a major and consequential nature will trigger a full reprint every 5 years. Alterations of a more transactional nature will be accomplished through memorandum or pen and ink in a fashion commensurate with the nature of the given update. In general, the WFPEC will keep the CCWPP current in consideration of ongoing activities, changing needs and available resources.

Introduction

There are 13 local structural fire agencies and two wildland fire agencies in Clackamas County that have been identified as Communities at Risk in the 2012 CWPP. These organizations provide essential public services in the communities they serve, and their duties go beyond extinguishing fires. Most also provide emergency medical services (EMS), search and rescue, and fire prevention education.

Wildfire prevention and response efforts are most effective at the local level. One of the primary goals of the 2017 CWPP was to create the foundation and build capacity for local fire agencies to create Community Wildfire Protection Plans that reflect the localized hazards, needs and mitigation strategies. However, the majority of fire agencies have not had the time or resources to invest towards this effort.

For this reason, the 2017 CWPP Update continues to focus on taking a localized approach to wildfire planning by creating individual CWPP's for each fire agency. Each fire agency was tasked by ODF to identify and document issues regarding wildfire hazards, emergency operations, structural ignitability, community outreach and education and fuels reduction priorities. Fire agency representatives were also asked to identify Local Communities at Risk, or areas that are particularly vulnerable to wildfires. Fire agencies also provided input on larger county-wide issues to be addressed by the 2017 CWPP.

Local CWPP Content

Each CWPP includes a brief description of the issues identified during fire agency interviews, and are complete with action plans to address wildfire issues specific to the agency and the Local Communities at Risk. Maps illustrating the locations of the Local Communities at Risk and Fuels Reduction priorities have been included as well. The goal of the CWPP's is to provide a guide for fire agencies to address wildfire hazards as staff and funding are available. The information gleaned from the following pages can also be used to identify commonalities/discrepancies between fire agencies, which can help direct wildfire mitigation efforts at the county level.

Components of Local CWPP's

- Fire Agency Description
- WUI Description & Map
- Hazard Assessment (Map #4: Overall Wildfire Risk in Clackamas County)
- Description of Wildfire Issues: Emergency Operations, Structural Ignitability, Community Outreach and Education and Fuels Reduction
- Local Communities at Risk Description and Map
- CWPP Action Plan & Fuels Reduction Priorities

Maintenance and Monitoring

In order to have a comprehensive and effective wildfire plan, it is critical to address county-wide and local issues simultaneously. Fire agencies will provide updates to the Wildfire Planning Executive Committee as actions and projects are completed or identified to ensure that these efforts are being coordinated and that partners are aware of potential opportunities for collaboration.

10.1 Community at Risk: Aurora Rural Fire Protection District #63

The Aurora Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Aurora Fire District Description

The Aurora Rural Fire Protection District #63 is a full-service fire and rescue agency with a force of 4 career employees, 42 volunteer firefighters and 6 resident student firefighters who serve the District's 6,000 citizens from 2 fire stations. The District organized on May 4, 1948 with 26 volunteer firefighters. It is a special service district that serves residents of Marion County and Clackamas County and is governed by a board of five publicly elected officials. 2 fire stations.

Wildland Urban Interface (WUI)

The Aurora Fire District has areas that are excellent examples of the Wildland Urban Interface (WUI). These areas are characterized by residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Heavy and continuous fuels dominate this area, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Aurora Fire District.

Aurora Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Aurora Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Aurora Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Aurora Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. However, the District does not always have the opportunity to provide input regarding access and water supply for new development. Using the State Fire Code as a regulatory tool in establishing adequate access and water supply is critical to reducing structural ignitability. The need for Aurora Fire to increase capacity for participating in land use reviews to provide input of new development is identified as an action item in the Aurora CWPP Action Plan.

Emergency Response

A major wildland urban interface fire in Aurora would quickly exceed the resources and capabilities of the District. For this reason, Aurora Fire has Mutual Aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires. Aurora Fire employees and volunteers receive somewhat regular wildfire training. The District would like to work with ODF to support regular the S-130 and S-190 training.

In the event of a large wildland fire, evacuations may be necessary. Evacuating this rural area safely does present some safety challenges due to the large number of one way in and one way out roads

and bridges. Burning of agricultural waste and yard debris is a very common occurrence in this area that is dominated by agriculture. Aurora residents would benefit from periodic reminders of safe burning practices and techniques to ensure that debris burns do not escape.

Community Outreach & Education

Aurora Fire is dedicated to fire prevention, and uses a variety of forums to promote residential fire safety, defensible space, and safe burning practices. The community is very supportive of the Fire District and participates in activities throughout the year, some of which include smoke detector, fire prevention and other programs. Aurora Fire is also an active member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety fairs with car seat inspections and community and school programs.

Local Communities at Risk (Strategic Planning Areas)

Aurora Fire recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local level. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map#8 and are listed in Table 10.1-1. Aurora Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Effective fuels reduction projects include the creation of defensible space around homes as well as vegetation treatments (shaded fuels creaks, thinning, limbing) onto adjacent forested land and natural areas. To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Aurora Fire (Map #8).

Fuels Reduction Priorities include:

Champoeg State Park	Whiskey Hill
Eilers Road Area	Butteville Road

Aurora Fire District Action Plan

Aurora Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Aurora Fire and the Local CARs therein is provided in Table 10.1-2

Table 10.1-1 Aurora Fire Local Communities at Risk														
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/	l ransients Drotection	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Aurora Fire Communities at Risk														
Eilers Road/ Myley Road near Charbonneau, Brownsdale Farm Road, Glass and Beck Roads	High	x	x	x							x		x	This community is characterized by many homes surrounded by heavy timber, poor access, and limited water supply. Brownsdale Farm Road and Mylee Road are very difficult for emergency service vehicles to access. This area also needs to be targeted for address signs.
Butteville Road	High	x		x							x		x	This is a fairly new community that has a high concentration of homes adjacent to heavy timber, and steep slopes. Access is good, but water supplies are limited. Defensible space is needed.
Whiskey Hill/ Meridian Rd.	High	x	x	x							X		x	Whiskey Hill is a high priority community at risk because there are homes adjacent to heavy timber, there are steep slopes, little water and access is extremely limited.
Cedarbrook Lane	High	x		x							x		x	Cedarbrook Lane is in a gully, which means that a fire here can carry upslope very quickly. Although access is good, address signs are needed here. Water supplies are also limited.

Table 10.1-2. Aurora Fire Action Plan			
Action Item	Timeframe	Partners	CAR
Aurora Fire Action Plan			
Develop relationships with Clackamas County Sheriffs office for potential evacuations.	Short term	CCSO, CCEM	Aurora Fire District
Increase capacity for communicating with other fire agencies by obtaining 3-4 portable 800 MHz radios.	Short term	CCEM, CCFDB	Aurora Fire District
Work with Marion County to update map numbers.	Long Term	Marion County	Aurora Fire District
Work with Clackamas County Land Use Planning and Building Depts. to provide input on access and water requirements in new development.	Short Term	CCDTD	Aurora Fire District
Partner with ODF to assist training staff and volunteers in wildland fire initial attack (S-130 and S-190).	Short Term	ODF	Aurora Fire District
Aurora Fire Local Communities at Risk Action Plan			•
Conduct a Community Meeting to educate the community and solicit feedback on wildfire prevention projects the community would support.	Ongoing	ODF	Eilers Road Area, Buttevile Road, Whiskey Hill,Cedarbrook Lane
Complete home addressing in Communities at Risk.		ODF, Fire Co-op	All; Eilers Road and Meridian Road
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's
Promote legal, safe and responsible debris burning through public outreach and education.	Short-Term	ODF, DEQ, Fire Co-op	All CAR's
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All CAR's
Obtain structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in Communities at Risk.	Ongoing	ODF	All CAR's
Develop a community-driven pre-disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	CCEM, CCFDB	All CAR's
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	All CAR's
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All CAR's
Conduct Community Clean Up Days to reduce hazardous fuels. Identify opportunities to recycle or compost vegetative material instead of burning.	Ongoing	ODF	All CAR's



10.2. Community at Risk: Canby Rural Fire Protection District # 62

The Canby Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Canby Fire District Description

The Canby Fire District is a special service district that provides fire, rescue, and prevention services to the Cities of Canby and Barlow as well as the rural areas around those cities. Canby Fire is also the ambulance service provider for the service area, providing emergency advanced life support transport to its citizens. Over 30,000 people live within the 54 square miles that the District serves. Currently the Fire District has 50 members who consist of 18 career, 30 volunteer, and 2 administrative personnel.

Wildland Urban Interface (WUI)

Some areas in the Canby Fire District are excellent examples of the Wildland Urban Interface (WUI). These areas are characterized by residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Canby has a heavy agricultural influence, so there is a great deal of controlled field burning, but there is not a significant history of large wildfires.

Canby Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Canby Fire in identifying areas that may be at higher risk to potential wildfires. Map # 4 illustrates the overall wildfire hazard risk in the Canby Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Canby Fire promotes adequate access and water supply, the creation of defensible space, use of fireresistant roofing and building materials, and community preparedness in the WUI. Although the City of Canby has a Planning Department, it now contracts with Clackamas County for land use planning and building permit services. Canby Fire has an excellent working relationship with Clackamas County and integrates fire-safety concepts at the regulatory level by participating in land use reviews for new development to provide input on access and water supply.

Emergency Response

A major wildland urban interface fire in Canby would quickly exceed the resources and capabilities of the District. For this reason, Canby Fire has mutual aid agreements in place which allows for the sharing of resources across the county during a large scale disaster such as a wildfire.

Burning of yard waste and debris is challenging in the Canby Fire District, as the majority of wildfire ignitions are the result of escaped debris burns from agricultural lands. Agricultural burning is regulated by the Oregon Dept. of Agriculture, and fire districts may only ban burning if certain humidity, temperature and wind conditions are met. Agricultural operations may burn all year, which

makes enforcement of the backyard burning program difficult because local area residents do not understand why they cannot burn while others can. The majority of Canby is within the DEQ boundary, so there is a burning season, but response from DEQ for violations is inconsistent.

Radio communications is good throughout Canby, although there are some gaps in coverage across the District. Canby Fire recently received an AFG large grant to address communication issues in these areas. Canby Fire would rely on two primary water supplies for wildfire response: one on Dryland Road; and one on Elisha Road. The Canby Ferry also has a fire pump that could be utilized in an emergency. Canby Fire would like to continue developing rural water supply sources for the rural areas to in order to be recognized water supply by ISO.

The District employs 18 career and 30 volunteer firefighters who receive regular wildland fire training to remain current on qualifications. Although the District is able to support the S-130 and S-190 training, lack of live fire experience makes it difficult to retain wildland qualifications. Canby Fire is working with NAFT and WFTA to conduct a live fire exercise (potentially in Molalla area) to address fire component of wildland task books. Canby Fire recently received grant for purchasing wildland PPE, and received a Fire Act FEMA grant for structural and wildland PPE five years ago, but likely will need additional wildland gear (turnouts and footwear) due to volunteer turnover.

Community Outreach & Education

Canby Fire is dedicated to fire prevention, and uses a variety of forums to promote residential fire safety, defensible space, and safe burning practices. The community is very supportive of the Fire District and participates in activities throughout the year, some of which include in-classroom school programs, public presentations, fire station tours, media events, and safety fairs. Canby Fire is also a member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety fairs with car seat inspections, and fire safety house displays.

Local Communities at Risk (Strategic Planning Areas)

Canby Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #9 and listed in Table 10.2-1. Canby Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning

- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Canby Fire will assist in facilitating cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Canby Fire (Map #9).

Fuels Reduction Priorities include:

Sundowner

Molalla River State Park

Canby Fire District Action Plan

Canby Fire has developed a list of actions to build capacity at the District scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Canby Fire and the local CARs therein is provided in Table 10.2-2.

Table 10.2-1. Can	by Fire	e Dis	tric	t L	oca	I Co	ommu	Jniti	ies	at I	Ris	k	
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Canby Fire Communities	s at Risk												
Adkins Circle	High	x	x	x		x			x	x		x	Adkins Circle is a community of about 11 homes that have a single access bridge which is one way in and out . The community is adjacent to managed private timberlands. The area has steep slopes and residents regularly bum yard debris.
Sundowner	High	x	x	x				x	x	x			The Sundowner community is very rural and it would take over 10 minutes to respond, making it very important for landowners to be prepared for potential emergencies such as wildfires. There is only one way in and out. The homes here are relatively new and have heavy vegetation leading up to the homes. Residents regularly burn yard debris in this community.
Dutch Vista / Madrona	High	×	x	x			x	x	x	x		x	The Dutch Vista One has limited access with a steep, one way in and out road. The homes are on the bluff of the river, which is accessed by recreators and fishermen who could serve as ignition sources. There is also a railroad here, which is a potential ignition source. Water supply is very limited.
Public Works Infrastructure	High	x	x	x	x								The City of Canby Public Works buildings and other infrastructure are adjacent to city owned forest that would benefit from fuels reduction. Access is limited to one way in and out.
North Side Molalla River Bluff	Medium	x		x					x	x		x	The homes on the North Side of the Willamette River Bluff are at the top of a heavily vegetated slope. There are good potential evacuation routes in this area because there many points of entry, However, this increased access to the area also increases the number of recreators and fishermen that could serve as ignition sources.
South End	Medium	x		x			x	x		x		x	South End Road has adequate access, but a limited water supply. CCFD#1 has a few hydrants here. Vegetation and steep slopes are the primary concerns here. Fire response would have to be staged off the main hwy, so there would be disruption, and traffic management to consider. The railroad runs through here, which increases ignition potential. Anglers, transients, and recreators frequent the area and are potential ignitions sources.
Molalla River State Park	Medium	x	x		x					x		x	The Molalla River State Park draws many recereators, and anglers to the area. The primary risk here is the heavy fuels loading throughout the park.

Table 10.2-2. Canby Fire Action Plan												
Action Item	Timeframe	Partners	CAR									
Canby Fire Action Plan												
Pursue grant funding to purchase Wildland PPE to replace outdated PPE.	2 Years	FDB, ODF	Canby Fire District									
Develop rural water supply sources to a standard that will be recognized by ISO.	Long-Term	ODF, FDB	Canby Fire District									
Work with the ODA to educate local area residents about the differences in agricultural burning in and backyard burning	Long-Term	ODF, DEQ, Fire Co-op	Canby Fire District									
Work with the DEQ to achieve consistent responses for burning violations.	Long-Term	DEQ	Canby Fire District									
Identify and pursue opportunities to participate in prescribed burns and live fire training to update and maintain wildfire certifications.	Ongoing	FDB, NAFT, WFTA	Canby Fire District									
Continue to foster partnerships with natural resources managers to assess and implement potential fuels reduction projects in natural areas adjacent to Communities at Risk.	Ongoing	BLM,ODF, Parks	Canby Fire District									
Partner with the Clackamas County Fire Defense Board to participate in a WUI conflagration exercise.	2 Years	Clackamas Fire Defense Board	Canby Fire District									
Canby Fire Local Communities at Risk Action Plan												
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability.	2 Years	ODF	Adkins Circle									
Improve address signage for emergency response.	Ongoing	Fire Co-op	All CAR's									
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's									
Promote legal, safe and responsible debris burning through public outreach and education.	Ongoing	ODF, DEQ,ODA, Fire Co-op	All CAR's									
Encourage communities to develop a community-driven pre- disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All CAR's									



10.3. Community at Risk: Clackamas Fire District #1

Clackamas Fire District #1 (CFD#1) has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Clackamas Fire District #1 Description

CFD#1 is one of the largest fire protection districts in Oregon, proudly serving over 220,000 citizens in an area covering nearly 235 square miles of urban, suburban, and rural communities. The District provides fire, rescue, and emergency medical services to the cities of Milwaukie, Oregon City, Happy Valley, and Johnson City, and the unincorporated areas of Barton, Beavercreek, Boring, Carus, Carver, Central Point, Clackamas, Clarkes, Damascus, Eagle Creek, Highland, Hillsview, Holcomb, Kelso, Jennings Lodge, Oak Grove, Redland, South End, Sunnyside, and Westwood.

CFD#1 has 20 fire stations strategically located throughout Clackamas County. Our staff of career and volunteer firefighters and paramedics respond to over 22,000 incidents annually throughout the fire district. CFD#1 is an internationally accredited agency meeting the highest standards in emergency service delivery.

Wildland Urban Interface (WUI)

Many areas covered by CFD#1 are excellent examples of the Wildland Urban Interface (WUI). They are characterized by suburban communities and rural residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have limited access with narrow, steep driveways and poor water supplies.

The more rural wildland urban interface areas exist in the Fire District's Southern, Southeastern, and Eastern protection service areas. These rural interface areas are best defined as a mixed interface in which small to medium sized neighborhoods have been built on lands formerly used for a variety of farm use applications.

In the more urban areas, heavy and continuous fuels dominate many of the parks and natural areas surrounding the communities, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the cities of Milwaukie, Happy Valley and Oregon City and the communities of Clackamas, Oak Grove, and Jennings Lodge. In addition, response times from rural fire stations could be delayed, which underscores the need for community preparedness in the wildland urban interface.

Clackamas Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Clackamas Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the CFD#1 and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

CFD#1 promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. CFD#1 works well with the Cities of Milwaukie, Oregon City, Happy Valley, and Johnson City and Clackamas County to integrate these

concepts at the regulatory level by participating in land use reviews for new development to provide input on access and water supply.

The area served by CFD#1 has a great deal of development in urban areas, making it difficult to make specific recommendations and make site visits to confirm compliance with the guidelines set forth in the ZDO. This need to build capacity for rural development is included in the CFD#1 Action Plan.

Emergency Response

A major wildland urban interface fire in CFD#1 may exceed the immediate resources and capabilities of the District. For this reason, CFD#1 has mutual aid agreements in place to allow for the sharing of resources across the county in the event of a large scale disaster including wildfires.

In the event of a large wildland fire, evacuations may be necessary. The rural residential areas present some challenges for evacuations due to access constraints including long, narrow and steep driveways with poor addressing. CFD#1 has been working with ODF to improve address signage in vulnerable areas, and will continue to work with the Clackamas County Fire Co-op to implement address signage in the Communities at Risk. Many of the identified communities at risk have only one point of egress, making it difficult to manage incoming and outgoing traffic during an emergency.

CFD#1 follows DEQ burning policies for backyard burning. The majority of the cities covered by CFD#1 are within the DEQ burn ban area, which does not allow backyard burning at any time of the year. In the more rural areas that allow burning, CFD#1 tries to be consistent with debris burning policies set forth by the Fire Defense Board during fire season.

CFD#1 employs over 210 career and 70 volunteer firefighters who receive regular wildland fire training to remain current on qualifications. Although the District is able to support classroom training, lack of live- fire experience has made it difficult at times to maintain wildland qualifications. New staff members who have little to no live-wildland fire experience have difficulty completing task books without being deployed on conflagrations. For this reason, CFD#1 has been working with NAFT in support of the Metro Area Wildland School hosted by Molalla Fire in June annually, exploring training options with the USFS, and utilizing the experience gained from State conflagration deployment of task forces and members on State overhead teams.

Community Outreach & Education

CFD #1's Fire Prevention Division's mission is to protect and preserve life and property through education, engineering, and enforcement which requires proactive community interaction. Education opportunities include; school programs, public presentations, media events, and safety fairs. Engineering activities include; pre-construction plans review, fire protection system review, consumer product data collection, and fire code development. Enforcement activities include; commercial fire code inspections, open burning regulation enforcement, fire cause determination and arson investigation, and juvenile fire setter counseling and follow-up.

CFD#1 is also a member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver

programs such as team teaching in the grade school fire safety programs, safety fairs with car seat inspections, community and school programs, and fire safety house displays.

Local Communities at Risk (Strategic Planning Areas)

Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #10 and listed in Table 10.3-1. Clackamas Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

The Bureau of Land Management, private industrial landowners and small woodland owners have many heavily forested landholdings that are adjacent to homes in the WUI. As CFD#1 targets the residential communities for creating defensible space, there is an opportunity to engage private, state and federal partners in reducing fuels on this adjacent public land.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Clackamas Fire (Map #10). Fuels Reduction Priorities include:

Amisgger Road	Ella V. Osterman
Happy Valley Nature Trail	Highland Summit
Mt Talbert	Three Creeks
Willamette Narrows	Mtn. View Cemetery
Singer Creek Park	Atkinson Park
Waterboard Park	Canemah Bluff
Clear Creek	Newell Invasives
Scouter Mountain	McIver Park
Lower Highland & Ridge	East Highland
Spring Park	Forest Creek
Tickle Creek Road	Hwy 224 Corridor
Bartell Road	Gold, Bronze, Nickel Creek
Eagle Fern Park	

Clackamas Fire District Action Plan

Clackamas Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Clackamas Fire and the local CARs therein is provided in Table 10.3-2.

Table 10.3-1. Clackamas Fire District #1 Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Clackamas Fire District #1 Communities at Risk													
Forest Park/ Leisure Woods	High	x	x	x		x	x		x		x	x	This community is a high priority for CFDI#1 because it has only one way in one way out, it is surrounded by managed timberlands (Port Blakely and BLM), there is poor access into the forested areas and it is heavily used by bicycles in the summer. Access for response is extremely limited. Burning on residential and forested lands is an issue. The is a strong need for community awareness and preparedness as many homes have cedar shake roofs. There is very poor cell coverage, limited water, and delayed response times.
Diane Drive Shelly Road	High	x		x		x		x	x		x	x	There are large homes adjacent to commercial timber operation in this community. Active timber management can provide ignition sources. Some of the homes have defensible space, and most of construction is good with fire resistive roofing. However, it is steep, and there are many slash piles surrounding the community, so embers encroaching would be an issue. There is no water here and the closest station is volunteer, so response times would be delayed.
Redland Road/Fishers Mill area/Logan	High	x	x	x		x	x		x	x		x	Logan Road is characterized by many logging operations than include burning of material. CFD#1 has had many responses to fire ignitions here. Access is poor off of Eden. Water is limited to draft sites.
Clarkes/Beavercreek	High	x	x	x		x			x	x	x	x	There is a long history of many widlfire ignitions reulting large fires in the Clarkes/Beavercreek area. The area now is densely populated with homes, but only about half have hydrants (towards Oregon City). Response times can be long to this area and communications may being to be an issue in some areas. The community is also adjacent to Port Blakely forests that have heavy fuel loading.
Beaver lake	High	x	x			x		x				x	Beaver Lake is a gated community adjacent to Port Blakely forest land. The rear is not accessible, so it is one way in and out. The community has heavy timber surrounding it and is on the top of a steep slope. CFD#1 can contact the Port Blakely forester in case we need to use their roads or need a key to unlock forest road gates, but this will eat up valuable time.
Canemah Bluffs	High	x	x		x		×			х		x	Canemah Bluffs is very steep and has homes at the bottom and at the top of the slope. The homes at the bottom are surrounded by fine, flashy fuels. Access is limited here to one way in and out. A fuels reduction/oak restoration was implemented here.
Scouters Mountain	High	x	x	x	x	x	×		x	х	x	x	Scouters Mountain has a series of natural areas adjacent to homes and infrastructure. This has been identified in the Clackamas Parks Wildfire Management Plan as a priority for fuels reduction. The land is currently being developed into more residential housing units.
Mount Talbert	High	x	x	x	x		x			x		x	Mount Talbert Nature Park is a 242-acre property, co-owned by North Clackamas Parks and Recreation District and Portland Metro. The site is located east of I-205 and south of Sunnyside Road. The park has urban development at its edges on three sides. Surrounding properties are mostly medium density residential, with higher density residential and commercial uses to the north. It has steep slopes and has transient camps.
Holcomb	Medium	x				x			x				The Holcomb area has a history of juvenile fire setters. This ignition source coupled with steep slopes, heavy vegetation and lighter fuels in the open spaces could result in a rapidly spreading wildland fire. The area has also seen, and continues to see an increase in housing develpments with smaller setbacks pushing further into the rural area. These types of developments in slopped areas can lead to rapid structure to structure fire spread in the WUI.
3 Creeks	Medium	x	x	x	x		x			x			Three Creeks is a Clackamas County Park area that has heavy fuels adjacent to homes and infrastructure. This is a priority for fuels reduction and has been identified in the Clackamas County Parks Wildfire Management Plan.

Table 10.3-2. Clackamas Fire District # 1 Action Plan											
Action Item	Timeframe	Partners	CAR								
Clackamas Fire District #1 Action Plan											
Identify and pursue opportunities to participate in prescribed burns and live fire training to update and maintain wildfire certifications.	Ongoing	Metro, US Forest Service, ODF	CFD#1								
Continue to foster partnerships with natural resources managers to assess and implement potential fuels reduction projects in natural areas adjacent to Communities at Risk.	Ongoing	Metro, City of Happy Valley, City of Oregon City, ODF	CFD#1								
Partner with the Clackamas County Fire Defense Board to participate in a WUI conflagration exercise.	Annual	Clackamas Fire Defense Board	CFD#1								
Build capacity to increase participation in land use reviews of residential structures in the Timber/Agriculture Zone.	Long-Term	Clackamas DTD	CFD#1								
Clackamas Fire Local Communities at Risk Action Plan	l										
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability. Consider creating Firewise/USA Communities here.	2 years	ODF	Forest Park/ Leisure Woods, Diane Drive Shelly Road								
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	2 Years	Fire Co-op	All CAR's								
Promote legal, safe and responsible debris burning through public outreach and education.	Short-Term	ODF, DEQ, Fire Co-op	All CAR's								
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All CAR's								
Obtain structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in Communities at Risk.	Ongoing	ODF	All CAR's								
Develop a community-driven pre-disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All CAR's								
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF, Clackamas County Fire Co-op	All CAR's								
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF, Clackamas County Fire Co-op	All CAR's								
Work with Clackamas County to reduce hazardous fuels in parks and forested areas adjacent to CAR's.	Ongoing	Clackamas County North Clackamas Parks and Recreation District	Scouters Mountain, Mount Talbert								
Conduct Community Clean Up Days to reduce hazardous fuels. Identify opportunities to recycle or compost vegetative material instead of burning.	Ongoing	ODF, Metro	All CAR's								



10.4. Community as Risk: Colton Rural Fire District #70

Colton Rural Fire Protection District #70 has been identified as a Community at Risk (CAR) by the Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Colton Fire District Description

With over 50 years of service, the Colton Rural Fire District is made up of men and women, primarily volunteers and three-part time paid staff, who serve the citizens of Colton and Elwood. The Colton Rural Fire District was founded in 1956 and covers 46 square miles between Estacada and Molalla. Colton Rural Fire District protects the community with both Fire Service and Emergency Medical Care, and give Mutual Aid service to other agencies as needed.

Wildland Urban Interface (WUI)

This area is an excellent example of the Wildland Urban Interface (WUI) because it is characterized by steep slopes with residential homes surrounded by heavy fuels. In addition, many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Water is limited throughout the District, especially in the Communities at Risk.

Heavy and continuous fuels dominate this area, and forests are actively managed for lumber and Christmas trees. Land ownership includes a variety of rural residential, private forest land, large industrial forests and public lands (Bureau of Land management). There are also many small woodlands that are not actively managed that are littered with dead and dying trees and ladder fuels that could take a fire from the ground into the crowns of the trees. Many local youth illegally access these forest landholdings to build campfires, use All Terrain Vehicles (ATV's) which increases the likelihood of potential ignitions. Fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Colton Fire District.

Colton Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Colton Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Colton area and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Colton Fire Dist. Promotes the creation of defensible space, use of fire-resistant roofing and building materials, home sprinkler systems, specialized wildland sprinkler systems, and community preparedness in the WUI. Colton Fire Dist. works with the Clackamas County Department of Transportation and Development to provide input on access and water supply for new lots of record. Colton Fire Dist. provides alternatives to property owners who cannot meet the requirements for access and water supply. Clackamas County has upgraded their web site so the District can look up all building permit applications. There are some opportunities for improvement, and coordination between Clackamas County and Colton Fire Dist.

- The Fire Dist. is not notified of development that occurs on existing roads and or lots of record.
- The Fire Dist. is not notified of homes that are being remodeled that require new access and water requirements.

The Colton Fire Dist. is concerned with new developments not meeting Fire Dist. requirements.

Emergency Response

Emergency response is challenging at times in the Colton Fire District because our staff is almost entirely volunteer, with 3 part time employees, a fire Chief, Asst. Chief/Training Officer, Captain/Fire Marshal/Maintenance Officer. A major wildland urban interface fire in the Colton area would quickly exceed the resources and capabilities of the District. For this reason, the district has Mutual Aid agreements in place which allows for the sharing of resources across the county and state if necessary in the event of a large scale disaster, including wildfires such as the Pit Fire. The district has one small very old type 6 brush rig, 3 class 1 structural engines, and two 3,000 gal. water tenders that may become inadequate on a large wildland urban interface until other resources arrive.

Although the District can support annual wildland fire training (S-130 and S-190), the lack of live fire experience makes it difficult to retain wildland qualifications. Colton Fire Dist. would like to work more directly with the USFS, ODF, and other land managers to take advantage of opportunities to participate in live fires and training.

Burning of yard waste and debris is unique in the Colton Rural Fire District because it is outside of the DEQ boundary, which means that the area residents can burn until regulated burn regulations are in effect. The Fire Dist. adheres to the Open Burn Policy adopted by the Clackamas County Fire Defense Board. The lack of staff and resources make it difficult to catch every illegal fire.

Radio coverage is generally good throughout the district using the 800MHz system, but the VHS system still in use for dispatching is no longer maintained by CCOM, when the system fails we will have to find alternative ways to alert volunteers to emergency calls. A new county wide radio system upgrade is due by early spring 2018. This upgrade will include much needed new mobile and portable radios.

The Colton Fire district has not been successful in acquiring RFA and VFA grants to purchase wildland PPE (nomex shirts, paints, and fire shelters), and is in need of all new PPE.

Because the Colton Water District does not have an extensive hydrant system, it is important to identify and improve water sites. This is especially important for homes with long narrow driveways that will not support water tenders. The Fire District and ODF have been working together to improve address signage in many of the most vulnerable areas and water sites.

Colton Fire CWPP Community Involvement

Colton Fire is dedicated to fire prevention, and uses a variety of forums to promote defensible space, fire-resistant building materials, and safe burning practices. Colton Fire partners with ODF to have wildfire prevention programs in local area schools. The District also holds annual events at the main fire station that are paired with prevention messages. The District would like to be more

proactive about educating the public about the need for access, water and defensible space and plans to partner with the Molalla Pioneer to create a driveway outreach program designed to advise people about lack of access and promote creation of turn-around space.

Local Communities at Risk (Strategic Planning Areas)

Colton Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map # 11 and listed in Table 10.4-1. Colton Fire Professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects should be accomplished at the local level, by the creation of defensible space around homes, wildland sprinkler suppression systems, and the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. The Colton Fire Dist. will continue to facilitate cooperation between public and private organizations, and local area residents to ensure that fuel reduction work continues and benefits homeowners, public, and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by the Fire District. (Map #11).

Fuels Reduction Priorities include:

<u>High Risk</u>	<u>Medium Risk</u>
Boomer Springs/Schieffer	Dhooghe
Deardorf	Elwood/Engstrom
Fernwood/Young Rd Area	Holt Rd
Walton/Tiffany	Hunter Rd

Colton Fire District Action Plan

Colton Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Colton Fire and the local CARs therein is provided in Table 10.4-2.

Table 10.4-1 Colton Fire District Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Colton Fire Local Commu	nities at Ri	isk											
Deardorf	High	X	x	x				X	x	x		x	This community has only one way in and out with very narrow, steep roads and driveways. There are many homes in this area that have dense vegetation and need defensible space. There is no water here. People in this community are not aware of the high wildfire risk here.
Boomer Springs/Schieffer	High	x	x					x	x	x		x	There are not many homes in this community, but those that are located here have long, narrow driveways with no turn-around. There is no water here and there are very steep slopes.
Walton/Tiffany	High	x	x	x	x	x	x	X	x	x		X	This community has many have long, narrow driveways with trees overhanging and encroaching. There is no water here and homes are in great need of defensible space . Industrial forest lands surround the community and could be potential ignition sources.
Fernwood/Young Road Area	High	x	x	x		x	x	x	x	x		x	This Community has very limited access with many roads being one way in and out and access is very narrow. Rounds Road is a very narrow, gravel road. Water is limited. There is a creek with a pond but they are difficult to access. The community is adjacent to Port Blakey and Weyerhaeuser industrial forest operations. ATV's illegally access the Weyerhaeuser land where there is a great deal of slash from previous timber operations. Residents here burn all year, so they a great deal of fuel around homes is removed during the winter and spring, but there are some people who wait until summer to burn. OSU also has a managed forest here. ODF crews plan to brush out end of Odeen.
Dhooghe	Medium	x	x	x		x		x	x	x			This area is relatively flat, but access is still difficult because many homes have long, narrow driveways. There is also a very narrow bridge that is one way in and out. Frank Road is in very poor condition. There is no water here. There is active logging in the heavily managed, private forest lands adjacent to the community. This forested area has a lot of ladder fuels on the western portion and could be targeted for Fuels Reduction.
Holt Road	Medium	x	x			x			x	x		X	The access in this community is extremely limited because Holt Road is now closed, making it one way in and out. It is also very steep. There is a good creek at the bottom, and about half of this community has hydrants. There are small, private forest lands surrounding the community. The managed woodlands look good, but the unmanaged woodlands have heavy fuels loading.
Hunter Road	Medium	x	x	x	x	x	x	x	x	x		x	This community only has one way in and out and it is very steep. There is a cluster of homes that need defensible space. Port Blakely and Weyerhaeuser own industrial forest lands that surround the community. Many local youth illegally access these areas to hang out, smoke cigarettes and start campfires.
Ellwood Engstrom/Area	Medium	x	x			x		X	x	x		x	This community has good water with creeks and ponds from which pumps can draw. There are many homes here with narrow driveways. there is also a small bridge that fire apparatus cannot access. Gillet is a one way road that has no turn-around which is a very big issue. Port Blakely manages industrial forest land adjacent to this community.

Table 10.4-2. Colton Fire District Action Plan												
Action Item	Timeframe	Partners	CAR									
Colton Fire Action Plan	•											
Pursue grant funding to purchase Wildland PPE to replace outdated PPE (fire shelters)	2 Years	ODF	Colton Fire									
Work with Clackamas County to ensure coordination regarding the new development on Rolliewood Road. As new homes are built, the District should be notified because no parking signs are required to be posted on all legal roads.	6 Months	Clackamas DTD	Colton Fire									
Work with Clackamas County to ensure coordination regarding development on existing lots and roads of record.	2-3 Years	FDB, SFMO	Colton Fire									
Work with Clackamas County to use the total square footage of the home including any remodel expansion as the threshold for contacting Fire Agencies for access and water requirements.	2-3 Years	FDB, SFMO	Colton Fire									
Work with ODF, USFS and other land managers to identify opportunities to participate in Live Fire Training.	Ongoing	ODF, USFS, BLM	Colton Fire									
Partner with the Molalla Pioneer to create a driveway outreach program designed to advise people about lack of access and promote creation of turn-around space.	1 year	Molalla Pioneer	Colton Fire									
Work with Clackamas County to receive notification of occupancy permits through monthly emails and request access/training to use the Velocity Hall System.	6 Months	Clackamas County, SFMO	Colton Fire									
Colton Fire Local Communities at Risk Action Plan	• •											
Conduct a Community Meeting to educate the community and solicit feedback on wildfire prevention projects the community would support.	Ongoing	ODF	Deardorf									
Work with CCFD#1 to educate residents of Holt road about the importance of being prepared since response time is increased with the closure of the road.	Ongoing	CCFDF#1	Holt Road									
Begin identifying and improving potential water sites in Communities at Risk.	Long-Term	ODF	All Car's									
Work with Port Blakely and Weyerhaeuser to post signage and develop additional strategies to discourage illegal trespassing on forest land.	Ongoing	Port Blakely, Weyerhaeuser	Walton/Tiffany, Fernwood/Young Road Area, Hunter Road									
Complete home addressing in Communities at Risk.	Ongoing	ODF	All CAR's									
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's									
Promote legal, safe and responsible debris burning through public outreach and education.	Short-Term	ODF, Fire Co-op	All CAR's									
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All CAR's									
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All CAR's									



10.5. Community at Risk: Estacada Rural Fire District #69

The Estacada Rural Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Estacada Rural Fire District Description

The Estacada Rural Fire District is a special service district that provides fire, rescue, and prevention services to the City of Estacada and the surrounding unincorporated areas. The mission of the Estacada Rural Fire District is to serve the community by providing quality fire and life safety services.

The Estacada Rural Fire District protects 88 square miles from two fire stations. There are 12 career and 40 volunteer firefighters that respond to approximately 1,700 alarms annually. About 70% of the alarms are medical responses.

Wildland Urban Interface (WUI)

Estacada's Fire District is a rural area on the eastern edge of Clackamas County adjacent to large tracts of federal and private forests. The terrain is steep, causing access and communication limitations. The Clackamas River bisects the District and continues to the Mount Hood National Forest, attracting thousands of visitors every year. Campers, hikers, hunters and other visitors to this area can potentially start wildfires that could carry from public land to the residential communities.

The WUI area is characterized by rural residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Heavy and continuous fuels dominate this area, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Fire District.

Oregon State Parks, the Bureau of Land Management and the United States Forest Service have a few heavily forested landholdings that are adjacent to homes in the Wildland Urban Interface. As Estacada Fire targets the residential communities for creating defensible space, there is an opportunity to engage state and federal partners in reducing fuels on this adjacent public land.

Estacada Rural Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted the Fire District in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Estacada Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. Estacada Fire works with the City of Estacada and Clackamas County to integrate these concepts at the regulatory level by providing input on access and water requirements for new development. The City of Estacada uses a consulting firm

for land use planning services. This presents some difficulties for the Fire District because the consulting firm does not always contact the District for input on fire flow and access. Even when the Fire District does provide input, the fire flow and access requirements are not always communicated to the Clackamas County Building Department. These issues have been identified in the Estacada CWPP Action Plan.

Emergency Response

A major wildland urban interface fire in Estacada would quickly exceed the resources and capabilities of the District. For this reason, Estacada Fire has mutual aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires.

In the event of a large wildland fire, evacuations may be necessary. This rural area presents some difficulties due to the large number of one way in and one way out roads. More coordination and outreach is needed to ensure that evacuation procedures are developed and understood. This has been included the Estacada CWPP Action Plan.

Burning of yard waste and debris is challenging in the Estacada Fire District because backyard burning is allowed in all areas. Estacada Fire tries to be consistent with neighboring jurisdictions' Backyard Burning programs but does not have staff or resources to regulate burning in Estacada. The need for a more structured Backyard Burning Program is indicated in the Estacada CWPP Action Plan.

Estacada Fire employs 10 career and 44 volunteer firefighters who receive regular wildland fire training to remain current on qualifications. Although the District is able to support the S-130 and S-190 training, lack of hands-on fire experience makes it difficult to retain wildland qualifications. Estacada Fire would like to work more directly with the USFS and ODF to have opportunities to participate in live fires.

Community Outreach & Education

Estacada Fire is dedicated to fire prevention, and uses a variety of forums to promote residential fire safety, defensible space, and safe burning practices. The District has programs designed to empower community members to take a more active role in being prepared for any emergency. These include the Map Your Neighborhood Program, Community Emergency Response Teams, Citizen Ride-Alongs, discounted address signs and station tours. Estacada Fire is also an active member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety fairs with car seat inspections, community and school programs, and fire safety house displays. Estacada Fire would like to update its fire prevention program by taking advantage of cost effective social media outlets and engaging youth groups from Estacada High School and Timberlake Job Corps.

Local Communities at Risk (Strategic Planning Areas)

Estacada Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as

being particularly vulnerable to wildfires are illustrated in Map#12 and listed in Table 10.5-1. Estacada Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Estacada Fire will facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Estacada Fire (Map 12).

Fuels Reduction Priorities include:

Eagle Creek Youth Camp	Metzler park
Paradise Park	Ranger Woods
Redland Road Area	Silver Fox RV Park
McIver Park	

Estacada Rural Fire District Action Plan

Estacada Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Estacada Fire and the local CARs therein is provided in Table 10.5-2.

Table 10.5-1. Estacada Fire District Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Estacada Fire Communitie	Estacada Fire Communities at Risk												
Garfield/Porter Community/Eagle Creek Youth Camp	High	×	×	x	x	×	x	x	x	×	x	x	Access in this community is a big loop. There has been conflagrations in this area, which turns the loop into one way in and out. There are unique events that occur in this area including a nudist colony that holds events and there have also been music festivals here which bring many people. There is inadequate access and water for the number of people these events can bring in. It would be very beneficial to identify an alternate water source here because it is also adjacent to Federal and private forests. There are also many environmental activists here. Protection capabilities are compromised because it takes about 25 minutes, which can be even longer depending on the weather. Eagle Creek Youth Camp is an area of particular concern because of heavy vegetation, and you must access the camp through home driveways and private roads that likely cannot support apparatus. Water supply is improving because the camp is putting in hydrants in to get bldg permits. Access to the camp is one way in and out, and there are cabins throughout the woods. There is one open field that could be used for staging life flight area, safety zone. Camp is a Fuels Reduction priority.
Dodge- Hillock Burn Area	High	x	x	x	x	x	x	x	x	x	x	x	Access in this community is particularly challenging on one way roads including: McQueen, Peterson, Horner and Benjamin. There is no water available here, so water would be brought in for fire fighting. The community is surrounded by BLM, USFS and private forest land. Recreates bring ATVs here despite the fact that there are there are gates. There are many old logging roads that attract recreators. There have also been law enforcement issues in this area. Also, response times would be longer because the Hwy 211 bridge is only access so if there is an issue there, the community could be inaccessible. Communications are limited for 800 MHz in area (50%), but VHF is good.
George Community	High	x	x	x		x	x	x	x	x	x	x	This community has heavy fuels next to homes, steep slopes and poor access. There are many one way in and out roads and response professionals would likely enter from the Boring Fire District. There is a fire station up there but Estacada Fire has had difficulty recruiting and retaining volunteers in this area. There are also many back roads people take with can be potential ignition sources.
Paradise Park, Twin Island, Star Road	High	x	x	x			x	x	x	x	x	x	All three of these areas have neighborhood associations, so they would be great to target for community clean up events. Access here is one way in and out, there is heavy vegetation, steep slopes, and you cannot draft out of the river so water will be hauled in. There is a great deal of recreation on the river, which people access illegally through private property and on the little islands. Protection of this area is difficult because the road is susceptible to landslides and it is one way in and out. There is a secondary way in and out, but it cannot support emergency vehicles. Communications can be an issue because it is a canyon. Paradise Park is a fuels reduction priority.

Table 10.5-1. Estacada Fire District Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Redland Rd Area- Viola Area, Fellows road	Medium	×		×	x	x	x		x	x	x	x	This interface community has heavy vegetation adjacent to homes which extends into adjacent forest land. Some adjacent forest land is BLM and some is private industrial. The access is fair, but there are a number of one way roads that could make response and evacuation challenging. There is a potential water supply up on the hill, but it hasn't been developed very well. CCFD#1 has a volunteer fire station in this area, so protection capabilities should be acceptable. Communications are at about 75% coverage in this area and cell coverage is even available in the canyon.
McIver Park & Parkview & Riverlake Community	Medium	x	x	x	x	x	x	x	x	x	x	x	ODF used seasonal crews to reduce fuels in did some fuels reduction in McIver State Park, and identified additional work to be done to make the park more fire resistant. There are two neighborhoods adjacent to the Park with heavy fuels leading directly to the homes. The river can be accessed for drafting. Access is one way in and out in all these areas, with very steep terrain which goes almost vertical near Feldheimer Road. Despite being able to draft from the river, some areas would require hauling water in to the site. There is river access for boat launching at the State Park and Feldheimer road also has a public boat launch. Transients are often sighted on Riverlake Road. This area is a priority for fuels reduction.
Metzler Park	Medium		x	x	x		x	x			x	x	This State Park is a good candidate for fuels reduction. It has one way in and out, and many recreators use this facility. Water is limited here. There is a creek which could serve as a potential water source, and this needs to be explored further.
Ranger Woods	Medium	x			x				x	x	x	x	Ranger Woods is owned by Estacada Schools and is adjacent to neighborhoods in northeast portion of town. Defensible space around the homes and the school is needed. This wooded area is particularly vulnerable because young adults coming from the school like to congregate here and sometimes light fires, smoke cigarettes, and engage in other activities that could serve as an ignition source. There is also a high concentration of invasive species here. This area is a high priority for fuels reduction.
Silver Fox RV Park- USFS	Low	x	x	x	x		x	x	x	x			This RV park gets extremely busy during the wildfire season. There is dense vegetation near the camping spots that the RVs and campfires could ignite easily. This is a priority for fuels reduction.

Table 10.5-2. Estacada Fire District Action Plan											
Action Item	Timeframe	Partners	CAR								
Estacada Fire Action Plan											
Identify and pursue opportunities to provide Incident Management Training for firefighters that will be Incident Commanders on larger scale emergencies.	Ongoing	FDB, CCEM, NAFT	Estacada Fire District								
Work with the City Manager to ensure that the contracted land use planner for the City consults Estacada Fire for access and fire flow requirements. Improve coordination between the contracted planner and Clackamas County Building Department to ensure that all fire flow and access requirements are met.	6 Months	City of Estacada, Clackamas County	Estacada Fire District								
Invigorate the District's Outreach and Education Program by partnering with ODF to incorporate wildfire prevention into the annual Open House and Safety Fair.	Ongoing	ODF	Estacada Fire District								
Identify opportunities to engage young adults in community service and wildfire prevention projects.	2 years	Estacada High School, Timberlake Job Corps	Estacada Fire District								
Build capacity and support for a more involved backyard burning program including staff to educate local residents and regulate the Backyard Burning Program.	Long-Term	ODF, DEQ, Fire Co-op	Estacada Fire District								
Estacada Fire Local Communities at Risk Action Plan											
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability. Solicit feedback on wildfire prevention projects the community would support.	2 Years	ODF	Garfield/Porter Community								
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	2 Years	Fire Co-op	All CAR's								
Promote legal, safe and responsible debris burning through public outreach and education.	2 Years	ODF, DEQ, Fire Co-op	All CAR's								
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All CAR's								
Obtain structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in Communities at Risk.	2 Years	ODF	All CAR's								
Promote the District's Map Your Neighborhood and CERT programs to generate community-driven pre-disaster plans including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All CAR's								
Implement road addressing (including length of driveways) and other signage for emergency response.	2 Years	ODF	All CAR's								
Work with partner agencies such as ODF, SWCD and Ford Institute to procure funding and technical assistance for reduce fuels in and around priority CAR's.	2 years	ODF, SWCD, Grant Funders	All CAR's								
Work with State Parks to reduce hazardous fuels in their parks and provide signage to educate recreators about wildfire prevention.	3 years	State Parks, ODF	McIver Park, Metzler Park								
Work with USFS and BLM to reduce fuels on federal land adjacent to CAR's.	3 years	USFS, BLM, Silver Fox RV Park	Silver Fox RV Park, Redland Road								
Conduct Community Clean Up Days to reduce hazardous fuels. Identify opportunities to recycle or compost vegetative material instead of burning.	2 Years	ODF	All CAR's								



10.6. Community at Risk: Gladstone Fire Department

The Gladstone Fire Department has been identified as a Community at Risk (CAR) by the Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Gladstone Fire District Description

The Gladstone Fire Department provides fire, rescue, and prevention services to the City of Gladstone. The Gladstone Fire Department is primarily staffed by volunteers and is supported by a paid Fire Marshal and a Volunteer Coordinator.

Wildland Urban Interface (WUI)

Despite being primarily urban, some areas in the Gladstone are excellent examples of the Wildland Urban Interface. They are characterized by residential homes surrounded by heavy fuels and steep slopes. Some communities have only one way in and one way out with narrow, steep driveways and poor address signage. Heavy and continuous fuels are present in some natural areas and parks adjacent to neighborhoods, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the City of Gladstone.

Gladstone Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Gladstone Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the City of Gladstone and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

The City of Gladstone contracts with Clackamas County for land use planning and building permit services, and has a local planning commission to help guide development. Gladstone Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI by working with Clackamas County to integrate these concepts at the regulatory level. Gladstone Fire participates in land use reviews for new development to provide input on access and water supply.

Emergency Response

A major wildland urban interface fire in Gladstone would quickly exceed the resources and capabilities of the Department. For this reason, Gladstone has mutual aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires. Gladstone's primary mutual aid partner is Clackamas Fire District #1, which completely surrounds the City of Gladstone. Burning of yard waste and debris is prohibited in Gladstone, as it is located within the DEQ Burn Ban Boundary.

Gladstone Fire employs 2 career and many volunteer firefighters. Historically, Gladstone Fire participated on state mobilization strike teams, but has opted out of this partnership in recent years due to diminished capacity to support training and maintain qualifications necessary to participate. Gladstone Fire provides annual refresher training to all staff, and will send new staff to Clackamas

County Community College to receive S-130 and S-190. The Department would like to improve its capacity in developing and retaining wildland fire certifications, and this is noted in the action plan.

Community Outreach & Education

Gladstone Fire supports fire prevention, but has a limited capacity to develop and implement public outreach programs. Gladstone Fire is a member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs and safety fairs. Gladstone Fire would like to be a more active member of the Coop to increase their capacity for providing structural and wildland fire prevention programs in the City.

Local Communities at Risk (Strategic Planning Areas)

Gladstone Fire recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #13 and listed in Table 10.6-1. Gladstone Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Gladstone Fire will help to facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Gladstone Fire (Map #13).

Fuels Reduction Priorities include:

Parkway Woods Gladstone Fire Action Plan Billy Goat Island

Gladstone Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Gladstone Fire and the local CARs therein is provided in Table 10.6-2.
Table 10.6-1. Gla	able 10.6-1. Gladstone Fire Department Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description	
Gladstone Fire Local Com	nmunities a	t Risk	r			1		r	-			•		
Parkway Woods	High	x	x		x					x		x	Parkway and Windfeild court are adjacent to this natural wooded area. There is no access into the wooded area and it has very steep and difficult terrain to navigate. There is water on Oatfield and Parkway. The biggest issue is access and vegetation. This is a common are for the Parkway community and is choked with ladder fuels and invasive. this is a high priority for fuels reduction. A city councilor lives here and could be a champion for a community clean up event.	
Billy Goat Island	High	x	x	x	x		x	x	x				This island is a popular place for recreators and transients. A wildfire occurred here in 1995, and response efforts were extremely challenging because access is very poor. There is a transient camp that has cause problems in the past, so Gladstone Fire has been working with the Gladstone Police Department and ODOT to remove it. There is a great deal of heavy vegetation adjacent to homes in this area, making it a priority for fuels reduction. A fire break is needed as well as a fire lane. There is a very expensive home with a very long driveway in this area as well that of cause for concern.	
Dahl Beach	High	x	x	x	x		x		x				This is a very popular area for recreators and transients, Many people using Dahl Beach will make campfires which serve as potential ignition sources. There have been fires here in the past and access was extremely difficult.	
Risley Wetlands	Medium	x	x	x	x			X		x			Access is poor throughout this community. There also is no access into the natural wooded area which is adjacent to a subdivision, and is likely where a fire would begin. The homes here are very close to the vegetation from the wooded area.	
Meldrum Bar Park	Low		x	x			X		x				Meldrum Bar Park has no residences, but is a heavily populated during the summer months. This would be a priority for fuels reduction and community education.	

Table 10.6-2. Gladstone Fire Depart	ment Acti	on Plan	
Action Item	Timeframe	Partners	CAR
Gladstone Fire Action Plan			
Work with ODF and the USFS and other partners to identify opportunities to train staff in S-130 and S-190.	Ongoing	USFS, ODF, Fire Defense Board	Gladstone Fire
Schedule periodic meetings with local building officials, land use planners and fire marshals to build relationships and encourage cooperation.	Ongoing	Building Officials, Land Use Planners, Fire Marshals	Gladstone Fire
Invigorate the Dept's Outreach and Education Program by partnering with ODF to incorporate wildfire prevention into current outreach programs including local school programs.	1 Year	Fire Co-op	Gladstone Fire
Gladstone Fire Local Communities at Risk Action Plar	ו		
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability. Solicit feedback on wildfire prevention projects the community would support.	2 Years	ODF	Parkway Woods
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	2 Years	Fire Co-op	All CAR's
Post signage that explain fire restrictions in natural areas.	1 Year	County Parks	Meldrum Bar, Billy Goat Island, Dahl Beach



10.7. Community at Risk: Hoodland Fire District #74

Hoodland Rural Fire Protection District #74 (Hoodland Fire) has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Hoodland Fire District Description

Hoodland Fire covers 45 square miles of rugged foothills southwest of Mt Hood, along Highway 26, between Sandy and Government Camp, in historic East Clackamas County. Hoodland Fire protects the rural communities of Marmot, Cherryville, Brightwood, Wemme, Welches, Zig Zag, Rhododendron and Government Camp from three fire stations. This rural area depends on a staff of 10 career and 30-40 volunteer firefighters that are dedicated to respond and provide quality fire and life safety protection to the community. In 2010, Hoodland Fire responded to 700 emergency calls for assistance from our 6,000 permanent and 15,000 seasonal residents.

Wildland Urban Interface

This area is an excellent example of the Wildland Urban Interface because it is characterized by steep slopes with residential homes surrounded by heavy fuels. In addition, the Mount Hood National Forest surrounds many of the communities as well as industrial timber management operations, and some Bureau of Land Management land. Many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Heavy and continuous fuels dominate this area, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Hoodland corridor.

Tourism and recreation are also major influences here, with thousands of Portland area residents travelling along Highway 26 to access the Mount Hood National Forest. Campers, hikers, hunters and other visitors to this area can potentially start wildfires that could carry from Forest service land to the residential communities. Industrial and Federal forest operations are also potential ignition sources.

Hoodland Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Hoodland Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Hoodland area and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Hoodland Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials and community preparedness in the WUI. Hoodland Fire participates in land use reviews for new development to provide input on access and water supply. The Clackamas County Planning Dept. uses a WUI checklist developed in 2005 to ensure that Fire Marshals are contacted when potential issues may arise for new development. In areas zoned Forest/Agriculture, the County's

Zoning Development Ordinance (ZDO) has guidelines for fire-resistant building materials and defensible space and fuel breaks.

Emergency Response

Hoodland Fire professionals have experience in structural and wildland fire response tactics, with a large percentage of staff having spent years as wildland firefighters. Hoodland Fire works closely with the United States Forest Service and Oregon Department of Forestry and neighboring Sandy Fire District to prevent and provide quick response to fires in this area. Hoodland is a signatory to the Clackamas Fire Defense Board Mutual Aid Agreement, which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires. Although Hood River County is along the eastern border of Clackamas County, USFS land separates these two counties in this location. This has created a barrier to Hoodland Fire's ability to participate in the Hood River County Fire Defense Board Mutual Aid Agreement. This need has been identified and prioritized in the Hoodland Fire District Action Plan.

Community Outreach & Education

Hoodland Fire is dedicated to fire prevention, and uses a variety of forums to promote defensible space, fire-resistant building materials, and safe burning practices. The community of Government Camp has an Annual Community Clean Up event to create defensible for six years running. Hoodland Fire supports this effort by providing technical assistance to landowners in determining how and why to create defensible space. In addition, Hoodland Fire has provided an incentive to participate by paying for the chipping costs associated with the cleanup. The Fire District also attends Home Owners' Association meetings to discuss structural and wildland fire safety three to four times a year. The District also completed structural triage surveys at 375 homes in 2011 during the Dollar Lake Fire, which generated a great deal of interest and increased homeowners' awareness of the risk to their homes from heavy vegetation and poor access.

Local Communities at Risk (CAR's)

Hoodland Fire also recognizes that there are smaller-scale Communities at Risk or Strategic planning Areas that have unique wildfire hazards to be addressed at the more local level. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #14 and listed in Table 10.7-1. Hoodland Fire Professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Hoodland Fire will continue to facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Hoodland Fire (Map #14).

Fuels Reduction Priorities include:

Lolo Pass	Brightwood
Marmot	Government Camp
Barlow Trail	Cherryville/Alder Creek

Hoodland Fire District Action Plan

Hoodland Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Hoodland Fire and the local CARs therein is provided in Table 10.7-.2.

Table 10.7-1. Ho	Table 10.7-1. Hoodland Fire District Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description	
Hoodland Fire & Rescu	e Local Con	nmun	ities	at R	isk									
Government Camp/ Summit Meadows	High	x	x	x	x		x	x		x	x	x	The communities of Government Camp and Summit Meadows are particularly vulnerable to wildfires because they are located along a ridge top that has very steep slopes, poor access, and heavy fuels. These communities are located on Mount Hood along Highway 26 a heavily travelled road that provides access to forested areas used for recreation which increases potential ignition sources and fuels. The area is completely surrounded by USFS land, access is limited to 1-way in and out with narrow troads and no turnarounds. Due to its location, response times are greater than 10 minutes, and response efforts will prove difficult as the roads are steep, driveways are narrow and are not well marked, and there are no known alternative water sources for the ridgeline. The terrain also limits radio communication to VHF.	
USFS Summer Homes	High	x	x	x	x		x		x	x		x	The USFS Summer Homes are a unique community at risk as the USFS owns the land, but residents own the houses here. Because the USFS must be in compliance with State and Federal environmental protection laws, it is more difficult to reduce hazardous fuels here. In addition, many of the homeowners are absentee, so public education is challenging. The majority of roads in this are are narrow, not well- maintained and do not provide adequate turn arounds for emergency service vehicles. Hoodland Fire and ODF have completed address signage for the homes in this CAR.	
Rhododendron/Zig Zag/Woodland	High	x	x	x	x	x	x		x	x	x	x	Rhododendron is characterized by narrow roads, heavy fuels, and limited access. Public and private industrial forest land operations surrounding this community provide potential ignition sources. Water would need to be brought in to fight fire here. Address signage is needed. The Zig Zag and Woodland communities are surrounded by heavy fuels and have very poor access. There is no water available here and address signs are needed. However, the community has a great network for notifications during emergencies that could potentially be used for preparedness efforts.	
Lolo Pass	High	x	x	x	x	x	x		x	x	x	x	Lolo Pass is surrounded by heavy vegetation on both residential lands as well as forest service and private woodlands. The access here is limited to one way in and out, and water would need to be brought in to fight fire. Some homes in this CAR are second homes, making it more difficult to work with landowners.	
Marmot	High	x	x	x	x	x	x		x	x	x		The Marmont community is comprised of farms and ranches that have large BPA power lines overhead. These power lines serve as ignition sources when the heavy brush below become tinder in the summer months. Access is limited to one way in and one way out. This area is adjacent to the Bull Run Watershed, which provides drinking water for the City of Portland.	
Cherryville/Alder Creek	High	x	x	x	x		x	x	x	x		x	This Community has very steep terrain which limits access and communication. Hoodland Fire sometimes has to access the area by going into the Sandy Fire District. Land uses here include agriculture and timber operations and well as USF3 lands. This CAR is a community asset as well because it includes the water source for the City of Sandy.	
Welches/Wemme	Medium	x	x	x	x	x	x		x	x	x	x	The Welches/Wemme area has very poor access with only about 255 of homes having address signs. There is water here, but the roads are extremely narrow. Public and private industrial forest operations on lands adjacent to homes provide potential ignition sources.	
Barlow Trail (Timberline Rim Division 1-4)	Medium	x	x	x	x	x	x		x	x		x	Barlow Trail has very poor access, with many roads having only one way in and out. About 255 of homes have address signs, and some of these are incorrect. The community is adjacent to the Bull Run Watershed, which has heavy fuels. Escaped and/or illegal burns is a major issue in this CAR.	
Brightwood/ Sleepy Hollow (Timberline Rim Division 5)	Medium	x	x		x	x	x		x	x		x	This community is adjacent to USFS, industrial forest lands and the Bull Run Watershed. It has a good water supply and access is fair. Address signs are needed here.	
Summit Meadows	Medium	x	x	x	x		x	x	x	x			Summit Meadows is a recreational area with many wooden cabins that house people throughout the year. There is also a ski camp here. The area has extremely steep slopes and heavy fuels surrounding access roads and structures.	

Table 10.7-2. Hoodland Fire District Action Plan			
Action Item	Timeframe	Partners	CAR
Hoodland Fire Action Plan			
Develop a volunteer recruitment and retention program.	Ongoing	HART Teams	Hoodland Fire
Work with DPSST, USFS and ODF to participate in wildfire response			
efforts to keep fire certifications current.	Ongoing	DPSST, USFS and ODF	Hoodland Fire
Work with Hood River County Fire Defense Board to develop		Hood River County Fire	
mutual aid agreements.	2 Years	Defense Board	Hoodland Fire
Cultivate partnerships with Parkdale, Dee, Odell and Hood River	2 Years	Parkdale, Dee, Odell and	Hoodland Fire
County to encourage effective communication and coordination.		Hood River County	
Encourage USFS to extend fuels reduction treatments beyond the			
mountain bike track to the power lines.	4 Years	USFS	Hoodland Fire
Develop and distribute newsletter to educate community on			
defensible space, and measures that can be taken to reduce	Annually	HOA's, ODF	Hoodland Fire
structural ignitability.			
Work with Clackamas County Land Use Planning to encourage			
wildfire resistant building materials and home sprinkler systems	Ongoing	Clackamas DTD, WFPEC	Hoodland Fire
through incentive programs (e.g. reduced permit fees).			
Hoodland Fire Local Communities at Risk Action Plan			
Conduct a Community Meeting to educate the community and			Zig Zag Village
solicit feedback on wildfire prevention projects the community	Spring 2013	ODF, USFS	Zig Zag Village,
would support.			
Complete home addressing in all Communities at Risk.		ODF, Fire Co-op	All
Continue the annual community clean up event at Government	Ongoing	ODE LISES	All
Camp and encourage other Communities at Risk to participate.	Chigothig	001,0010	7.11
			Govt. Camp, Timberline
Work with USFS, ODOT and other land owners to extend vegetation	- ·	USFS, ODOT, Clackamas	Rim, Summer Homes,
treatments from defensible space to reduce fuels in common areas,	Ongoing	County, Private	Marmont Road, Salmon
right of ways, and other public and private land.		Landowners	River and Lolo Pass
		ODE Wildfing Tashaisal	Roads
defensible space around homes	Ongoing	ODF, Wildfire Technical	All
		Committee	
Continue to promote wildfire preparedness preparedness at Home	Ongoing		A11
Owners Association meetings in 3-4 Communities at Risk each year.	Ongoing	ODI	All
Continue structural triage assessment data collection for structural			
ignitability and defensible space. Itilize this information to target	Ongoing		A 11
areas for outreach and fuels reduction programs	Oligonig	ODI	All
Develop a community-driven pre-disaster plan including			
evacuation routes, telephone call down trees, and other strategies	Ongoing	HART Teams	All
for strengthening community response.			
Develop clear and effective signage for emergency response that	5 Years	ODF, Clackamas County,	
includes alternative routes.	5 16015	ODOT	
Inventory existing water resources and identify alternative water			
sources to support potential wildfire fighting efforts. Provide	3 Years	ODF, USFS	All
signage for these sources.			



10.8. Community at Risk: Lake Oswego Fire Department

The Lake Oswego Fire Department has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The Department has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Lake Oswego Fire Department Description

The Lake Oswego Fire Department provides emergency response to nearly 50,000 citizens within the City of Lake Oswego and three adjoining contract districts (Lake Grove Rural Fire District, Riverdale/Dunthorpe Fire District, and Alto Park Water District).

Four fire stations are strategically located throughout Lake Oswego to provide rapid emergency service to citizens in need 24 hours a day. Emergency services include fire suppression, emergency medical response, hospital ambulance transportation, water & dive rescue, technical rescue operations, hazardous materials incidents, and disaster response.

Along with protecting citizens within the city and contract districts, the Lake Oswego Fire Department has mutual aid agreements with the Portland Fire and Life Safety Bureau, Tualatin Valley Fire & Rescue and is a signatory to the Clackamas Fire Defense Board.

Wildland Urban Interface (WUI)

Growth and development in forested areas is popular within the City of Lake Oswego. Wildfire has an effect on development, yet development can also influence wildfire. Owners often prefer homes that are private, have scenic views, are nestled in vegetation, and use natural materials. A private setting may be distant from public roads, or hidden behind a narrow, curving driveway. These conditions however, make evacuation and firefighting difficult. The scenic views found along Iron Mountain Bluff, Palisades, Mountain Park and around the lakes rim can also mean areas of dangerous topography. Natural vegetation contributes to scenic beauty, but it may also provide a ready trail of fuel leading a fire directly to the combustible fuels of the home itself.

The forested hills surrounding Lake Oswego are considered to be interface areas. The interface neighborhoods are characterized by a diverse mixture of varying housing structures, development patterns, ornamental and natural vegetation, and natural fuels.

Lake Oswego Fire Department Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted the Lake Oswego Fire Department in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Lake Oswego Fire Department and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

The Lake Oswego Fire Department promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. Lake Oswego Fire works well with other City of Lake Oswego Departments to integrate these concepts at the regulatory level

by participating in land use reviews for new development to provide input on access and water supply. When they are deficient in access or water the Fire Marshal's Office can offer alternative measure such as residential sprinklers. Lake Oswego Fire also approves all occupancy permits to ensure that recommendations regarding access and water supply are implemented.

However, the wildfire hazard remains high in many residential developments. Some conditions exiting in these areas include large houses on small lots, cedar shake roofing, open wooden decks adjacent to heavy fuels, and homes built on steep slopes with wooden stilts as support.

One of the most problematic issues is highly flammable cedar shake roofing. Roofs are the most vulnerable part of the home, as the majority of homes lost to wildland fires are ignited from embers landing on roofs and gutters. Despite this threat, some Home Owners Associations (HOA's) in Lake Oswego still require cedar shake roofs. Lake Oswego Fire would like to reduce the structural ignitability of roofs by educating these HOA's about the risks associated with cedar shake and the viable, attractive alternatives. Lake Oswego Fire would also like to work with the City of Lake Oswego Building Department and Oregon Department of Forestry to adopt a Wildland Urban Interface area which would disallow cedar shake roofs in areas particularly vulnerable to wildfire.

Road access is a major issue for all emergency service providers. Firefighters are particularly challenged by narrow roads, with limited access because the fire trucks are large, and the equipment needed to fight fires is located on the trucks. When there is doubt concerning the stability of residential accesses, or adequate turn around space, the fire fighters can only work to remove the occupants, but saving the structure is difficult. Many of the Communities At Risk (CAR's)to wildfire in Lake Oswego exhibit a combination of these issues that limit access.

Although the City of Lake Oswego has comparatively a good water system, additional hydrants could be installed in the Iron Mt. Bluff area and in other communities at risk to assist with fire suppression efforts should they be needed. This and the other issues listed here are addressed in the Lake Oswego Fire Department Action Plan.

Emergency Response

Lake Oswego Fire Professionals are trained for wildland fires with an annual training regime that supports the S-130 and S-190 with a goal of training staff to S-290. Certification through DPSST is voluntary.

Lake Oswego Fire officials are most concerned with potential wildfires igniting in late summer during and east wind event. A major wildland urban interface fire in Lake Oswego would quickly exceed the resources and capabilities of the Department. For this reason, LO Fire has Mutual Aid agreements in place which allow for the sharing of resources across the county in the event of a large scale disaster including wildfires. Due to its location, Tualatin Valley Fire and Rescue or Portland Fire and Rescue in neighboring Washington and Multnomah Counties would likely be the first to provide mutual aid during an event.

Community Outreach & Education

Lake Oswego Fire is dedicated to fire prevention, and uses a variety of forums to promote residential fire safety, defensible space, and emergency preparedness. Lake Oswego developed an

educational hand-out focusing on defensible space and distributed this and other Firewise materials through mass mailings. Lake Oswego Fire has been focused on fire alarms and sprinklers in new construction and emergency preparedness. Fire professionals are invited to speak and provide training in emergency preparedness at Home Owners Association meetings on a regular basis.

Local Communities at Risk (CAR's)

The Lake Oswego Fire Department also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #15 and listed in Table 10.8-1. Lake Oswego professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Lake Oswego has a very restrictive tree ordinance designed to retain urban canopy for environmental and aesthetic benefits. Currently, homeowners can trim trees and can treat ladder fuels, but cannot cut any trees that are 5 inches or great in diameter. Lake Oswego Fire has worked with the City to consider expanding these provisions for the creation of defensible space on residential properties as well as the natural areas managed by the City adjacent to CAR's. For example, in 2003 a fuels reduction demonstration project was implemented in Cooks Butte Park and the adjacent community. The Spring Brook Park HOA has also been successful in creating defensible space around homes.

Since that time, the City has acquired many more natural areas, but very little has been done to mitigate wildfire hazards in these areas. Lake Oswego Fire recognizes the need to work with the City Planning Department in amending the Tree Ordinance to balance the benefits of urban canopy with the risk to life and property from wildfires. To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Lake Oswego Fire (Map #15).

Fuels Reduction Priorities include:

Iron Mountain Bluff Spring Brook Park Waluga Park Cooks Butte Park Tryon Creek

Lake Oswego Fire Department Action Plan

Lake Oswego Fire has developed a list of actions to build capacity at the Department scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Lake Oswego Fire and the local CARs therein is provided in Table 10.8-2.

Table 10.8-1. Lal	able 10.8-1. Lake Oswego Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description	
Lake Oswego Fire Local Communities at Risk														
Iron Mountain Bluff	High	x	x	x	×		x	x		x	x	x	The residential area at the top of a Iron Mountain bluff is at risk to wildfire because it there is heavy vegetation and steep slopes which will drive a fire toward the homes. There are a few one way in and out roads in the neighborhood, while, the only roads that would be used for firefighting are one way in and out. The homes need defensible space, and the adjacent city-owned park would benefit from fuels reduction as would the piece that is owned by the Hunt Club . There is a good hydrant system up top and Iron Mtn Blvd. An above ground water main and wildland detectors have been discussed in the past, but no progress has been made toward these efforts. The adjacent parks lands, have had a few ignitions here but LO's effective initial attack has halted major damage here. Protection capabilities are compromised because it is quite a hike and it is steep for response. LO has done a lot of outreach and some residents have expressed interest in reducing wildfire hazards. There has not been a community meeting, but individuals have been concerned about parking and limiting access. Communications by radio is good, but cell phones are spotty.	
Palisades	High	x								x		x	The homes in this community are close together, are surrounded by heavy vegetation and are on very steep slopes. There is good access, good water and good communications. A focus here is on preparedness and education because this HOA still requires Cedar Shake roofs.	
Cooks Butte	High	x	x	x	x		x	x		x	x	x	This is the most remote park in LO. It is steep, has poor access on a couple roads, and if a fire were to start here, there is no early notification so response times could be an issue. The community is on the periphery of the Park. Recreators light campfires in the park so it has previously been closed during fire season, but now they just post no burning and let people in during fire season so that there are eyes on the ground. The area has southern exposure, steep slopes and heavy fuels so the park would benefit from FR but not as high a priority as Iron Mountain. There are 2 water reservoirs in the park, and there is a hydrant but it has no pressure. A demonstration project was done here to remove fuels. There are drier flashy fuels on the periphery with a mature forest in the center. The lighter fuels are in interface. There is also a big grass field that the Parks Dept. mows. The residents adjacent to Cooks Butte are not very prepared and people have a perception that it isn't going to burn. Shared fire protection with TVFR.	
Mountain Park	High	x	x		x		x	x		x		x	The homes in this community are close together, are surrounded by heavy vegetation and are on very steep slopes, ranging from 100 ft to 1000 ft. There are some green belt trails that would provide some limited access for firefighting. A few years ago, the City cleared some of these trails for brush truck access. Priorities for this community are preparedness and defensible space.	
Tryon Creek State Park	Medium	x	x	x	x		x			x		x	There is a residential area surrounding this State Park. The park has an older stand of mature trees, but defensible space around homes is needed. Access and water are limited here and it is visited by many recreators, which presents some outreach opportunities. Transients also use this park. Lake Oswego Fire shares protection with Portland Fire and they review response strategies annually.	
Spring Brook Park	Medium	x	x		x		x			x			This community was targeted for a community meeting because LO and Parks thinned the parks property adjacent to the community. Some training on emergency preparedness was done here. Defensible space around the homes is needed. There are lots of trails in the park that could be used for firefighting, but LO doesn't have a lot of equipment for that type of response. Roads aren't bad in this area, slope is gentle and protection capabilities are good. There is a junior high very close which could serve as a staging area.	
Waluga Park	Medium	x	x	x	x					x		x	There is a residential community adjacent to this city park, which has heavy vegetation and some slope steep slopes near the top. The area is characterized by flashy fuels and ladder fuels leading to heavier fuels.	

Table 10.8-2. Lake Oswego Action F	Plan		
Action Item	Timeframe	Partners	CAR
Lake Oswego Fire Action Plan			
Work with City of Lake Oswego to allow exemptions under the Tree Ordinance for creation of defensible space around homes as well as fuels reduction into parks adjacent to Communities at Risk.	Short-Term	City of Lake Oswego, ODF	Lake Oswego Fire
Work with the City of Lake Oswego Building Department to adopt a WUI area in which cedar shake roofing is disallowed.	Short-Term	City of Lake Oswego, ODF	Lake Oswego Fire
Continue annual wildland fire training for Lake Oswego Fire professionals.	Ongoing	ODF	Lake Oswego Fire
Lake Oswego Fire Local Communities at Risk Action F	Plan		
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability. Solicit feedback on wildfire prevention projects the community would support.	Ongoing	ODF, Lake Oswego Parks	All CAR's
Work with Lake Oswego Parks to reduce hazardous fuels in City Parks adjacent to Communities at Risk.	Ongoing	Lake Oswego parks, ODF	Iron Mtn. Bluff, Cooks Butte, Spring Brook Park, Waluga Park, Mountain Park
Distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	City of Lake Oswego	All CAR's
Obtain structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in strategic planning areas.	Ongoing	ODF	All CAR's
Develop a community-driven pre-disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All CAR's
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	All CAR's
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All CAR's



10.9. Community at Risk: Molalla Rural Fire Protection District #73

The Molalla Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Molalla Fire District Description

Molalla Rural Fire Protection District #73 (MRFPD #73) is an Oregon special service district that provides fire suppression, prevention, investigation, public education, rescue, and ambulance transport services. (MRFPD #73) is approximately 101 square miles with an ambulance service area (ASA) of 350 square miles covering a portion of the neighboring fire agencies and wilderness.

The District operates from three stations: Station 82, the headquarter station in the city of Molalla; Station 81, four miles to the north on Highway 213 near the small community of Mulino; and Station 85, five miles south on Sawtell Road.

Wildland Urban Interface (WUI)

Molalla's Fire District is a rural area on the eastern edge of Clackamas County adjacent to large tracts of federal, state and private forests. The terrain is steep, causing access and communication limitations. The Molalla River Corridor attracts thousands of visitors every year. Campers, hikers, anglers, ATV users, hunters and other visitors to this area can potentially start wildfires that could carry from public land to the residential communities.

This area is characterized by rural residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have only one way in and one way out with narrow, steep driveways and poor address signage. Heavy and continuous fuels dominate this area, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Molalla Fire District.

The Bureau of Land Management, private industrial landowners and small woodland owners have many heavily forested landholdings that are adjacent to homes in the Wildland Urban Interface. As Molalla Fire targets the residential communities for creating defensible space, there is an opportunity to engage private, state and federal partners in reducing fuels on this adjacent public land. This has been identified as an action item.

Molalla Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Molalla Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Molalla Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Molalla Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. Molalla Fire works with the City of Molalla and Clackamas County to integrate these concepts at the regulatory level by providing input on access and water requirements for new development.

The City of Molalla contracts with Clackamas County for land use planning and building permit services. This presents some difficulties for the Fire District because the County does not always contact the District for input on fire flow and access for new lots of record. Molalla Fire also does not have access to the County's Velocity Hall System which catalogues pending and approved building permits. The need for enhanced communication between Clackamas County and Molalla Fire has been noted in the Molalla Fire CWPP Action Plan.

Emergency Response

Emergency response is challenging in the Molalla Fire District because staff are almost entirely volunteer (36), with only 11 paid staff. A major wildland urban interface fire in Molalla would quickly exceed the resources and capabilities of the District. For this reason, Molalla Fire has mutual aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires.

Although the District is able to support annual wildland fire training (S-130 and S-190), it would like to offer S-215 and S-290 to senior staff. Also, the lack of live fire experience makes it difficult to retain wildland qualifications. Molalla Fire is working directly with NAFT, USFS and ODF and other land managers to identify and take advantage of opportunities to participate in live fires.

Because Molalla Fire has does not have a hydrant system that extends to rural areas, it is important to begin identifying and improving potential water sites. This is especially important for homes that have long narrow driveways that will not support water tenders. ODF has been working with Molalla Fire to improve address signage in the many of the most vulnerable areas and potential water sites could be added to these signs.

In the event of a large wildland fire, evacuations may be necessary. This rural area presents some difficulties due to the large number of one way in and one way out roads with poor addressing. Molalla Fire has been working with ODF to improve address signage in vulnerable areas, and will continue to work with the Clackamas County Fire Co-op to implement address signage in the Communities at Risk. There have also been changes to the road system that are not currently reflected in County maps such as Boyles and Iromer Roads. More coordination and outreach is also needed to ensure that evacuation procedures are developed and understood.

Burning of yard waste and debris is challenging in the Molalla Fire District because backyard burning is allowed in all areas. Molalla Fire tries to be consistent with neighboring jurisdictions' Backyard Burning programs but does not have staff or resources to strictly regulate burning in Molalla. The District is also home to many Christmas tree operations that have authority to burn an incredible amount of material all year long regardless of fire severity or air quality restrictions. Molalla Fire would like to work with ODF to develop a better strategy for dealing with Christmas tree waste such as a chipper cooperative.

Community Outreach & Education

Molalla Fire is dedicated to fire prevention, but has limited staff and capacity for a wildland fire outreach program. Molalla Fire is a member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety fairs with car

seat inspections, community and school programs, and fire safety house displays. Molalla Fire would like to increase capacity in its outreach program for fire prevention and for recruiting potential volunteers.

Local Communities at Risk (CAR's)

Molalla Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map#16 and listed in Table 10.9-1. Molalla Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Molalla Fire will facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Molalla Fire (Map# 16).

Fuels Reduction Priorities include:

Sawtell Road Blue Road Salo Oaks

Molalla Fire District Action Plan

Molalla Fire has developed a list of actions to build capacity at the District scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Molalla Fire and the local CARs therein is provided in Table 10.9-2.

Table 10.9-1. Mo	able 10.9-1. Molalla Fire District Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description	
Molalla Fire Communit	ies at Risk				-									
Rosewood	High	x	x	x	x		x	x	x	x	x	x	The Rosewood Community is densely populated with homes located at the top of a very steep, vegetated slope. There are major access limitations here, as Colmer Creek does is no longer a through road. There is a lot of poison oak on private lands as well as the adjacent heavily forested BLM land. Many local residents use ATV's here and there have been instances of teenagers starting fires. There are also homemade saunas that tend to burn down. Residents of this community burn yard debris all year long,	
Alder Creek	High	x	x	x	x	x		x	x	x	x	x	The Alder Creek Community is on a steep, very narrow dirt road. There are water limitations here and the landscape is heavily forested. Burning is an issue here and the community is not aware of the high wildfire hazards.	
Sawtell Trout creek/Lebo/Novak/ Hardy. Maplegrove Road	High	x	x	x	x	x	x	x	x	x	x	x	This is a large community in eastern Molalla that extends beyond the Molalla RFPD boundary, so some homes are actually unprotected. Access is limited throughout this area, as Hardy, Leabo, Hibbard,Appleman and Maple Grove Road are one way in and out. Steiner's Pond is a draft site and Deardorf has a huge lake that could be used as a watering site. Trout Creek and Hardy Roads have interrupted radio coverage. ATV users, transients, and other recreators accessing the Molalla River Corridor are potential ignition sources. Also, it takes 30 minutes to get to the end of it, so protection capabilities are compromised.	
Dickey Prairie Road	High	x	x	x	x	x	x	x	x	x	x	x	The Dickey Prairie area is characterized by dense homes, heavy timber, and limited access and water supply. The forest road between Adams road and Dickey Prairie is in very poor condition, The City's Water Works Plant intake is also located here. Weyerhaeuser industrial first land is adjacent to Dickey Prairie.	
Molalla Heights	High	x	x	x	x	x		x	x	x	x	x	The Molalla Heights Community has limited access and the closest water draft site is at the bridge which is difficult to get to. Homes are in need of defensible space. The rock pit here is very active which provides potential ignition sources.	
Fernwood Road/Ramsby/ Munson/Callahan	Medium	x	x	x		x	x	x	x	x	x	x	The Fernwood Area is a steep canyon that drives fire up the steep slope towards homes. There was a fire here about 10 years ago that did just this and was very difficult to fight. There is heavy vegetation and limited access with tight windy driveways and lots of foliage overhanging. It is about 20 minutes from a fire station. Recreators and transients use this area frequently because it is near a forest road.	
Blue Road	Medium	x	x	x	x	x		x	x	x	x	x	Blue Road has very limited access and heavy vegetation. There are only a few homes here, but that are overgrown and are adjacent to private and public forest land. Water is an issue here and it would require a longer response time.	
Big Rock Loop	Medium	x	x		x	x	x	x	x	x	x	x	Big Rock Loop is vulnerable because there is heavy vegetation and no defensible space around homes. There is a potential water source, but accessing the water source is an issue. Many recreators use this area for ATV's , shooting, campfires and other activities that could provide an ignition source. It is also adjacent to steep BLM forest land.	
Salo Royal Oaks	Medium	х	х	х		x		x	x	x	x	х	Salo Royal Oaks has steep, narrow access with very little defensible space around homes. There is poison oak here as well, and no water supply.	

Table 10.9-2. Molalla Fire District Action Plan												
Action Item	Timeframe	Partners	CAR									
Molalla Fire Action Plan												
Secure funding to develop a marketing campaign that utilizes social media outlets to build support and capacity for the Molalla Fire District (volunteer recruitment, community support, fund raising).	Completed	Fire Co-op	Molalla Fire District									
Conduct yearly large scale wildfire exercise.	Ongoing	OSFM,ODF,DPSST	Molalla Fire District									
Pursue grant funding to purchase Wildland PPE to replace outdated PPE.	Completed	FDB, ODF	Molalla Fire District									
Identify and pursue opportunities to provide Incident Management Training for firefighters that will be Incident Commanders on larger scale emergencies.	Ongoing	FDB, CCEM, NAFT	Molalla Fire District									
Identify and pursue opportunities to participate in prescribed burns and live fire training to update and maintain wildfire certifications.	Ongoing	ODF, BLM	Molalla Fire District									
Partner with the Clackamas County Fire Defense Board to participate in a WUI conflagration exercise.	Ongoing	Clackamas Fire Defense Board	Molalla Fire District									
Develop rural water supplies and in areas that do not have hydrants and are difficult to access.	Ongoing	ODF	Molalla Fire District									
Work with local Christmas Tree growers to develop and implement a chipper program to reduce excessive burning of woody material.	Ongoing	ODF, CCFA	Molalla Fire District									
Molalla Fire Local Communities at Risk Action Plan												
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's									
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All CAR's									
Obtain structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in Communities at Risk.	Ongoing	ODF	All CAR's									
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	All CAR's									
Work with industrial and public forest land holders to reduce fuels on private and federal land adjacent to CAR's.	Ongoing	ODF, BLM, Weyerhaeuser, Port Blakely	All CAR's									



10.10. Community at Risk: Monitor Rural Fire Protection District #58

The Monitor Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Monitor Fire District Description

The Monitor Fire District is a very rural, primarily agricultural area. The District is completely volunteer, so response times are dependent on the availability of volunteers (many of whom are not available during the work day). The community is very supportive of the Fire District, as demonstrated by the five-year Local Option Levy that recently purchased two new engines. The District also has two retired forest service vehicles that are used as brush trucks. Monitor Fire averages about 200 calls a year and operates from two stations on Kropff Road and Woodburn Monitor Road.

Wildland Urban Interface (WUI)

Monitor's Fire District is an agricultural area in southern Clackamas County. It is a relatively flat area, with good access and radio coverage. There is not much of a wildland urban interface in Monitor, because the majority of heavy fuels occurring along the rivers and streams and there are very few homes located in these areas. The homes that are near wooded riparian areas and wetlands have typically have defensible space around them. The primary threat of wildland fire ignition would be from an escaped agricultural burn.

Clackamas County developed a Wildland Urban Interface Map based on housing density and fuel types. Although there is not a great deal of localized wildfire hazard in Monitor, there are some areas that met the criteria for being including in the Countywide Wildand Urban Interface as illustrated by Map #25 Monitor Fire District Wildland Urban Interface.

Monitor Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Monitor Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 of the Clackamas CWPP illustrates the overall wildfire hazard risk in the Monitor Fire District and can be used to help target areas for wildfire prevention activities.

Structural Ignitability

Monitor Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness. However, with very limited staffing, there is very little communication with the Clackamas Department of Transportation and Development, which provides land use planning and building services in this area. Because protection capabilities are so limited here, Monitor Fire promotes home sprinkler systems, especially in homes that are greater than 3,600 square feet in area. Monitor Fire does not participate in land use reviews, and currently works with individual homeowner or contractors during development to ensure adequate access and fire flow. The District does not receive monthly notifications of new building permits and has not been trained on velocity hall. This has been noted in the Monitor Fire CWPP Action Plan.

Emergency Response

Emergency response is challenging in the Monitor Fire District because staff is entirely volunteer and ranges from 18 to 20 firefighters, depending on turnover. A major wildland urban interface fire in Monitor would quickly exceed the resources and capabilities of the District. For this reason, Monitor Fire has mutual aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires.

Monitor Fire has an excellent training program for a volunteer Fire District, and the majority of volunteers are DPSST certified as Wildand Urban Interface Firefighters. Turnover is always an issue, so training new volunteers can be challenging. Monitor Fire would like to strengthen its relationship with the ODF by attending training (S-130, S-190) to assist in maintaining wildfire qualifications. The District is also in need of new wildland Personal Protective Equipment including Nomex pants, shirts and new generation live fire shelters.

Although there is a great deal of agricultural burning in this area, the majority of farmers are wellversed in safe burning practices. Access is good throughout the District, with very few single access roads. Radio and cell phone communication is also good. Each vehicle is now equipped with an 800 MHz and a VHF radio. As the County moves toward narrow banding and higher frequencies, overall the coverage and quality of communication in rural areas such as Monitor capabilities are diminished and in more repeaters may be needed.

Community Outreach & Education

Monitor Fire is dedicated to fire prevention, but has limited staff and capacity for a fire prevention program. The District incorporates fire prevention messaging into all outreach programs including fire station open house, pancake breakfasts and national night out. Monitor Fire would like to increase capacity in its outreach program for fire prevention and for recruiting potential volunteers.

Local Communities at Risk (Strategic Planning Areas)

Monitor Fire has not identified any Communities at Risk to wildfire. Elliot Prairie is the only concentration of homes, but fuels here do not constitute a high wildfire risk (Map #17).

Fuels Reduction

A core focus of the Clackamas County Community Wildfire Protection Plan (CCWPP) reducing hazardous fuels around homes, along transportation corridors and in surrounding forested lands can significantly minimize losses to life, property, and natural resources from wildfire. Heavy Fuels in the Monitor Fire District are concentrated along wetland and riparian areas, but there are very few homes or infrastructure at risk. There have been no areas identified as potential fuels reduction project sites.

Monitor Fire District Action Plan

Monitor Fire has developed a list of actions to build capacity for potential wildland fires at the District scale. The action plan for Monitor Fire is provided in Table 10.10-1.

Table 10.10-1. Monitor Fire District	strict Action Plan Timeframe Partners CAR re input ely Ongoing SFMO, Clackamas DTD Monitor Fire Distr ng (S- Ongoing ODF Monitor Fire Distr											
Action Item	Timeframe	Partners	CAR									
Monitor Fire Action Plan												
Work more closely with Clackamas County DTD to ensure input on access and water is requested and received in a timely manner, including access to the velocity hall system.	Ongoing	SFMO, Clackamas DTD	Monitor Fire District									
Partner with ODF to receive wildland fire training training (S- 130, S-190)for maintaining wildfire qualifications.	Ongoing	ODF	Monitor Fire District									
Continue to improve address signage throughout the District.	Ongoing	ODF,Fire Co-op	Monitor Fire District									
Partner with ODF and the Clackamas County Fire Cooperative to increase capacity in the fire prevention and outreach program.	Ongoing	Fire Co-op	Monitor Fire District									



10.11. Community at Risk: Sandy Rural Fire Protection District #72

The Sandy Fire District (District) has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Sandy Fire District Description

Sandy is a scenic community with beautiful mountain views, the Sandy and Bull Run Rivers, and is home to a major portion of the historic Barlow Road of the Oregon Trail. Residents enjoy a mild climate, clean air, good water and advantages of living in a small town while living only 45 minutes from downtown Portland. The community is largely built in the Wildland Urban Interface (WUI).

Sandy's heritage is logging and sawmilling. There are several nurseries and berry farms with millions of dollars of assets and inventory, and many jobs. There are several light industries including construction and steel work, plastic injection molding, auto sales and service, and fuel facilities. The Oregon Trail School District operates seven facilities within the fire district that are major assets for the community as well as being, perhaps, the largest single employer in the area.

Sandy Fire District #72 protects a 77 square mile district with a population of approximately 22,000 including the City of Sandy, which is just over 3 square miles and a population of approximately 10,500. In 2016, Sandy Fire District responded to almost 2,300 alarms. The District serves the community with 11 career personnel and 50 volunteers. The District is a rural fire protection district governed by an elected board of directors and is well supported by its patrons.

Sandy is adjacent to federal, state, and local recreational lands. The rivers in the area are well known for their fishing and rafting, and the surrounding forest lands offer a variety of recreational possibilities.

The Bull Run Watershed is accessed through the fire district. Sandy Fire provides mutual aid to the City of Portland as first-in responders into the Bull Run. US Highway 26 bisects the district and is a major transportation route between the Portland area and central/eastern Oregon. 35,300 vehicles travel through Sandy each day.

Wildland Urban Interface (WUI)

The topography of the Sandy Fire District, like most areas in Oregon, is quite diverse. The southern and eastern borders of the District are mostly forested land and the southwest border is the Deep Creek canyon. The Sandy River canyon, which is quite steep and picturesque, dissects the center of the District, and creates an access problem for the Northern area of the District as well as an interface problem with the steep southern bluffs bordering city residential areas. These canyons are forested and have homes built sporadically throughout. This combination of homes, steep grades and trees pose a significant wildland interface problem. This topography also impacts communication systems because of slopes that can block radio and cellular telephone signals.

The remainder of the District ranges from gentle hills to relatively flat areas. These areas consist of a combination of farms, homes and businesses. The nursery business is a major part of local agriculture. There is also a variety of forest lands and natural areas; from thick stands of second

growth timber to open grass lands. In addition, public and private management of the surrounding timber lands creates a patchwork of various stages of growth which includes dealing with clean-up of slash of logged timber land and re-seeding projects.

Tourism and recreation are also huge influences here, with thousands of Portland area residents travelling along Highway 26 to access the Mount Hood National Forest. Campers, hikers, hunters and other visitors to this area can potentially start wildfires that could carry from public land to the residential communities.

Sandy Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Sandy Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Sandy Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Sandy Fire promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. Sandy Fire works well with the City of Sandy and Clackamas County to integrate these concepts at the regulatory level. Also, Sandy Fire participates in land use reviews for new development to provide input on access and water supply.

Since the adoption of the county-wide driveway standard, private driveways are being installed that are designed to allow fire engine access. There are several pre-existing private driveways that pose access difficulties. These difficulties include inadequate turning radiuses, steep grades, inadequate vegetation clearance, inadequately designed bridges and driveways that will not withstand the weight of a fire engine, especially during the wet season. In most of these cases response times are increased.

Approximately 6% of the District is served by municipal water systems. There are 8 water districts serving the District. The major district is the City of Sandy. The City of Sandy also has an agreement with the Portland Water Bureau to provide water via the Hudson/Bluff inter-tie. Other smaller districts include Skyview Acres Water District, Pleasant Home Water District, and Latigo Hills Water District. The remaining water districts serve primarily rural residential communities and for the most part are inadequate for providing fire flow. The remaining 94% of the District uses well water for domestic use. Fire District water tenders provide fire flow for these areas. The water tenders also augment fire flow in hydrated areas if fire flow is inadequate.

Fire flows in the City of Sandy have improved tremendously over the past decade. The City has added another water reservoir, for a total storage capacity of 4.75 million gallons, and has added larger distribution mains to increase available fire flow for much of the City. Its water sources are capable of producing in excess of 3 million gallons per day. The City has also identified how the system will grow with new development.

The District has developed strategically located static water sources (ponds and cisterns) in rural areas of the District to assist in fire flow requirements. These drafting locations are documented in fire apparatus in a book with a description and photos of the site.

For the most part, the transportation system in the District is adequate. There are few problems that can be directed towards transportation inadequacy, though congestion on Hwy 26 through downtown Sandy is becoming an ever-increasing problem at certain times of the day and days of the week. Hwy 26 is a corridor for recreational activities on Mt. Hood and in Central Oregon. Funding for maintenance and improvements has shown to be inadequate for the past few years and will continue to be inadequate if sources of funding are not addressed Clackamas County has undertaken a project called "Concurrency" to further address these issues. Should this trend continue, congestion or the quality of some roads might be an obstacle to emergency response times.

Emergency Response

Sandy Fire members are well-trained for wildland fires with an annual training regime that supports task forces and strike teams which are called upon to respond to local wildfires as well as conflagrations. Staffing for bigger incidents can be challenging and we must rely on neighboring agencies for assistance through both Mutual and Automatic Aid agreements. The population is dispersed, which can result in increased response times to outer reaches of the District.

The District has one dedicated Type V brush engine and is considering adding an additional Type VI brush unit in FY2018/19.

In the event of a large wildland fire, evacuations may be necessary. These rural areas present some difficulties due to the number of residential properties that can only be accessed by one way in and one way out roads. Also, there are many private bridges in the area that may not be able to support emergency service vehicles.

Burning of yard waste and debris is challenging in the Sandy Fire District because burning is allowed in all areas. Sandy Fire adheres to the Open Burn Policy adopted by the Clackamas County Fire Defense Board and tries to be consistent with neighboring jurisdictions in regulating the Backyard Burning program.

Community Outreach & Education

Sandy Fire is dedicated to fire prevention, and uses a variety of forums to promote residential fire safety, defensible space, and safe burning practices. The community is very supportive of the Fire District and participates in activities throughout the year, some of which include smoke detector, fire prevention, car seat, and other programs.

Local Communities at Risk (CAR's)

Sandy Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #18 and listed in Table 10.11-1. Sandy Fire considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting

- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Sandy Fire will facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Sandy Fire (Map #18).

Fuels Reduction Priorities include:

Cedar Creek/Sandy Rim Bull Run Watershed Wildcat Mountain Sandy River Park Area

Sandy Fire District Action Plan

Sandy Fire has developed a list of actions to build capacity at the District scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Sandy Fire and the local CARs therein is provided in Table 10.11-2.

Table 10.11-1. Sa	andy	Fire	e Di	stri	ict	Loc	al Co	mm	uni	tie	s a	t Ri	sk
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Sandy Fire District Communities at Risk													
Wildcat Mountain	High	X	x	x	x	x	x	x	x	x		x	This community borders BLM, USFS, and industrial forestland on the southeast edge of the District. Access is very limited in many areas to only one way in and out. 800mHZ works in most of this area, however cellular service is poor. Many driveways are not marked and have challenging ingress for fire apparatus due to slope, surface conditions and tree spacing/overhang.
Cedar Creek/Sandy Rim	High	x	x	x	x	x	x	x		x	x	x	Cedar Creek runs in the bottom of the drainage along the north side of downtown Sandy. Homes are scattered throughout the Cedar Creek drainage area and in the areas along the rim at the top of the drainage (City of Sandy). Steep slope, difficult access and heavy fuel load combine to create wildland fire suppression challenges. This north aspect slope has a low history of fire escapement but under the right weather conditions would sustain fire. Heavy timber and understory further exacerbate the potential fire problem. Adjacent to this area is a primative City park which is largely overgrown second-growth timber. One poorly maintained road provides access from Marcy Street nearly to the Sandy River/Cedar Creek confluence. Transcients inhabit this area year-round and small warming fires are not uncommon in this area.
Firwood	High	x	x	x	x	x		x	x	x		x	This agricultural community is comprised of nurseries, berry farms and tree farms. The access is not bad, but the topography does present challenges in some areas. Generally, this community is not as steep as the other CARS. There is a great need for defensible space here. There is a 30,000 gallon tank at the Firwood fire station, and some ponds throughout the area that could potentially be used as helicopter dip spots, but water would probably need to be brought in by truck. Firwood is an all volunteer station so the main station would likely be first on scene. There is a lot of burning here, but very little problems resulting from it. Communications are good because nearby Linhart Butte Road is a C-800 transmitter site.
Bull Run Area	High	x	x	x	x	x	x	x	x	x		x	This watershed is a 102 square mile area owned by USFS but managed by the Portland Water Bureau. The watershed is bordered by Sandy Fire and Hoodland Fire in Clackamas County and Multnomah County Fire District No.14 (Corbett) in adjacent Multnomah County. This area is also identified as a CAR in the Multnomah County CWPP. The head works and other infrastructure is served by the Sandy Fire District via a direct mutual aid agreement with the City of Portland; Sandy fire is also the first responder on medical calls here. One of the issues here is protection capability because public access is prohibited so early detection is difficult, and once notified, it takes Sandy from 20-30 minutes to arrive. There was a fire here in 2009 and the 2011 Dollar Lake Fire on the Mt Hood National Forest also made it within 2 miles of the Bull Run. Camp Namanu and Camp Howard are private camps along the watershed border; Camp Howard was treated for Fuels in 2011. The evacuation route out of Namanu is overgrown and could use fire break as well as fuels reduction around the camp structures. Residences in this area have remote homes with poor or no defensible space, many on long, narrow gravel roads. The Bull Run watershed would benefit greatly from fuels reduction throughout the watershed to protect this valuable resource from catastrophic wildfire.

Table 10.11-2. Sandy Fire District Action Plan													
Action Item	Timeframe	Partners	CAR										
Sandy Fire Action Plan													
Inventory private bridges to determine whether or not they have had an engineer certification and encourage landowners to upgrade them to meet the 60,000 pound requirement for emergency service vehicles.	Long-Term	Clackamas County, CCEM	Sandy Fire District										
Develop a working relationship with natural land managers including Sandy Parks, USFS, and the BLM to address wildfire hazards and potential response capabilities for public lands adjacent to Communities at Risk	Short-Term	Sandy Parks, USFS, BLM	Sandy Fire District										
Work with Clackamas County Emergency Management and the Sherriff's Office to discuss evacuation planning especially in communities with only one way in and out.	Short-Term	CCSO, CCEM	Sandy Fire District										
Develop and implement a driveway program to ensure that driveways are wide enough with adequate clearance for emergency service vehicles.	Long-Term	CCEM, DTD	Sandy Fire District										
Sandy Fire Local Communities at Risk Action Plan													
Conduct a Community Meeting to educate community on defensible space, and measures that can be taken to reduce structural ignitability. Solicit feedback on wildfire prevention projects the community would support.	Ongoing	ODF	Wildcat Mtn/ Bull Run										
Develop a working relationship with natural land managers including Sandy Parks, USFS, BLM and the Portland Water Bureau to address wildfire hazards and potential response capabilities for public lands adjacent to Communities at Risk.	Short-Term	Sandy Parks, USFS, BLM	Cedar Creek/Sandy Rim, Wildcat Mtn, Bull Run										
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	Firwood, Cedar Creek, Wildcat Mtn.										
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All										
Develop a community-driven pre-disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All										
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All										



10.12. Community at Risk: Silverton Rural Fire Protection District #2

The Silverton Fire District has been identified as a Community at Risk (CAR) by Oregon Department of Forestry. The District has participated in the Clackamas County Community Wildfire Protection Plan (CWPP) planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Silverton Fire District Description

The Silverton Rural Fire Protection District #2 is a nearly all volunteer. Silverton Fire District provides emergency medical services as well as fire services to an area of about 106 square miles and serves a population of over 20,000 from five stations. The current staff consists of seven full time employees, and over sixty volunteers. Both volunteers and paid staff work under the direction of the Fire Chief.

Wildland Urban Interface (WUI)

Silverton is the location of the largest wildland fire in Oregon's history, burning over 1 million acres of timber in 1865. There have been few large fires since then, which has led to heavy fuel loading that could cause another large fire to ignite.

Silverton's Fire District is a rural area on the eastern edge of Clackamas County adjacent to large tracts of federal, state and private forests. The terrain is steep, causing access and communication limitations. The area attracts campers, hikers, anglers, ATV users, hunters and other visitors the diverse use of the area which can potentially start wildfires that could carry from public land to the residential communities.

The area is characterized by rural residential homes surrounded by heavy fuels and steep slopes. In addition, many of the neighborhoods here have only single access (one way in and one way out) with narrow, steep driveways and poor address signage. Heavy and continuous fuels dominate this area, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the Silverton Fire District.

Silverton Fire District Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted Silverton Fire in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the Silverton Fire District and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

Silverton Fire District promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. The Silverton Fire District works with the City of Silverton, the City of Scotts Mills and Clackamas County to integrate these concepts at the regulatory level by providing input on access and water requirements for new development.

The City of Silverton provides land use planning and building permit services within the city. Coordination with the City is excellent, as the City Planner is also a volunteer firefighter. Unincorporated areas are served by Clackamas County Land Use Planning and Building Departments. Silverton Fire has experienced some difficulties coordinating with the County, and is not always notified to provide information on fire flow and access for new lots of record. Additionally, many homes are being built on existing lots of record with no input from the Fire District on access and water. This issue has been identified as a County-wide issue and therefore is articulated as a need in the Clackamas CWPP Action Plan. Silverton Fire also does not have access to the County's Velocity Hall System which catalogues pending and approved building permits. The need for enhanced communication between Clackamas County and Silverton Fire has been noted in the Silverton Fire CWPP Action Plan.

Emergency Response

Emergency response is challenging in the Silverton Fire District because staff are almost entirely volunteer, with only 7 paid staff. A major wildland urban interface fire in Silverton would quickly exceed the resources and capabilities of the District. For this reason, Silverton Fire has mutual aid agreements in place which allows for the sharing of resources across the county in the event of a large scale disaster including wildfires.

The Silverton Fire District is able to support annual wildland fire training, which includes S-130, S-190, S-13 as well as all others required for engine boss. Silverton Fire is fortunate that they can work with local farmers to implement prescribed field burns that provide the live fire experience critical to retaining wildland fire qualifications.

During a multi-agency response, interoperability is going to be an issue for Silverton Fire because their used 800 MHz radios are poor quality; many of which do not display radio frequencies. The District is also in need of 85 new generation fire shelters. Silverton Fire has applied for VFA and RFA grants multiple times to fill District need, but has not yet been successful.

Because Silverton Fire District does not have a hydrant system that extends to rural areas, it is important to begin identifying and improving potential water sites. This is especially important for homes that have long narrow driveways that will not support water tenders.

In the event of a large wildland fire, evacuations may be necessary. This rural area presents some difficulties due to the large number of single access roads with poor addressing. There are also a significant number of private bridges with unknown load capacity, especially along South Butte Creek Road. Silverton Fire has been working with ODF to improve address signage in vulnerable areas, and will continue to work with the Clackamas County Fire Co-op to implement address signage in the Communities at Risk (CAR).

Burning of yard waste, agricultural and other debris is challenging in the Silverton Fire District because backyard burning is allowed in all areas. Silverton Fire District tries to be consistent with neighboring jurisdictions' backyard burning programs but does not have staff or resources to regulate burning in Silverton. The District is also home to many Christmas tree operations that have authority to burn an incredible amount of material all year long regardless of the severity of fire danger or air quality restrictions. Silverton Fire would like to work with ODF to develop a better strategy for dealing with Christmas tree waste such as a chipper cooperative. This has been identified in the Silverton CWPP Action Plan.

Community Outreach/Education

One of the Missions of the Silverton Fire District is to provide Public Education in Fire Prevention. Some of the ways that we provide this is to visit classrooms to talk with students and Station tours for school and youth groups. The Fire Silverton District also participates in activities throughout the area which include Healthy Kids Day, First Fridays, July 3rd Fireworks Display, Homer Davenport Days Festival, Food & Toy Drive and many other Community events.

Silverton Fire is also a member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety fairs with car seat inspections, fire safety house displays, community and school programs.

Local Communities at Risk (Strategic Planning Areas)

Silverton Fire also recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local level. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #19 and listed in Table 10.12-1. Silverton Fire officials considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, single access
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

A core focus of the CWPP is reducing hazardous fuels around homes, along transportation corridors and in surrounding forested lands which can significantly minimize losses to life, property, and natural resources from wildfire.

Fuels reduction projects can and should be accomplished at the local level, which includes the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. Silverton Fire District will facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically to benefit homeowners as well as adjacent public and private lands.

The Bureau of Land Management, private industrial landowners and small woodland owners have many heavily forested landholdings that are adjacent to homes in the Wildland Urban Interface. As Silverton Fire District targets the residential communities for creating defensible space, there is an opportunity to engage private, state and federal partners in reducing fuels on this adjacent public land. This has been identified as an action item.
To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Silverton Fire (Map #19).

Fuels Reduction Priorities include:

Boy Scout Camp South Butte Road South Maple Grove Road Groshong Road

Silverton Fire District Action Plan

Silverton Fire District has developed a list of actions to build capacity at the Department level and has identified actions that can help to make the local CARs more resilient to potential wildfires. The action plan for Silverton Fire and the local CARs therein is provided in Table 10.12-2.

Table 10.12-1. S	able 10.12-1. Silverton Fire District Communities at Risk												
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description
Silverton Fire Communities at Risk													
Boy Scout Camp	High	x	x	x	x	x	x		x	x	x	x	The Boy Scout Camp is an area of concern because it is heavily vegetated, has limited access and water, and is densely populated in the summer months. The canyon going into the camp reduces radio coverage. This is also an excellent location for community outreach.
South Butte Creek Road	High	x	x	x	x	x	x		x	x	x	x	South Butte Creek Road has many homes in heavily forested areas. Access here is impaired by private bridges, one way in and out roads that are steep and narrow, sharp curves and blind corners. There are very few address markers here, and Silverton is working with ODF to install some in 2012. Butte Creek Road is a dead end road. The canyon area presents communication issues, and is also conducive for sever fire behavior as well as landslides. Public education and outreach is needed here to work with traditionally adversarial homeowners and to reach teenagers that recreate on BLM and Private forest lands.
South Maple Grove	High	x	x	x	x	x	×		x	x	x	x	The Maple Grove area has very steep terrain with canyon areas, farmland, tree farms and residential properties. Access is limited with narrow driveways, private bridges, and one way in and out roads. Communications are good here and although there are a couple of ponds and swimming pools, water will still be an issue, so response would require water from monitor and Molalla. Cooper Lake is a great fill site.
South Wildcat Road	High	x			x	x			x	x			South Wildcat Mountain road is characterized by managed farm lands with a great deal of field burning. Brand from these large scale field burns threaten nearby forest lands. There are not many homes in this area, but those that are located here have long narrow driveways.
Marquam Circle Area	Medium	x	x	x					x	x		x	Marquam Circle has a high concentration of homes, with fuels consisting of tall overgrown brush blackberries and other flashy fuels. Meadow Court is one way in and out and turns into gravel. Water is the biggest issue besides defensible space.
Groshong Road	Medium	x	x	x					x	x		x	Groshong Road is a high priority for fuels reduction in heavily forested areas. Access is good but water is an issue.
Prospect	Medium	x	x	x					x	x		x	Prospect has very limited access because it has only one way in and out and is a narrow road. It would be difficult to get a type one engine into this area. There are many homes at the top of the slope where a fire could potentially run.

Table 10.12-2. Silverton Fire District Action Plan													
Action Item	Timeframe	Partners	CAR										
Silverton Fire Action Plan		I											
Inventory private bridges to determine whether or not they have had an engineer certification and encourage landowners to upgrade them to meet the 60,000 pound requirement for emergency service vehicles.	Long-Term	Clackamas County, CCEM	Silverton Fire										
Build capacity and support for a more involved Burning Program including staff to educate local residents and regulate the Burning Program.	Long-Term	ODF, DEQ, Fire Co-op	Silverton Fire										
Work with local Christmas Tree growers to develop and implement a chipper program to reduce excessive burning of woody material.	Long-Term	ODF, CCFA	Silverton Fire										
Work with Clackamas County Emergency Management and the Sherriff's Office to discuss evacuation planning especially in communities with only one way in and out.	Short-Term	CCSO, CCEM	Silverton Fire										
Develop and implement a driveway program to ensure that driveways are wide enough with adequate clearance for emergency service vehicles.	Long-Term	CCSO, CCEM	Silverton Fire										
Work with the Clackamas Fire Defense Board to replace outdated 800 MHz radios with newer equipment.	Long-Term	FDB	Silverton Fire										
Procure 85 new generation fire shelters and other wildland PPE for staff and volunteers.	Ongoing	ODF	Silverton Fire										
Work with Clackamas County Land Use Planning and Building Depts. to provide input on access and water requirements in new development.	Ongoing	CCDTD	Silverton Fire										
Utilize Silverton's First Friday event as a venue for public education.	Ongoing	ODF	Silverton Fire										
Continue to work with ODF and other partner fire agencies to maintain wildland fire training credentials and work with local area farmers to develop opportunities to participate in live fire exercises.	Ongoing	ODF, FDB	Silverton Fire										
Silverton Fire Local Communities at Risk Action Plan													
Conduct a Community Meeting to educate community on defensible space, safe burning practices, and required access for emergency response vehicles.	Ongoing	ODF	All										
Develop working relationships with natural land managers including USFS and the BLM to address wildfire hazards and potential response capabilities for public lands adjacent to Communities at Risk.	Short-Term	USFS, BLM	Boy Scout Camp, S. Butte Creek Rd., S. Maple Grove Rd., S. Wildcat Rd.										
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	All										
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All										
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All										
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All										
Conduct Community Clean Up Days to reduce hazardous fuels. Identify opportunities to recycle or compost vegetative material instead of burning.	Ongoing	ODF, OAN	All										



10.13. Community at Risk: Tualatin Valley Fire and Rescue

Tualatin Valley Fire and Rescue (TVF&R) has been identified as a Community at Risk (CAR) by the Oregon Department of Forestry. The District has participated in the Clackamas County CWPP planning process to evaluate capabilities to prevent, prepare for and respond to potential wildfire events.

Tualatin Valley Fire and Rescue Description

Tualatin Valley Fire & Rescue provides fire protection and emergency medical services to approximately 497,710 citizens in one of the fastest growing regions in Oregon. The 390 square mile service area includes eleven cities and unincorporated portions of Clackamas, Multnomah, Washington and Yamhill County. In 2016, contract services were extended to Newberg and the surrounding area to enhance emergency medical and fire protection service to more people and strengthen regional response efforts. The cities covered by TVF&R in Clackamas County include Rivergrove, West Linn and Wilsonville.

TVF&R has 25 fire stations and employs more than 400 career firefighters, a volunteer fire station, a Command and Business Operations Center, Training Facility, a South Operating Center, and full-service fleet maintenance shop.

Wildland Urban Interface (WUI)

The Wildland Urban Interface areas in the Clackamas County portion of TVF&R's District are characterized by suburban communities and rural residential homes surrounded by heavy fuels and steep slopes. In addition, many of the older neighborhoods here have only one way in and one way out with narrow, steep driveways and poor water supply.

Heavy and continuous fuels dominate many of the parks and natural areas surrounding the communities here, so fires that begin on public land or on smaller private residential lots can quickly threaten the communities and natural resources that thrive in the cities of West Linn, Rivergrove, and Wilsonville. In addition, response times from rural fire stations could be delayed, which underscores the need for community preparedness in the wildland urban interface.

TVF&R Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted TVF&R in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in TVF&R and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

TVF&R promotes the creation of defensible space, use of fire-resistant roofing and building materials, and community preparedness in the WUI. TVF&R works well with Clackamas County and the cities of West Linn, Rivergrove, and Wilsonville to integrate these concepts at the regulatory level by providing input on access and water supply during land use reviews for new residential development.

Emergency Response

A major wildland urban interface fire in West Linn, Rivergrove, or Wilsonville may exceed the immediate resources and capabilities of TVF&R. For this reason, TVF&R has mutual aid agreements in place to allow for the sharing of resources across the county in the event of a large scale disaster including wildfires.

In the event of a large wildland fire, evacuations may be necessary. In rural residential areas this could present some challenges for evacuations where access includes long, narrow and steep driveways. Some of the identified Communities at Risk have smaller local roads serving the area and/or have limited point of egress, making it difficult to manage incoming and outgoing traffic during an emergency.

TVF&R follows Department of Environmental Quality (DEQ) burning policies for backyard burning. The majority of West Linn and Rivergrove is within the DEQ burn ban area, which does not allow backyard burning at any time of the year. Wilsonville residents are permitted only during designated burn seasons and on DEQ approved burn days.

TVF&R firefighters receive regular wildland fire training to remain current on qualifications. Although the District is able to support classroom training, lack of live- fire experience makes it difficult to maintain wildland qualifications. New staff members have little to no live-fire experience and many Battalion Chiefs assigned to task forces have difficulty completing task books without being deployed. TVF&R has been working with Metro, Tualatin Hills Park and Recreation District and Clean Water Services to identify opportunities for prescribed burns in Washington County that would benefit native ecosystems while providing live-fire experience to TVF&R staff (e.g. Cooper Mountain and Gardner Prairie). TVF&R would like to expand this partnership to the Clackamas County area by furthering relationships with Metro, Wilsonville, West Linn and County Parks staff.

Community Outreach & Education

TVF&R is dedicated to fire prevention, public safety and community wellness and uses a variety of forums to promote residential fire safety, defensible space, and safe burning practices. The community is very supportive of the TVF&R and participates in activities throughout the year, some of which include smoke detector, fire prevention, and community safety programs. TVF&R is also an active member of the Clackamas County Fire Prevention Cooperative which is a consortium of structural and wildland fire protection professionals that work together to deliver programs such as team teaching in the grade school fire safety programs, safety and County fairs, community and school programs, and fire safety house displays. TVF&R has a "Wildfire Can Happen Here" program that promotes wildfire awareness in high hazard areas. To date, the majority of the areas targeted for these programs have been in Washington and Multnomah Counties, however, efforts have been made in Clackamas County as the opportunities were present. TVF&R would like to continue to expand this effort to the Clackamas Communities at Risk.

Local Communities at Risk (Strategic Planning Areas)

TVF&R recognizes that there are smaller-scale Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. These areas have been identified as being particularly

vulnerable to wildfires are illustrated in Map #20 and listed in Table 10.13-1. TVF&R professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

Fuels reduction projects can and should be accomplished at the local scale, which is the creation of defensible space around homes, as well as the landscape scale to extend vegetation treatments onto adjacent forested land and natural areas. TVF&R will continue to help to facilitate cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits homeowners as well as adjacent public and private lands.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by TVF&R (Map #20).

The following areas have been identified as potential fuels reduction projects by TVF&R, the cities of West Linn, Rivergrove, and Wilsonville, Clackamas County and Metro:

Mary S. Young Park Burnside Park and Maddax Woods Camassia and Wilderness Park Robinwood Park Skyline Ridge (Troon Open Space) Buck/Barlow Intersection Open Space Wildwood Open Space Hidden Springs Open Space Interstate 205 Corridor, including: **Barrington Heights Prosperity Park** Wilson Creek Natural/Rosemont Area (Wisteria/Johnson/Grapevine Open Space)

TVF&R Wildfire Action Plan

Boeckman Creek Open Space Frog Pond/Newland Creek Open Space Petes Mountain Area, including: Peach Cove Natural Area Willamette Narrows Forest Hebb Park Ladd Hill Area, Including: Graham Oaks Nature Park Magness Tree Farm Wheatland Drive Open Space Frobase Road/82nd Avenue Open Space Hill Top Road (Sunnyslope Open Space) White Oak Savannah

TVF&R has developed a list of actions to build capacity at the District scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for TVF&R and the local CARs therein is provided in Table 10.13-2.

Table 10.13-1. To	able 10.13-1. Tualatin Valley Fire and Rescue Local Communities at Risk												
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Canabilities	Burning	Preparedness	Communications	Steep Slopes	Description
TVF&R Communities at Risk													
I-205 Corridor	High	x	x	x			x		x	x		x	This area has the highest occurrence of wildfire ignitions because the hillside is covered with light flashy fuels and is adjacent to Interstate 205. It is a south facing slope with the potential of rapid fire spread toward homes at the tope of the slope. This area should be continuously considered for fire fuel reduction.
Ladd Hill	High	x	X	x	x	x	x		x	x		X	This area has south facing slopes, limited access and long response times. Access is also poor to many of the homes in this community. There is no water available, it is heavily forested with poor defensible space and poor addressing. There is a mixture of public and private forest land. Coral Creek is a wetland area.
Wilderness Park/Camassia Park	High	x	x	x	x		x	x	x	x		x	This community as a stand pipe system but limited access. The area of concern is a NE facing slope. There is usually at least one fire ignition a year in late May, early June. This area has a high potential for an interface fire because homes are on top of a heavily vegetated, steep slope. High school kids like to recreate here and the park has an elaborate trail system that brings many visitors. This foot traffic increases the potential of ignition sources.
Skyline Ridge	High	х	х						х	х		Х	This area is steep with heavy vegetation but has a north facing slope. Access is limited due to slopes.
Mary S. Young Park	Medium	x	x		x		x		x	x			This area is a mixed recreation area. It is primarily forested with trails (both chipped and paved) and an area with ballfields. Homes line it on the North and South sides and the Willamette River to the East. This park has a hydrant system along the main access.
Burnside Park and Maddax Woods	Medium	x	x	x	x		x		x	x			These natural areas are densly forested, offer trail and path systems, and river access. They offer river access and amenities that encourage many visitors.
Buck/Barlow Open Space	Medium	x	x	x				X	x	x		X	This area is characterized by steep slopes, heavy vegetation, and limited access and water supply. It has a north-facing aspect. Homes here are in need of defensible space.
Wildwood Open Space	Medium	x	x	x					x	x		x	This area is characterized by steep slopes, heavy vegetation, and limited access and water supply. It has a north-facing aspect. Homes here are in need of defensible space.
Wilson Creek Natural/Rosemont Area	Medium	x	x	x				x	x	x		X	This densly forested area has a south-facing slopes and limited access and water supply. Residential homes are nestled into and around it. The area and homes would benefit from defensible space. Protection capabilities are somewhat diminished because it is in a more rural area, so homeowners need to be more prepared.

Table 10.13-1. T	able 10.13-1. Tualatin Valley Fire and Rescue Local Communities at Risk													
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	Description	
TVF&R Communities at Risk														
Petes Mountain Area	Medium	x	x	x	x		x		x	x		x	This community is particularly vulnerable because it has a south-facing aspect . Metro owns some land here and has been working withTVF&R to implement a fuels reduction and habitat improvement project. The terrain is very steep along the river, so access is an issue. It is very densely vegetated with scrub oak and oak trees, 6 ft tall grasses and blackberries. The north facing slope is steep with access challenges.	
Hidden Springs	Medium	X	X						х	X		x	The Hidden Springs Community is characterized by steep slopes, heavy vegetation, and limited access and water supply. It has a north-facing aspect. Homes here are in need of defensible space.	
Robinwood Park	Medium	Х	Χ				X		Χ	Χ			This 15 acre park is over 50 percent undeveloped with trails and forested areas.	
Boeckman Creek	Medium	x	x				x			x			This forested area follows the Boeckman Creek south to the Willamette River. The area is surrounded by homes and park areas. The park (and nearby High School) encourages youth to recreate in the area and provides space to create hangouts.	
Frobase Road	Medium	Х	х	x				X	x	X		x	Frobase Road is one way in and out, is fairly steep, and has heavy vegetation adjacent to homes. Communications are good here, but there is little water.	
Prosperity Park/Borland Rd.	Medium	x	X	x	x		x	x	x	x		x	Prosperity Park has very poor access and water supply. It is heavily forested, and homes in need of defensible space. The area between I-205 and Borland Road has a south-facing slope with a mix of light flashy fuels and heavy vegetation. There is a neighborhood to the northwest and church to the east. I-205	
Hill Top Road/Sunnyslope	Medium	x	X	x				x	X	x		x	The densely forested area with few homes nestled in. It has poor access, slopes, and an increasing number of homes being built along the ridge. There is a nearby hydrant system to the North, however it may be challenging to access if responders approach from the South.	
White Oak Savannah	Medium - Low	x	X	x					x			x	The open space at Tannler Drive and Blankenship Road is fairly steep, has some trees and ground level fuels.	
Wheatland Road Area	Medium - Low	x	X	x		x			x	x		x	This is a large rural area with many residents, heavily forested with no hydrants.	
Frog Pond/Newland Creek	Low	x	x	x	x				x	x		x	This community is in the northeast area of the Boeckman Creek drainage area. There are currently ladder fuels, invasive species and heavy fuels. This area is in the early stages of master planning for residential developments.	

Table 10.13-2. Tualatin Valley Fire and Rescue Action Plan													
Action Item	Timeframe	Partners	CAR										
TVF&R Action Plan													
Identify and pursue opportunities to participate in prescribed burns and live fire tranining to update and maintain wildfire certifications.	Ongoing	Metro, City of Wilsonville, City of West Linn, Clean Water Services, ODF	TVF&R										
Continue to foster partnerships with natural resrouces managers to assess and implement potential fuels reduction projects in natural areas adjacent to Communities at Risk.	Ongoing	Metro, City of Wilsonville, City of West Linn, Clean Water Services, ODF	TVF&R										
Partner with the Clackamas County Fire Defense Board to particpate in a WUI conflagration exercise.	2 Years	Clackamas Fire Defense Board	TVF&R										
TVF&R Local Communities at Risk Action Plan													
Utilize TVF&R's "Wildfire Can Happen Here" public outreach campaign in the high-priorty CARS identified in Clackamas County.	Ongoing	Fire Co-op	205 Corridor, Ladd Hill, Camissa Park										
Incorporate Wildfire awarenss and risk reduction strategies into TVF&R's Community Safety & Wellness Program.	Ongoing	HOA's	All CAR's										
Improve address signage for emergency response.	Ongoing	Fire Co-op	All CAR's										
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All CAR's										
Promote legal, safe and responsible debris burning through public outreach and education.	Ongoing	ODF, DEQ, Fire Co-op	All CAR's										
Encourage communities to develop a community-driven pre- disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All CAR's										

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10.14. Community at Risk: Wildland Agencies and Unprotected Areas

The communities in Clackamas County that are not covered by a structural fire agency are considered Communities at Risk (CAR) by Oregon Department of Forestry. The majority of these areas are within wildland agency protection boundaries (ODF and USFS). The wildland agencies provide fire suppression for forest land only and do not provide structural fire protection. The ODF and USFS have participated in the Clackamas County CWPP planning process to identify opportunities to prevent, prepare for and respond to potential wildfire events in unprotected areas.

Unprotected Areas Description

In 2004, the Governor's Fire Service Policy Council convened a task force to discuss the issue of areas that are vulnerable to wildfire but are without publicly-funded structural fire protection. This is a major issue throughout the state because the number of unprotected homes in the Wildland Urban Interface (WUI) continues to grow. State firefighting actions on these lands are made possible only after the Governor invokes the Conflagration Act. The task force agreed that protection should be provided only if the county is 1) completing a community wildfire protection plan; 2) has adopted the Department of Land Conservation and Development's Goal 3) requiring fire defense standards for new construction in forest zones; and 4) is changing property tax statement language for ODF assessment from "fire protection" to ODF "non-structural fire suppression" so homeowners and insurers are not lead to believe they have structural fire protection. This section of the Clackamas County CWPP addresses the unprotected areas, thereby meeting the provisions set forth by the task force.

There are approximately 722,799 acres of structurally unprotected lands in Clackamas County. The majority of this acreage is Mount Hood National Forest land, private industrial forest land, or undeveloped land. Some small pockets of land do contain a few residences, buildings and infrastructure that would require protection. These are the areas addressed here.

Wildland Urban Interface (WUI)

The majority of communities, buildings and infrastructure in structurally unprotected areas are very rural examples of the Wildland Urban Interface. They are characterized by residential homes surrounded by heavy fuels and steep slopes, very limited access and potential communication issues. These factors, combined with the lack of structural fire protection make unprotected communities extremely vulnerable.

Wildland Agency and Unprotected Area Wildfire Hazards

The Clackamas County CWPP wildfire hazard assessment assisted the ODF and USFS in identifying areas that may be at higher risk to potential wildfires. Map #4 illustrates the overall wildfire hazard risk in the unprotected areas and will be used to help target areas for wildfire prevention activities.

Structural Ignitability

The Clackamas County Department of Transportation (DTD) notifies local deputy fire marshals of new lots of record to receive input on access and water requirements. In areas that are not in a structural fire agency's boundary, these requirements may not be adequately incorporated into new

development. In an effort to reduce structural ignitability, DTD now requires that any new construction must either annex into a structural fire agency's boundary or contract for structural protection. Lots zoned for Agriculture/ Forestland are required to have fuel breaks, emergency access and turn-arounds and adequate water supply.

Emergency Response

A major wildland urban interface fire in the unprotected areas of Clackamas County would likely require a multi-agency response. The Oregon Department of Forestry and the U.S. Forest Service are the wildland protection agencies. The USFS and ODF have a mutual aid agreement that allows for the sharing of resources. The Clackamas Fire Defense Board also has a Fire Mutual Aid Agreement that is the vehicle through which resources can be shared across jurisdictional boundaries throughout the County. The USFS is not a signatory on this agreement, so any assistance from structural fire agencies would have to come through the ODF agreement.

Burning of yard waste and debris is a major issue in unprotected communities because backyard burning is responsible for the majority of fire ignitions in the WUI. The majority of the unprotected communities are outside of the DEQ's boundaries, which means they must get permission from the local fire department to burn. The fire departments regulate what they can, but are often too understaffed to monitor illegal burns. Although ODF regulates illegal burning during fire season, it is not common knowledge and the only burn permits issued are for recreational camp fires. This means that backyard burning in unprotected areas is largely unregulated.

The majority of acreage outside of structural fire protection boundaries is in the eastern portion of the county, where VHF is more effective than 800 MHz. Radio communications in unprotected areas can be challenging because 800 MHz is the primary system for structural fire agencies. ODF, the USFS and the majority of rural structural fire agencies use VHF, so interoperability for a larger scale mutual aid event may become an issue. ODF has a limited supply of portable 800 MHz radios, but the USFS does not. In addition, the USFS does not routinely communicate with structural fire agencies, so there may be confusion regarding communication protocol during a large scale event. The USFS has identified the need to coordinate radio communications with structural fire agencies in the USFS CWPP Action Plan.

Water supply is usually an issue in rural, unprotected areas. ODF and USFS are accustomed to drafting from existing water bodies to supplement water that is brought on scene, and having water sources identified and developed in rural unprotected areas can be critical to response tactics. This has been identified as a need in the County CWPP action plan.

The ODF and USFS utilize permanent and seasonal staff to respond to wildfires. Wildfire training and refreshers are provided annually to remain current on qualifications. Although the wildland agencies are able to provide classroom training, the lack of live fire experience makes it difficult to retain some wildland qualifications. ODF and USFS is working with the Clackamas Fire Defense Board to identify opportunities to provide live fire training and prescribed burns to address the fire component of wildland task books.

Community Outreach & Education

ODF and USFS are committed to fire prevention, and use a variety of forums to promote residential fire safety, defensible space, and safe burning practices. Outreach activities include school programs, public presentations, media events and safety fairs. The USFS and ODF use fire severity rating signs placed in strategic areas to inform the public about wildfire danger. These wildland agencies are active members of the Clackamas County Fire Co-op which is a consortium of structural and wildland fire protection professionals that work together to deliver programs.

Local Communities at Risk (CAR's)

ODF and USFS have identified Communities at Risk that have unique wildfire hazards to be addressed at the more local scale. Communities that have been identified as being particularly vulnerable to wildfires are illustrated in Map #21 and listed in Table 10.14-1. Wildland Fire professionals considered the following factors to determine the local CARs including:

- Need for defensible space
- Access limitations (narrow driveways, lack of address signage, one way in/one way out)
- Steep slopes that can hinder access and accelerate the spread of wildfire
- Lack of water available for wildland fire fighting
- Heavy fuels on adjacent public lands
- Potential ignition sources from recreationists and transients
- Agricultural and backyard burning
- Lack of community outreach programs to promote wildfire awareness
- Communications difficulties

Fuels Reduction

The Oregon Department of Forestry has been successful in receiving numerous grants to encourage homeowners and small woodland owners to reduce hazardous fuels through a cost share program. Fuels Reduction projects on federal land require an in-depth National Environmental Protection Act analysis that can be costly and time consuming, so completing fuels reduction projects in a timely manner can be challenging. However, the USFS has identified priorities for fuels reduction on federal lands adjacent to communities at risk.

To ensure that landscape-level treatments are paired with projects to create defensible space around vulnerable communities, priority fuels reduction projects have been overlaid with the Communities at Risk Identified by Wildland Agency and Unprotected Areas (Map #21).

Fuels Reduction Priorities include:

Sandy Watershed	Powerlines near Govt. Camp
NF Bedford	Timberlake CCC Job Corps
USFS Summer Homes	Ripplebrook Guard Station
Kiwanas Camp	Joe Graham Guard Station
Trillium Lake	3 Lynx
Wapinitia	Zig Zag Guard Station
Sisi Butte Lookout and Electronic Site	

Wildland Agency and Unprotected Area Action Plan

The ODF and USFS have developed a list of actions to build capacity at the District scale and has identified actions that can help to make the local CARS more resilient to potential wildfires. The action plan for Unprotected Areas and the CARs therein is provided in Table 10.14-2.

Table 10.14-1 St	able 10.14-1 Structurally Unprotected Communities at Risk												
Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	. Description
Clackamas County Unprotected Communities at Risk (USFS CARs that are in both districts, but protected by USFS)													
Ripplebrook Guard Station	High	x			x		x	x	x	x	x	x	The USFS Ripplebrook Guard Station houses many Job Corps instructors. There are at least 20 structures behind the station, and 4 buildings associated with the station. There is a helibase with structures to be protected as well. Farther upslope, there are 2 bunk houses with 6 units. Access is generally good, and there is an improved gravel road to hellibase and bunk house tied to water system from job corps and hydrants, radio comms is good there is no cell service.
Timberlake Job Corps	Medium	x			x		x	x	x	x	x	×	The Timberlake Job Corps is a United States Department of Labor program that provides housing and curriculum to students from 18-25. It is located on USFS land and uses USFS buildings. The big problem here is protection capability. The Job Corps is about 30 minutes from Estacada Fire, which is the closest structural protection district. Currently, there is no contract in place to provide structural protection and the Job Corps is considering a Fire Brigade that would help with initial attack until Estacada arrives. They do have a hydrant system. Radio communications are adequate because the Whalehead repeater is nearby, but there is no cell service here. Burning is accomplished through burn permits and they is generally not an issue. Shaded fuel breaks leading into job corps boundary are needed. There is great opportunity for youth engagement, potentially integrating structural fire protection into curriculum (although turn over is problematic).
3 Lynx	Medium	x		x	x		x	x	x	x	x	x	The 3 Lynx community was established as hydropower was being developed on the Clackamas River. It used to be a thriving community, but there are many empty structures now, This community of about 15 homes contracts with Estacada fire for structural fire protection. There is adequate water here, but communications may be compromised and response times will be greater than 10 minutes.
Joe Graham /Clackamas Lake Guard Station	Medium	x			x		x	x		x	x	x	The Joe Graham/Clackamas Lake Guard Station was once a ranger district, so there are many historic structures here. It has water system and there is a huge lake nearby. There was a fire here in 02-03, The visitor's center is typically occupied on a rotating basis.

Community At Risk	CAR Priority	Defensible Space	Access	Water	Public Forest Lands	Private Forest Lands	Recreators/ Transients	Protection Capabilities	Burning	Preparedness	Communications	Steep Slopes	. Description
Clackamas County Unp	Clackamas County Unprotected Communities at Risk (CARs that are in the ODF protection boundary only)												
Elk Prairie	High	x	x	x	x	x		x	x	x		x	Elk Prairie is a community of many residential homes that are surrounded by private forest land. Access here is poor and there is no hydranted system in the area. There are [ponds that may be used for fire suppression.
Upper Sawtell Unprotected	High	x		x	x	x		X	x	x		x	This community includes everything above Maple Grove and North of Elk Prairie. The area has very poor access and a great deal of debris burning. It is surrounded by BLM and private forest land, and has steep slopes. ODF has done some canvassing in this area and would like to partner with local fire agencies to inform the landowners of their unprotected status.
East Highland	High	x		x	x	x	x	х	x	x	x	x	East Highland Road has about 7 homes surrounded by 3 fire districts, but is unprotected. Water and access are major issues here. This community includes the BLM seed orchard.
Wapinitia	Medium	x	x	x	x	x	x	x	x	x	x	x	The Wapinitia community is highly vulnerable,. It is a few miles east of the Hoodland Fire District on Hwy 26. ODF and USFS have made attempts to work with the community in the past but it has been difficult to achieve and sustain progress because many homeowners are not engaged. There is a stand pipe and a pump house but it doesn't have much volume. There was a house fire recently, and the home owners used the standpipe and local hose to help with fire. The HOA Board is not supportive of defensible space, but some individual owners have done some work on their own. There is little support for fuels reduction on common areas. The community is surrounded by USFS land. The USFS attempted to create a 300 foot defensible space buffer, but the community was not supportive. Access is extremely limited, and radio and cell communications are limited.
Lower Highland	Medium	x		x		x		x	x	x		x	Lower Highland Road is a good example of the Wildland Urban Interface as it has heavy fuels adjacent to unprotected homes. The homes are surrounded by managed forest land which could serve as an ignition source. Access and communications are good. There are no hydrants, but there are ponds nearby.
Ramsbey Unprotected	Medium	x		x		x		x	x	x		x	The unprotected portion of Ramsbey Road has a history of arson fires. There are managed private forest lands surrounding the area which also can serve as an ignition and fuel source. Communications and protection capabilities are the most challenging aspects for this community.
Lais Road	Medium	x	x	x		x		x	x	x		x	Lais Road has serious access constraints as it is one way in and out and many homes have steep and narrow driveways with poor turnarounds. There are a series of cabins along the river that are access through Weyerhaeuser industrial forest land. Although it is close to the river, water will be an issue here because it is difficult to access the river.
Butte Creek Unprotected	Medium	x	x	x	x	x		x	x	x	x	x	The unprotected portion of Butte Creek Road is highly vulnerable because there is no water, access limited to one way in and out, and there is managed BLM and private forest land. Communication is limited here and Butte Creek is one way in and out all the way into Scotts Mills.

Table 10.14-2 Wildland Agency (OD	<u> </u>	S) Action Plans					
Action Item	Timeframe	Partners	CAR				
ODF CWPP Action Plan							
Work with the County Tax Assessor to change the language on property tax statements for ODF assessment from "fire protection" to ODF "non-structural fire suppression" so homeowners and insurers are not led to believe they have structural fire protection.	Ongoing	ODF, County Tax Assessor	ODF-Unprotected Areas				
Clarify roles and responsibilities for fire suppression and prescribed burns on State Park lands and Metro-owned properties.	Ongoing	State Parks, Metro	ODF				
Continue to seek funding to support the fuels reduction cost share assistance program.	Ongoing	WSFM, SFA	ODF				
Continue to seek funding to support the seasonal Fuels/Fire Crew	Ongoing	Clackamas County, WSFM, SFA	ODF				
Work with local fire agencies and natural resources managers to identify opportunities for live fire exercises.	Ongoing	Metro, City Parks Depts., FDB	ODF				
USFS CWPP Action Plan							
Work with the Clackamas Fire Operations Group to enhance capabilities for interoperability. Consider having a cache of at least five 800 MHz portable radios available for USFS use. Work with mutual aid partners to determine best communications strategies (consistent frequency, VHF and 800 MHz).	2 Years	CFOG, Fire Districts	USFS				
Work with the Clackamas Fire Defense Board to become a signatory on the County's Mutual Aid Fire Agreement.	1 Year	FDB	USFS				
Clarify relationships, roles and financial responsibility for responding to fires in unprotected areas (currently there is no mechanism for reimbursement in unprotected areas).	Long Term	FDB	USFS				
Conduct and operations meeting with adjacent RFPD's to discuss how we will operational response tactics.	2 Years	Local Fire Districts	USFS				
Work with AMR to develop an understanding of resources available for emergencies and protocol for response.	1 Year	AMR	USFS				
Work with CCOM, BOEC and Sandy Fire to include USFS as a resource on run cards associated with events in the Bull Run Watershed.	1 year	CCOM, BOEC, Sandy Fire	USFS				

Table 10.14-2 Unprotected Area Act	ion Plans		
Unprotected Areas Action Plan (ODF and USFS)			
Action Item	Timeframe	Partners	CAR
Inform homeowners in unprotected areas of their unprotected status (using mailings) and provide them with information about options for enhancing structural protection	2 Years	Fire Co-op, USFS	All Unprotected Areas
Encourage communities in unprotected areas to develop local community wildfire protection plans & become Firewise/USA Communities.	Ongoing	Clackamas County,ODF, USFS	All Unprotected Areas
Research opportunity to provide disclosure of unprotected status on lots through deed restrictions. County currently requires all new homes to be in a fire District or contract for services.	2 Years	Clackamas County	All Unprotected Areas
Partner with the Fire Co-op to create and distribute outreach materials that promote responsible burning, defensible space and reduction of structural ignitability within the Home Ignition Zone.	Ongoing	Fire Co-op	All Unprotected Areas
Promote legal, safe and responsible debris burning through public outreach and education.	2 Years	ODF, DEQ, Fire Co-op	All Unprotected Areas
Reduce hazardous fuels in the ROW of potential evacuation routes. Engage residents adjacent to primary evacuations routes to extend treatments onto private land.	Ongoing	ODOT, Clackamas County Roads	All Unprotected Areas
Continue to collect structural ignitability data by conducting structural triage assessment data collection (including GPS points) for homes in Communities at Risk.	Ongoing	ODF	All Unprotected Areas
Develop a community-driven pre-disaster plan including evacuation routes, telephone call down trees, and other strategies for strengthening community response.	Ongoing	Clackamas County Emergency Management	All Unprotected Areas
Implement road addressing (including length of driveways) and other signage for emergency response.	Ongoing	ODF	All Unprotected Areas
Seek grant funding to support fuels reduction and creation of defensible space around homes.	Ongoing	ODF	All Unprotected Areas
Work with private forest landowners to reduce fuels adjacent to CAR's.	Ongoing	CCFA	All Unprotected Areas
Work with BLM and USFS to reduce hazardous fuels adjacent to CAR's.	Ongoing	BLM, USFS	All Unprotected Areas

