



Sunriver Community Wildfire Protection Plan

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Declaration of Agreement

The Sunriver Community Wildfire Protection Plan (CWPP) was originally completed and approved in March 2005. As directed by this CWPP, extensive fuels reduction activities have been completed on public and private lands. The Steering Committee reconvened in February 2010 to reassess the planning area and make revisions to the original plan as appropriate. Under the Healthy Forests Restoration Act, the CWPP is approved by the applicable local government, the local fire department and the state entity responsible for forest management. The Steering Committee also sought approval from the Sunriver Owners Association, a key collaborator in the development of this CWPP.

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2010 Sunriver Community Wildfire Protection Plan



Purpose

The purpose of the Sunriver Community Wildfire Protection Plan (CWPP) is to:

- Protect lives and property from the threat of wildland fire.
- Instill a sense of personal responsibility and provide steps for taking preventive actions regarding wildland fire.
- Increase public understanding of living in a fire adapted ecosystem.
- Increase the community's ability to prepare for and respond to wildland fire.
- Increase the community's ability to recover from wildland fire.
- Restore fire adapted ecosystems.
- Improve the fire resiliency of the landscape while protecting other social, economic and ecological values.

Originally completed in 2005, this comprehensive revision outlines a clear purpose with updated priorities, strategies and action plans for fuels reduction treatments in the Sunriver wildland urban interface (WUI). The 2010 Sunriver CWPP also addresses special areas of concern and makes recommendations for reducing structural vulnerability and creating defensible space in Sunriver. It is intended to be a living vehicle for fuels reduction, educational and other projects to decrease overall risks of loss from wildland fire; revisited at least annually to address its purpose.

Although reducing the risk of high intensity wildland fire is the primary motivation behind this plan, managing the Sunriver WUI for hazardous fuels reduction and fire resilience is only one part of the larger picture. Residents and visitors desire healthy, fire-resilient forests and wildlands that provide habitat for wildlife, recreational opportunities, and scenic beauty.

Wildland fire is a natural and necessary component of ecosystems across the country. Central Oregon is no exception. Historically, wildland fires have shaped the forests and wildlands valued by residents and visitors. These landscapes however, are now significantly altered from otherwise natural conditions due to fire prevention efforts, modern suppression activities and a general lack of large scale fires, resulting in overgrown forests with dense fuels that burn more intensely than in the past. In addition, the recent increase in population has led to a swell in residential development into forested land, in the wildland urban interface.

The 2010 Sunriver CWPP will assist the Sunriver Fire Department and the Sunriver Owners Association in the identification of lands, including surrounding federal lands at risk from high intensity wildland fire. The Sunriver CWPP identifies priorities and strategies for reducing hazardous wildland fuels while improving forest health, supporting local industry and economy and improving fire protection capabilities. It also identifies strategies to address special areas of concern such as evacuation routes as well as outlines actions that groups and individuals can take to help protect themselves and their neighborhoods against the threat of wildland fires.



Collaboration

In 2002, President George Bush established the Healthy Forests Initiative (HFI) to improve regulatory processes to ensure more timely decisions, greater efficiency and better results in reducing the risk of high intensity wildfire. This initiative allowed forest management agencies for the first time, to expedite the documentation process for the purpose of reducing hazardous fuels on public lands.

In 2003, the US Congress passed historical bi-partisan legislation: the Healthy Forests Restoration Act (HFRA). This legislation expands the initial effort under the Healthy Forests Initiative and directs federal agencies to collaborate with communities in developing a CWPP which includes the identification and prioritization of areas needing hazardous fuels treatment. It further provides authorities to expedite the National Environmental Policy Act (NEPA) process for fuels reduction projects on federal lands. The act also requires that 50% of funding allocated to fuels projects be used in the wildland urban interface.

Communities now have the opportunity to participate in where federal agencies place their fuels reduction efforts. With a CWPP in place, community groups can apply for federal grants to treat

hazardous fuels and address special concerns to reduce the risk of catastrophic loss as a result of wildland fire.

Although some of the authorities under HFI and HFRA have been challenged in federal courts, all have been successfully upheld and the original intent and authorities under each remain the same.

The Sunriver CWPP Steering Committee faced a complex task in the comprehensive revision of the Sunriver Community Wildfire Protection Plan. Implementing and sustaining these efforts will require a significant commitment. Building a collaborative and cooperative environment with the fire department, community-based organizations, local government and the public land management agencies has been the first step in reducing the risk of loss from wildland fire. The Steering Committee pledges to maintain this cooperation with the public over the long-term with the commitment of all the partners involved.

At a minimum, the Sunriver CWPP Steering Committee shall include: a member of the Sunriver Owners Association Board of Directors; SROA staff; the Program Coordinator from Project Wildfire; a Chief Officer from Sunriver Fire Department; a Chief Officer from the La Pine Rural Fire Protection District; a representative from Oregon Department of Forestry (ODF); a representative from Central Oregon Fire Management Service (COFMS), and Deschutes County along with members of the Sunriver area public.

For the 2010 Sunriver CWPP, representatives and members from the following organizations and communities came together as the Steering Committee to revisit and update the Sunriver CWPP.

- Oregon Department of Forestry (ODF)
- USDA Forest Service (USFS)
- USDI Bureau of Land Management (BLM)
- Deschutes County
- Sunriver Owners Association (SROA)
- Sunriver Fire Department
- La Pine Rural Fire Protection District
- Upper Deschutes River Coalition (UDRC)
- Sunriver Nature Center & Observatory
- Sunriver Utilities
- Sunriver Police Department
- Sunriver Resort
- Project Wildfire
- The communities of Crosswater and Sunriver

The importance of collaboration with neighboring CWPPs is recognized by the Steering Committee and is referenced throughout this CWPP as both an assessment comparison and documentation of collaborative efforts to maximize hazardous fuels reduction efforts in the area.

The Steering Committee completed this revision in accordance with *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee, Society of American Foresters, National Association of Counties, National Association of State Foresters 2005); and Deschutes County Resolution 2004-093.

The Steering Committee agrees that the Sunriver Community Wildfire Protection Plan will be a living document, intended to promote fuels reduction, educational and other projects to decrease overall risks of loss from wildland fire; revisited at least annually to address its purpose.

A draft of the Sunriver CWPP was available for public comment for 30 days prior to the final signing and approval of the plan. Interested parties had the opportunity to provide comments for consideration by the Steering Committee during this period.

The Sunriver Owners Association approved the 2010 Sunriver CWPP on July 17, 2010. The original Sunriver CWPP was formally adopted by Deschutes County by resolution #2005 – 114 and this revised CWPP by resolution # 2010 – 243.



Background Information

The community of Sunriver, Oregon is located in central Oregon, on the east side of the Cascade mountains, 15 miles south of Bend in Deschutes County. Developed in 1968 as a destination resort community, Sunriver is now home to approximately 1,500 full time residents, with a population of up to 20,000 visitors per day during peak recreation periods.

Sunriver is known for its outstanding recreational opportunities and scenic beauty with year-round recreation activities available. Within the CWPP area there is a significant amount of public land with developed and dispersed recreation sites which also provide valuable recreation opportunities to both residents and visitors. In the summer months, Deschutes County estimates an additional population of up to 10,000 people enjoying the rivers, designated and dispersed

campgrounds and using transportation corridors within the CWPP area. This creates an increased seasonal challenge for those agencies responsible for fire suppression and evacuation.

Historically, much of the CWPP planning area in Sunriver was dominated by mature ponderosa pine stands that effectively supplied the logging industry here during the 1920s. Soon after logging, many of these stands naturally regenerated to lodgepole pine with today's forests dominated by thick, overstocked stands of lodgepole pine with interspersed ponderosa pines.

Compared to ponderosa pine, lodgepole pine is a relatively short-lived species that historically lived and died by high intensity and active crown fires. It is therefore less desirable from a wildland fire standpoint because of the risk these stands pose to the communities within them. Much of the understory consists of bitterbrush, manzanita, rabbitbrush, red currant and some areas of native bunchgrass. Without management intervention, these stands become more and more overcrowded.

At its inception, Sunriver maintained a restrictive forestry management policy, initially preferring the untouched forested environment. Community regulations initially restricted tree and brush removal in most circumstances and wood shake roofing was typical on structures.

The Awbrey Hall fire in 1990 in nearby Bend destroyed 3,032 acres and 22 homes and began changing minds and policies within the Sunriver community. Soon after, in 1991, SROA and the Sunriver Nature Center & Observatory drafted a Fuels Modification Plan, which would become the basis for the current Ladder Fuels Reduction Plan. The plan detailed the reduction of hazardous fuels from private properties and common areas. Fuels reduction became mandatory for private property owners in 1996. In 1992, the SROA Board of Directors approved a resolution prohibiting wood roofs in Sunriver by requiring all new and replacement roofs to be noncombustible with a Class A fire rating.

The 1996 Skeleton fire, a few miles to the northeast of Sunriver, burned 22,000 acres and 19 homes and further motivated the Sunriver community to action. In 1997, SROA hired staff to oversee private property inspections and fuels reduction compliance as well as manage the hazardous fuels reduction program on common grounds.

Today, SROA actively collaborates with public land managers and private residents to improve forest health and reduce the risk of fires both inside the Sunriver community and outside the community on public lands.

As part of the ongoing wildland fire risk management of the surrounding public and private forestlands, the US Forest Service, Oregon Department of Forestry, SROA, Deschutes County and private landowners are engaged in hazardous fuels treatment projects across the Sunriver WUI.

The US Forest Service – Bend Fort Rock District manages 66.5% (7,851 acres) of the federal lands in the Sunriver planning area and continues to make great strides to increase forest health and reduce the potential for high intensity wildland fire.

It is important to note that each project area requires multiple types of fuels reduction activities to achieve the desired result including mechanical shrub mowing, tree thinning, hand piling, and under burning. Therefore, multiple entries are required in order to adequately restore forest ecosystem health and reduce hazardous fuels. The ultimate goal for these projects is to reduce the potential for high intensity fire that can spread to tree crowns, requiring costly suppression efforts and causing large losses on the landscape as well as in and around communities.

The following is a snapshot of fuels treatment projects on federal lands in the Sunriver planning area as a result of the Sunriver CWPP:

- **Sunriver HFRA project** – This project lies on the northeast corner of the Sunriver WUI and will treat a total of 2,327 acres through multiple entries including 685 acres of thinning, 438 acres of mowing and under-burning of 1,204 acres.
- **East Tumbull Environmental Analysis (EA) project** – This project is located on the northwest corner of the Sunriver WUI and will treat 5,217 acres through multiple entries including 2,849 acres of thinning and 2,368 acres of under-burning.
- **Katalo East EA project** – In progress now and located on the west side of the Sunriver WUI, this project includes mowing 39 acres and 720 acres of under-burning.
- **Myst EA project** – Located on the southwest portion of the Sunriver WUI, this project is underway and includes 57 acres of thinning and 16 acres of mowing.
- **Lava Cast project** – Located east of the Sunriver CWPP WUI, the total project area encompasses 10,656 acres. This project is ongoing and includes mowing of 4,956 acres, under burning 6,668 acres, thinning of 4,585 acres and 3,282 acres of hand piling and burning.

Directly south of the Sunriver CWPP area is the Upper Deschutes River Coalition CWPP area. Under this neighboring CWPP, the UDRC has successfully treated over 1,000 acres of private lands through state and federal grants for sweat equity programs and fuels reduction contracts with private citizens. This collaborative fuels treatment effort by neighboring communities further protects the Sunriver WUI from potential catastrophic losses from wildfire.

SROA works closely with the Oregon Department of Forestry (ODF) under the Oregon Forestland Urban Interface Fire Protection Act of 1997. SROA developed an alternative plan to meet the standards outlined under this legislation. This is discussed in detail starting on page 21.

Deschutes County owns only two ¼ acre lots in the Sunriver planning area and works with SROA to maintain them under the Sunriver Ladder Fuels Reduction Program.

Nationally, Sunriver is recognized for its commitment to fire prevention. SROA received the Bronze Smokey Bear award in 2002 for its ladder fuels reduction programs, fire prevention and protection rules, and community development standards. SROA also maintains an active presence on the Project Wildfire Steering Committee, focusing on the prevention of catastrophic losses resulting from wildfire in Deschutes County.

The completion of 2009 marks Sunriver's 30th anniversary as a designated Tree City, USA denoting a continuing commitment to forest health and educating the community about the benefits of healthy forests.



Community Base Maps

The Steering Committee relied on the following maps and GIS data:

- Updated Sunriver wildland urban interface boundary and all private & public land ownership
- Historical fire starts and large fire history
- Fire Regime Condition Class and Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB 360) ratings
- US Forest Service fuels treatment

For updated planning purposes, the Steering Committee referenced this data and relied on recent activities and fuels treatment projects in the Sunriver planning area. All maps are located in the appendix.



Community Profile

The Sunriver community presents a unique challenge for the CWPP process. Community businesses and residences have been intentionally developed in or adjacent to forestlands, and as described above, are at risk of wildland fire. Thick stands of trees, topographical challenges and substantial ground vegetation contribute to the overall wildland fire risk in the Sunriver planning area.

The climate in Sunriver is typical of the east slopes of the Cascade Mountains, with most of the annual precipitation coming as winter snow or fall and spring rains. Summers are dry and prone to frequent thunderstorms. These thunderstorms frequently cause multiple fire ignitions.

Sunriver lies just west of US Highway 97, a major transportation route through the state. As central Oregon grows, more residents, tourists and commuters use the highway and other roads, particularly during the summer months when fire season reaches its peak. As part of the central Oregon community, transportation routes are included in the consideration of the WUI boundary due to their critical role as travel corridors that link communities together and serve as evacuation routes.

Wildland Urban Interface Description

The Healthy Forests Restoration Act defines the WUI as an area within or adjacent to an at risk community that has been identified by a community in its wildfire protection plan or, for areas that do not have such a plan, as an area:

- extending ½ mile from the boundary of an at risk community,
- extending 1½ miles from the boundary of an at risk community when other criteria are met such as a sustained steep slope or a geographic feature that creates an effective firebreak, or is classified as fire condition class 3 land,
- or that is adjacent to an evacuation route.

The Steering Committee reviewed the original WUI boundaries and noted the reduction on the map of the Spring River area. The UDRC included this subdivision in its planning boundary during the revision of its CWPP in 2007. The Steering Committee agreed that this is a logical inclusion and therefore omitted the subdivision from the updated Sunriver WUI boundary.

The Sunriver CWPP WUI boundary is marked on the south by the border of the Upper Deschutes River Coalition CWPP; on the north by the Greater Bend CWPP; to the east by US Highway 97; and US Forest Service 41 Road to the west.

The total planning area encompasses 11,801 acres. For planning purposes, the WUI boundary and CWPP boundary are the same. Public lands include 7,851 acres managed by the US Forest Service. Private lands include 3,950 acres with 4,181 residential structures. See maps in Appendix A.

Fuel Hazards and Ecotypes

The Sunriver area is an assortment of vegetation types. The predominant species include:

- Ponderosa pine
- Lodgepole pine
- Manzanita
- Bitterbrush
- Riparian areas

In the Sunriver WUI there are fewer **ponderosa pine** stands than historically found. Also, by historical standards, ponderosa pine forests, which dominated the Sunriver WUI area, contained more understory grasses and shrubs and fewer small trees than are present today. These plants combined with fallen pine needles, formed fast-burning fuels that led to recurrent widespread burning. Frequent low-intensity ground fires that occurred every 11-15 years characterize the historical fire regime for ponderosa pine. The pattern of low ground fires and stand dynamics often resulted in the open park-like conditions that early inhabitants and visitors found in the region.

Insufficient stand management, logging activity and highly effective wildland fire suppression, have significantly altered the ponderosa pine forest type in the Sunriver WUI. Removal of the older, larger thick-bark pines has dramatically decreased clumpy open forests, replacing them with more evenly spaced and younger, smaller black-bark forests. Similar to other species of conifer forest types in the western United States, the suppression of fire has greatly increased the stocking levels (number of trees) and density of trees, creating ladder fuels and putting the stands more at risk of attack from insects and disease. These factors have also contributed to the potential for more intense fires in these forests in recent years.

Mature untreated **lodgepole pine** stands in central Oregon are characterized by dense, uniform stands, often with an absence of other tree species, and a general lack of understory shrub or herbs (although bitterbrush is often found with mature lodgepole pine). Lodgepole pine forests exhibit a moderate severity fire regime with a fire return interval between 60 and 80 years. Fire

in lodgepole pine stands can be low, moderate, or severe over time and often result in full stand replacement.

Manzanita is a shrub that occurs throughout the Sunriver WUI, usually mixed with other shrub species such as bitterbrush, rabbitbrush and red currant. Manzanita is established both through sprouts and seeds that are stimulated by fire. Fires in manzanita are conducive to rapid and extensive fire spread due to both physical and chemical characteristics. Manzanita is particularly susceptible to fire due to its stand density, presence of volatile materials in the leaves, low moisture content of the foliage and persistence of dead branches and stems.

Bitterbrush occurs throughout the Sunriver area on all aspects and elevations. Fire severely damages bitterbrush, especially if rain is not received shortly after a burn. Bitterbrush is fire dependent, but not fire resistant. It regenerates mostly from seed after a fire and is often from caches of seeds made by rodents. Bitterbrush will sprout after burning regardless of the severity of the burn and matures relatively quickly. Consequently, the Sunriver WUI area is rich with patches of bitterbrush that provide fire-ready ladder fuels for tree stands.

A **riparian area** is defined as the strip of moisture-loving vegetation growing along the edge of a water body. The exact boundary of the riparian area is often difficult to determine because it is a zone of transition between the water body and the upland vegetation. The Deschutes River flows through the Sunriver WUI boundary creating large riparian areas in the planning area. The Sun River and Lake Aspen also have riparian areas in the WUI. Vegetation types in these riparian areas are primarily grasses, forbs and willows. The primary concern from a wildland fire perspective is during the spring and autumn when the vegetation has either cured or “greenup” has not begun.

The result of the fuel hazards and forest types in the Sunriver WUI is an overgrowth of trees, forest floor fuels and an abundance of dead or dying vegetation that contribute to a substantially elevated risk of wildland fires that are difficult to control. These overly dense conditions lead to fire behavior that produce flame lengths over eight feet with crowning and torching that can result in stand replacement severity fires.



Community Assessment of Risk

The Steering Committee reviewed the assessment process from the 2005 Sunriver CWPP. Two assessment methodologies were utilized: 1) the Oregon Department of Forestry Assessment of Risk Factors; and 2) Fire Regime – Condition Class. No new data has been collected that would show the significant amount of fuels reduction treatment performed in the Sunriver WUI since 2005. For the 2010 Sunriver Community Wildfire Protection Plan the Steering Committee utilized the same two risk assessment methodologies with updated information based on actual activities since the 2005 plan. The Oregon Forestland-Urban Interface Fire Protection Act of 1997 (aka Senate Bill 360) is also referenced in this section as it relates to activities in Sunriver under its Ladder Fuels Reduction Plan.

ODF Assessment of Risk Factors

The ODF Assessment of Risk Factors is based on five categories of evaluation that include a variety of information designed to identify and evaluate wildland fire risk across Oregon: risk of wildfire occurrence, hazard, protection capability, human and economic values protected and structural vulnerability. See Table 1 on page 20 for a complete recap of this assessment.

Risk of Wildfire Occurrence

The risk of wildfire occurrence refers to the likelihood of a fire occurring based on historical fire occurrence, home density and ignition sources. The calculations are based on evidence from the USFS, ODF and the Sunriver Fire Department of fire occurrences per 1,000 acres per ten years, as well as home density and ready ignition sources like dry lightning storms, debris burning, equipment use, juveniles, campfires, and arson.

The current condition of the vegetation on the federal and private lands adjacent to and within Sunriver pose a serious threat of high intensity wildland fire.

Hazard

The hazard rating describes resistance to control once a fire starts based on weather, topography (including slope, aspect and elevation), vegetation and crown fire potential. As stated earlier, effective wildland fire suppression has led to the extensive buildup of overstory and ground vegetation in the wildland urban interface.

Protection capability

The ratings for this category are based on fire protection capability and resources to control and suppress wildland and structural fires. The ratings also consider response times and community preparedness. A wildland fire could start within the community or in any of the forested areas adjacent to or surrounding the community. With a fire of any significance, it would be a challenge to assemble the resources necessary to adequately address all of the fire and life safety issues that could arise in the early stages of emergency operations.

Fortunately, the fire protection capability rating in Sunriver is low with excellent response times and active community preparedness.

Sunriver Fire Department

The Sunriver Fire Department is an all risk emergency service provider for the community of Sunriver and provides Advanced Life Support Emergency Medical Services for a 300 square mile area including and surrounding Sunriver. Sunriver Fire employs one Fire Chief, one Assistant Chief, a Training Captain and one Office Manager. The department also employs eight career firefighter/paramedics involved directly in fire operations and 20 reserve firefighters also dedicated to fire operations. The department has adopted the National Incident Management Systems (NIMS) Incident Command System and all personnel have received training and continue to train in its use. All personnel have received training in wildland firefighting practices, structural fire protection, and other related topics. The department relies heavily on its reserve firefighters and emergency medical technicians.

The department works out of one centrally located fire station and maintains a fleet of two structural fire engines, one ladder truck, two Advanced Life Support (ALS) ambulances, one heavy brush engine, one light brush engine and three staff/utility vehicles.

The department is a party to the Central Oregon Mutual Aid Agreement. In the event of a major structural fire, the department may request assistance from all other fire departments that are signatory to the agreement. In addition, all Central Oregon fire departments and the wildland fire agencies including the US Forest Service, Oregon Department of Forestry, and the Bureau of Land Management are party to the Central Oregon Cooperative Wildland Fire Agreement. These cooperative agreements allow for interactive coordination in the event of a wildfire that threatens communities in Central Oregon. Conversely when these agencies need assistance, the Sunriver Fire Department assists them. Anytime an incident grows beyond the capability of the regional resources a request may be made to the State to activate the Statewide Mobilization Plan, whereupon firefighting resources may be requested from across the State.

The La Pine Rural Fire Protection District, the Sunriver Fire Department and Bend Fire & Rescue also participate in Automatic Aid responding to mutual response zones in certain parts of each district.

La Pine Rural Fire Protection District

The La Pine RFPD provides first response fire coverage to the Sunriver Business Park located along Century Drive in the Sunriver CWPP area. In the event of an emergency here, Sunriver Fire Department quickly communicates with La Pine RFPD to provide the most appropriate and timely service.

The La Pine RFPD provides Emergency Medical Services, including Advanced Cardiac Life Support transport, within a 1,000 square mile boundary. All firefighting personnel have received training in wildland firefighting practices, structural fire protection and suppression techniques, and other related topics. The District has adopted the National Incident Management Systems (NIMS) Incident Command System and all personnel have received training and continue to train in its use. There are five career personnel and 19 support volunteers not involved in fire and Emergency Medical Services (EMS).

The District works out of one centrally located fire station and two satellite stations. It maintains a fleet of three structural fire engines, three Advanced Cardiac Life Support ambulances, three heavy brush engines, one light brush engine, three water tenders and three staff/utility vehicles.

Oregon Department of Forestry

Within Sunriver, private forestland is protected by the Central Oregon District of ODF. ODF provides wildland fire response for fires burning on, or threatening private forestlands paying a Forest Patrol Assessment. There are some areas within the Sunriver CWPP boundary that receive dual protection from ODF and the Sunriver Fire Department because they are located within the fire protection district and are also classified as private forestland within the ODF district.

Oregon Department of Forestry provides two Type 6 engines in southern Deschutes County during fire season, typically June through October. Nine additional engines are available for response in the Prineville-Sisters unit. Statewide resources are also available to ODF including initial attack hand crews, dozers, water tenders, helicopters, air tankers, and overhead staff positions.

US Forest Service

The US Forest Service provides wildland fire protection on the federal lands adjacent to and within the Sunriver planning area. Together with the Bureau of Land Management (BLM), they are identified as the Central Oregon Fire Management Service (COFMS). COFMS includes the

Deschutes National Forest, the Ochoco National Forest, the Crooked River National Grassland, and the Prineville District of the BLM. These four units are managed cooperatively under combined leadership, with an Interagency Fire Management Officer, two Deputy Fire Management Officers, and a Board of Directors including decision makers from both agencies, with Forest Service District Rangers and BLM Field Managers. COFMS has a central dispatching facility in partnership with ODF that serves as a communications hub for fire and fuels operations, as well as safety and training issues for COFMS. In total, COFMS provides the following resources: 15 engines, four initial attack hand crews, six prevention units, two dozers, two water tenders, one helicopter with module, 50 smokejumpers, two Inter-agency Hotshot crews, one air tanker, one National Fire Cache, one interagency dispatch center and 20 overhead staff positions.

Anytime an incident grows beyond the capability of the local resources a request may be made to ODF and to the Pacific Northwest Coordination Center for additional wildland fire fighting resources.

Law Enforcement

The Sunriver Police Department has responsibility for ensuring the safe and orderly evacuation of the Sunriver community in the event of a major emergency. A number of resources have been allocated to accomplish this task including sirens and Public Address (PA) systems located throughout the community; emergency notification via the radio and television; reverse 9-1-1 capability; Police Department staff; and community-wide volunteers. The Sunriver Police Department cooperates with Deschutes County as needed with any issues related to a major emergency.

Oregon State Police assists the law enforcement efforts and cooperates with the Deschutes County Sheriff for protection in the Sunriver area.

In addition to this high level of coordination, all fire departments and agencies in Central Oregon convene each year for a pre-season meeting to discuss the upcoming wildland fire season. Topics addressed at this meeting include predicted wildland fire activity, weather forecasts and how agencies can/will respond to meet the needs of fire events.

Community Preparedness

Also under the category of Protection Capabilities, the ODF Assessment of Risk examines a community's level of organization and preparedness to respond in an emergency situation. The assessment looks at whether the area has an organized stakeholder group that looks out for its own area through mitigation efforts, a phone tree, etc. Or, does the area only receive outside efforts such as newsletters, mailings or FireFree information from other groups? The Steering Committee used local knowledge to determine the level of preparedness.

Values Protected

The human and economic values protected in the Sunriver planning area are based on home density per ten acres and community infrastructure such as power substations, transportation corridors, water and fuel storage, etc.

As of 2009, there are over 4,100 homes and condominiums, as well as a large resort and multiple businesses in the unincorporated area of Sunriver, with an appraised value in the billions.

The essential infrastructure in the planning area includes utilities, roads, water and sewer systems and has an approximate replacement value of \$275,000 per mile for electrical transmission lines; \$150,000 per mile of electrical distribution lines; and \$2 million per electrical sub-station. Loss to water and sewer systems would be minimal because most are underground or otherwise not flammable.

If a large wildland fire occurs in this area which resulted in the closure of US Highway 97, the economic loss to local businesses and central Oregon in general could exceed \$3.5 million per day, not including other intra- and interstate business losses. The rating for Sunriver in this category is high.

Also of high importance to residents and business owners in Sunriver is the value placed on scenic beauty and recreational opportunities that exist on public lands both within and adjacent to the planning area.

The loss of recreational use by visitors to the area as a result of scenic quality, specifically large “burn over” areas, would have an unknown economic impact not only to Sunriver, but to the remainder of Deschutes County and neighboring cities including Bend, La Pine, Redmond and Sisters. If a large wildland fire occurs in this area, the result will be catastrophic loss to both the developed and dispersed recreational opportunities around Sunriver.

Structural Vulnerability

Structural vulnerability refers to the defensible space and building materials used on structures. It also includes the type and amount of fire department access such as the numbers of roads in and out, road widths and signage.

As mentioned in the Background Information of this CWPP, Sunriver has developed a progressive approach to decrease the vulnerability of structures to wildland fire. Originally developed with community regulations that restricted tree and brush removal in most circumstances, SROA quickly modified these plans following major wildland fires in the area.

In 1991, SROA and the Sunriver Nature Center & Observatory drafted a Fuels Modification Plan, which would become the basis for the current Ladder Fuels Reduction Plan. The plan detailed the reduction of hazardous fuels from private properties and common areas. Fuels reduction became mandatory for private property owners in 1996.

Wood shake was initially the typical roofing choice found throughout Sunriver. Following recent fires and the development of the Fuels Modification Plan, the SROA Board of Directors approved a resolution in 1992 prohibiting wood roofs in Sunriver by requiring all new and replacement roofs to be noncombustible with a Class A fire rating.

In recent years, the Sunriver Owners Association and many residents in Sunriver continue to take steps to decrease the vulnerability of structures to wildland fire. Although attitudes and behaviors towards fire continue to improve thanks to the progressive direction of SROA leadership and educational programs like FireFree and Firewise, the population growth and continued development into the wildland urban interface present fresh challenges each year. The Steering Committee puts high value on the importance of making structures in Sunriver as fire safe as possible.

The adequacy of water resources were not considered in this assessment and are addressed as a priority item under Action Plan and Implementation.

The following is the ODF Assessment of Risk with value ratings and corresponding scores. The higher the total score in this assessment, the higher the overall risk.

1. What is the likelihood of a fire occurring?

The risk of wildfire occurrence refers to the likelihood of a fire occurring based on historical fire occurrence, home density and ignition sources. The calculations are based on evidence from the USFS, ODF and the Sunriver Fire Department of fire occurrences per 1,000 acres per ten years, as well as home density and ready ignition sources such as dry lightning storms, debris burning, equipment use, juveniles, campfires, and arson.

	Actual	Score
Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	.29 fires per 1000 ac per 10 years	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	3.5 homes per 10 acres	5
Ignition Risk – Other Factors Present (see below) < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	19 Present	10
Total points:		25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High		
Rating:		Moderate

Other factors: Power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

2. Hazards.

The hazard rating describes resistance to control once a fire starts, based on weather, topography (including slope, aspect & elevation), vegetation and crown fire potential.

	Actual	Score
Weather Zone 3	Auto rating east of the Cascades	40
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	Flat	0
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	Equal heating on all sides	3
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	Appx 4,100 ft.	1
Vegetation (See below) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	HV 2 See below	15
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	Moderate potential	5
Total points:		64
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme		
Rating:		Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.

HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.

HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities.

These ratings are based on fire protection capability and resources to control and suppress wildland and structural fires. They also consider response times and community preparedness. A low score in this category is preferred as it demonstrates quick response times and effective community preparedness.

	Actual	Score
Fire response		
Organized structural response < 10 minutes 0 points		
Inside fire district, response > 10 minutes 8 points		0
No structural protection, only wildland response 15 points		
No structural or wildland protection 36 points		
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts 0 points		0
Primarily agency efforts (mailings, FireFree, etc.) 2 points		
No efforts 4 points		
Total points:		0
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Low

4. Values Protected: Human and economic.

These ratings are based on home density per ten acres and community infrastructure such as power substations and transportation corridors, etc.

	Actual	Score
Homes (density per 10 acres)		
0.1 – 0.9 (rural) 2 points		
1 – 5 (suburban) 15 points	3.5 homes per ten acres (4,100+ total)	15
5.1 + (urban) 30 points		
Community Infrastructure (see below)		
None 0 points	More than one present	20
One present 10 points		
More than one present 20 points		
Total points:		35
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

5. Structural Vulnerability.

Structural vulnerability is based on defensible space, building materials, the type and amount of fire service access.

	Actual	Score
<u>Structural vulnerability</u>		
Flammable roofing present?		
non wood - 0		
wood - 30	271 homes have wood roofing	15
Meets defensible space standards?		
Meets SR Ladder Fuels Reduction Plan - 0	All but avg 15-20 homes are compliant	0
Non compliant - 30		
Ingress - egress		
Two or more roads in and out - 0	2+ roads	0
One road - 7		
Road width		
Greater than 24 feet - 0		
20 - 24 feet - 2	Average, but a few under 20 ft.	2
Less than 20 feet - 4		
All season road condition		
surfaced, < 10% grade - 0	Asphalt, flat	0
surfaced, > 10% grade - 1		
Non surfaced, <10% grade - 1		
Non surfaced, >10% grade - 3		
Other than all season - 4		
Street signs		
Present - 4" reflective letters - 0	Yes	0
Absent - 5		
Fire Service Access		
< 300 ft. with turnaround - 0		
> 300 ft. with turnaround - 2	Some over 300 ft, all with turnaround.	2
< 300 ft. w/o turnaround - 4		
> 300 ft. w/o turnaround - 5		
Total		19
Rating		Low

Category rating: 0 – 30 = Low; 31 – 60 = Moderate; 61 – 90 = High

Table 1 – Summary of Sunriver ODF Assessment of Risk

	Likelihood of fire occurring	Hazard	Protection capability	Values Protected	Structural Vulnerability	Total
Sunriver	25 Moderate	64 Extreme	0 Low	35 High	19 Low	143

Neighboring CWPPs have similar assessments. The Upper Deschutes River Coalition CWPP includes the Three Rivers assessment area that directly abuts the south end of the Sunriver CWPP.

Table 2 – Summary of UDRC Three Rivers ODF Assessment of Risk

	Likelihood of fire occurring	Hazard	Protection capability	Values Protected	Structural Vulnerability	Total
Three Rivers	35 High	71 Extreme	0 Low	35 High	32 Moderate	173

Just north of the Sunriver CWPP boundary lies the West assessment area under the Greater Bend CWPP.

Table 3 – Summary of Greater Bend West ODF Assessment of Risk

	Likelihood of fire occurring	Hazard	Protection capability	Values Protected	Structural Vulnerability	Total
West	30 High	76 Extreme	10 Moderate	22 Moderate	43 Moderate	181

The Steering Committee recognizes the risks in adjacent and nearby CWPPs and emphasizes the importance of collaboration with neighboring CWPP groups to maximize efforts that reduce the likelihood of high intensity wildfires traveling and spotting in the WUI.

Oregon Forestland-Urban Interface Fire Protection Act of 1997

While not utilized as one of the assessment tools for this CWPP, the Steering Committee offers and promotes the standards of the act for private lands, other than SROA commons and those properties subject to the Sunriver Ladder Fuels Reduction plan, explained in the following section.

The Oregon Forestland-Urban Interface Fire Protection Act, also known as Senate Bill 360, enlists the aid of property owners toward the goal of turning fire-vulnerable urban and suburban properties into less volatile zones where firefighters may more safely and effectively defend structures and properties from wildfires. The law requires property owners in identified forestland-urban interface areas to reduce excess vegetation around structures and along driveways. In some cases, it is also necessary to create fuel breaks along property lines and roadsides.

Forestland-urban interface areas are identified in each county by a classification committee. Once areas are identified, a committee applies fire risk classifications to the areas. The classifications range from “low” to “high density extreme,” and the classification is used by a property owner to determine the size of a fuel break that needs to be established around a structure. The classification committee reconvenes every five years to review and recommend any changes to the classifications. This process was just completed in Deschutes County in February 2010. The Sunriver community is rated Extreme under this legislation.

ODF is the agency steward of this program. It supplies information about the act’s fuel-reduction standards to property owners. ODF also mails each of these property owners a certification card, which may be signed and returned to ODF after the fuel reduction standards have been met. Certification relieves a property owner from the act’s fire cost recovery liability. This takes effect on properties that are within a forestland-urban interface area and for which a certification card has not been received by the Department of Forestry. In these situations, the state of Oregon may seek to recover certain fire suppression costs from a property owner if a fire originates on or travels through the owner's property, the fuel reduction standards have not been met, and ODF incurs extraordinary suppression costs. The cost-recovery liability under the Oregon Forestland-Urban Interface Fire Protection Act is capped at \$100,000.

The standards under Senate Bill 360 for private lands classified as Extreme are:

- Establish a primary fuel break of 50 feet around structures (100 feet for wood roofing);
- Create fuel breaks around driveways longer than 150 feet;
- Remove tree branches within 10 feet of chimneys;
- Remove any dead vegetation that overhangs a roof;
- Remove flammable materials from under decks and stairways;
- Move firewood 20 feet away from structures;

A detailed description of the standards is available from the Oregon Department of Forestry in the handbook for the Oregon Forestland – Urban Interface Fire Protection Act of 1997. This information is also available at www.oregon.gov/ODF/fire/SB360.

Sunriver Ladder Fuels Reduction Plan

SROA has worked cooperatively with ODF to directly address defensible space standards within Sunriver through a specific Ladder Fuels Reduction Plan that serves as an alternative plan under this legislation.

In lieu of the Senate Bill 360 certification process described above, Sunriver collaborated with ODF to develop a Ladder Fuels Reduction (LFR) Plan that is an approved alternative plan under the legislation.

The Sunriver LFR includes requirements for fuels reduction on private lands in Sunriver and SROA-owned common grounds. The plan has been reviewed and approved by ODF and the Sunriver Fire Department. ODF has designated the Sunriver Environmental Director and the Environmental Assistant as Accredited Assessors and directors of this program, with the authority to certify Sunriver properties under this legislation. Compliance by landowners with the Sunriver LFR plan certifies a property under the approved alternative standards and relieves the owner of the fire cost recovery liability.

Fire Regime - Condition Class

Fire Regime - Condition Class considers the type of vegetation and its departure from its historical fire return interval.

Five natural (historical) fire regimes are classified based on the average number of years between fires (fire frequency) combined with the severity of the fire on dominant overstory vegetation. Fire regimes I, III and IV are represented on the landscape in the Sunriver planning area. Lodgepole pine for example has a 60-80 year fire interval with the potential for full stand replacement fires. Lodgepole pine therefore falls within Fire Regime IV which describes species with fire return intervals between 35 – 100 years. Ponderosa pine has an 11-15 year natural fire interval with a low potential for stand replacement fires. Therefore, ponderosa pine falls under Fire Regime I which describes species with fire return intervals between 0-35 years.

The following table summarizes Fire Regimes.

Table 4 – Fire Regimes

Fire Regime Group	Fire Frequency	Fire Severity	Plant Association Group
I	0 – 35 years	Low severity	Ponderosa pine, manzanita, bitterbrush
II	0 – 35 years	Stand replacement	Western juniper
III	35 – 100+ years	Mixed severity	Mixed conifer dry
IV	35 – 100+ years	Stand replacement	Lodgepole pine
V	> 200 years	Stand replacement	Western hemlock, mixed conifer wet

Condition Class categorizes a departure from the natural fire frequency based on ecosystem attributes. In Condition Class 1, the historical ecosystem attributes are largely intact and functioning as defined by the historical natural fire regime. In other words, the stand has not missed a fire cycle. In Condition Class 2, the historical ecosystem attributes have been moderately altered. Generally, at least one fire cycle has been missed. In Condition Class 3, historical ecosystem attributes have been significantly altered. Multiple fire cycles have been missed. The risk of losing key ecosystem components (e.g. native species, large trees, soil) is low for Class 1, moderate for Class 2, and high for Class 3. Table 5 summarizes Condition Class.

Table 5 – Condition Class

Condition Class	Attributes
Condition Class 1	<ul style="list-style-type: none"> • Fire regimes are within or near an historical range. • The risk of losing key ecosystem components is low. • Fire frequencies have departed from historical frequencies (either increased or decreased) by no more than one return interval. • Vegetation attributes are intact and functioning within an historical range.
Condition Class 2	<ul style="list-style-type: none"> • Fire regimes have been moderately altered from their historical range. • The risk of losing key ecosystem components has increased to moderate. • Fire frequencies have departed (either increased or decreased) from historical frequencies by more than one return interval. This change results in moderate changes to one or more of the following: fire size, frequency, intensity, severity or landscape patterns. • Vegetation attributes have been moderately altered from their historic ranges.
Condition Class 3	<ul style="list-style-type: none"> • Fire regimes have been significantly altered from their historical range. • The risk of losing key ecosystem components is high. • Fire frequencies have departed (either increased or decreased) by multiple return intervals. This change results in dramatic changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns. • Vegetation attributes have been significantly altered from their historic ranges.

There are 11,801 acres in the Sunriver CWPP area. Significant fuels reduction projects continue to reduce the amount of acreage in Condition Class 2 & 3. Achieving Condition Class 1 on public lands however, requires multiple entries on treatment sites, over a period of years. For example, thinning and mowing may occur over a 12-24 month project period. The under-burning component of the project may not occur for another year while the land recovers from the thinning and mowing and produces an adequate shrub content to support prescribed fire.

Condition Class applies on the landscape level. Therefore, the Steering Committee recognizes that although significant fuels reduction work has been completed by US Forest Service, the need continues on the landscape as a whole. The Steering Committee supports the ongoing planning and treatment process on public lands.

Areas of special concern

Critical Transportation Routes

Critical Transportation Routes do not have a standard definition in Deschutes County. For purposes of the Sunriver CWPP, the Steering Committee defines Critical Transportation Routes as:

- all routes necessary for the support of routine flow of commerce to and/or through the Sunriver area,
- all routes that could be used for potential evacuation of citizens and/or visitors from a wildland fire threat to public safety,
- routes needed for emergency ingress and egress to a wildland fire incident, not including unimproved or “two-track” roads,
- and, all routes needed to protect and support critical infrastructure (power substations, communication transmission lines, water and fuel storage, public service facilities, recreation facilities, etc).

The Steering Committee underscored the need to identify, develop and protect critical transportation routes as part of this planning process. Ingress/egress issues are included under Recommendations to Reduce Structural Vulnerability. This issue is also highlighted under Action Plan and Implementation.

With up to 20,000 visitors in Sunriver per day during peak summer months and an additional 10,000 people using recreation sites and the transportation corridors around Sunriver, critical transportation routes are a prime concern for those agencies responsible for fire suppression and evacuation.



Hazard Reduction Recommendations and Preferred Treatment Methods

The Steering Committee agreed that the Sunriver CWPP is a living tool that can be used for multiple outcomes. The following is an outline of the preferred treatments and goals for hazardous fuels reduction under the Sunriver Community Wildfire Protection Plan.

Goals

The Steering Committee identified the following goals to meet the Purpose on page one of the Sunriver CWPP:

- Reduce hazardous fuels on public lands;
- Reduce hazardous fuels on private lands;
- Reduce structural vulnerability;
- Increase education and awareness of the wildfire threat;
- Identify, improve and protect critical transportation routes.

Preferred treatments and goals for hazardous fuels reduction

The overall goal of the Sunriver CWPP is to decrease the risk of high intensity wildland fire behavior by reducing and maintaining fuel loads to that which can produce flame lengths of less than four feet. This enables safe and effective initial attack. The CWPP goal is also to provide for a healthy, fire resilient landscape that supports the social, economic and ecological values of Sunriver area residents and visitors. The Steering Committee recognizes the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal or private projects and recommends that future projects consider these benefits when selecting areas for treatment. The following specific standards are recommended for treatments on public and private lands within the Sunriver planning area.

Public lands

Federal lands make up 66.5% of the Sunriver planning area and are managed by the US Forest Service from the Bend – Fort Rock Ranger District.

It is the intent of the Steering Committee that the Sunriver WUI area is subject to expedited measures for hazardous fuels treatment and allocation of funds to protect it as stipulated by the Healthy Forests Restoration Act.

The Sunriver planning area is directly adjacent to federal lands on all sides except the southern boundary. The maps in Appendix A detail the WUI boundary throughout the Sunriver CWPP area calling for protection specifically by reducing wildland fuel hazards on public lands.

The overall standard for public lands under this CWPP is to decrease the risk of high intensity wildland fire behavior by reducing and maintaining fuel loads to that which can produce flame lengths of less than four feet in the areas within the WUI boundary. This buffer will begin at the edge of private lands (except where other land management practices prohibit it such as riparian or wetland areas) and extend onto the federal lands to the designated WUI boundary. This

enables safe and effective initial attack. This standard can be achieved by the federal land management agency through a variety of treatment methodologies such as thinning, prescribed burning and mechanical treatments. Specific treatments should address fuels issues on a landscape scale rather than acre by acre.

Federal land managers are strongly encouraged to work toward the overall standard by treating Condition Class 2 and 3 lands with the goal of returning the landscape to Condition Class 1 by reducing fuel loads to that which can produce flame lengths of less than four feet:

- Within a ¼ mile buffer of the Sunriver WUI boundary. Treatments should begin here and increase in ¼ mile increments until the WUI boundary is reached.
- Within 300 feet of any evacuation route from Sunriver.
- Although the treatments should focus on Condition Class 2 & 3 areas, maintenance of previously treated lands is also a top priority where treatment is critical to maintain Condition Class 1 status within the CWPP area. Treatment and maintenance of previously treated lands before treatment begins again in other places is an important component of keeping communities safe.

In general, the dominant strategy in all areas should be thinning from below, in an effort to restore large tree, open park-like ponderosa pine dominated forests. In exclusively lodgepole pine and mixed conifer stands where site conditions are favorable to ponderosa pine, intensive thinning should occur with a reforestation strategy to restore a proper ratio, as determined by the agency, of lodgepole or mixed conifer to ponderosa pine.

In exclusively lodgepole pine stands where site conditions are not favorable to ponderosa pine, thinning should occur to provide a minimum of 20' X 20' spacing. Excessive dead/down fuels should be removed followed by understory maintenance.

The Steering Committee also encourages federal land managers to work with local landowners to minimize road closures that could be used as alternate evacuation routes from Sunriver.

Private and county owned lands

Private lands make up 33.5% of the area in the planning area. SROA owns and maintains common lands in Sunriver and the balance is comprised of individual private properties, a small portion owned by Sunriver Water Company and a portion owned by Sunriver Utilities. Deschutes County only owns two ¼ acre lots in this planning area. The Steering Committee recommends that these County owned lands be treated in the same manner as privately owned lands.

Private lands and SROA Commons

On private lands with structural improvements and SROA common lands in Sunriver, the goal is for each structure and property to meet the specific standards as identified in the Sunriver Ladder Fuels Reduction Plan.

The Sunriver Ladder Fuels Reduction Plan is considered an alternative plan to Senate Bill 360 and has been approved by Oregon Department of Forestry and the Sunriver Fire Department. Generally, it outlines the following standards and requirements on private lands with structures that are the responsibility of the landowner:

- The entire property, including areas within 30 feet of any structure (up to the property line) shall be subject to fuels reduction standards.
- All bitterbrush, noxious weeds, dead vegetation, and other flammable shrubs within 15 feet of a structure shall be removed.
- Bitterbrush and manzanita shall be cleared three feet beyond the drip line of tree branches.
- Live branches of pine trees and other flammable trees shall be removed up to a minimum of six feet and a maximum of eight feet. For trees less than 20 feet tall, only the lower 1/3 of branches shall be removed.
- Trees branches of pines and other flammable trees shall be removed to create a minimum of 15 feet of clearance between chimneys and the branches.
- Roofs, gutters, and areas under decks shall be maintained free of accumulated pine needles and other debris.
- Dry grass shall be maintained to an average height of less than four inches, during the fire season (June-November) with the exception of scattered bunchgrasses.
- Firewood shall be stored a minimum of 20 feet from the structure, or at the property line, during fire season (June – November).

Additional specifications for tree cutting and retention are available in the Sunriver Ladder Fuels Reduction (LFR) Plan which can be found at www.sunriverowners.org.

Property owners can also help comply with the LFR plan by taking advantage of FireFree and Firewise suggestions to create and/or maintain defensible space, a fire-resistant buffer that allows for effective first-response firefighting and a significantly reduced risk of the spread of fire. These national education programs promote a variety of fire safe actions to help prevent the spread of fire to protect individual homes and neighborhoods. Information about these programs can be found at www.firefree.org and www.firewise.org.

On SROA commons, SROA Environmental Services Department is responsible for the maintenance of common lands within Sunriver. The Ladder Fuels Reduction Plan currently maintains a six-year cycle of treatment to reduce hazardous fuels and outlines specific treatments for specific vegetation. Generally, the standards for commons include:

- All bitterbrush and manzanita shall be removed within 15 feet of structures. In open areas an average of 30% coverage shall be maintained of all shrubs following removal of bitterbrush and manzanita to three feet beyond the drip line of tree branches.
- Live tree branches shall be removed to a minimum height of six feet and a maximum of eight feet. For trees less than 20 feet tall, only the lower 1/3 of branches shall be removed.
- Seedlings or saplings four inches in diameter or less at breast height (DBH) shall be thinned to six to eight foot spacing.
- Trees larger than four inches DBH shall be thinned to a minimum spacing of six to eight feet between trunks.
- All ponderosa pines shall be retained unless confirmed diseased, a hazard or in an overcrowded condition.

Additional specifications for tree cutting and retention are available in the Sunriver Ladder Fuels Reduction Plan which can be found at www.sunriverowners.org.

Private lands outside Sunriver

On private lands with structural improvements outside Sunriver proper, the goal is for each structure to meet the specific standards for classified lands as identified in the Oregon Forestland – Urban Interface Fire Protection Act of 1997, also known as Senate Bill 360. This statute outlines standards and requirements for defensible space on private property that receives fire protection from Oregon Department of Forestry.

The Oregon Department of Forestry provides wildland fire protection in the Sunriver planning area and the Steering Committee supports the goals and standards of Senate Bill 360 on those lands not subject to the Sunriver Ladder Fuels Reduction plan. Five classifications are possible under the Act – Low, Moderate, High, Extreme and High Density Extreme. East of the Cascades however, only three are possible due to an automatic rating for weather. Sunriver and the surrounding lands in the CWPP planning area are classified as Extreme. The standards under Senate Bill 360 for private lands classified as Extreme are:

- Establish a primary fuel break of 50 feet around structures (100 feet for wood roofing);
- Create fuel breaks around driveways longer than 150 feet;

- Remove tree branches within 10 feet of chimneys;
- Remove any dead vegetation that overhangs a roof;
- Remove flammable materials from under decks and stairways;
- Move firewood 20 feet away from structures.

A detailed description of the standards is available from the Oregon Department of Forestry in the handbook for the Oregon Forestland – Urban Interface Fire Protection Act of 1997. This information is also available at www.oregon.gov/ODF/fire/SB360.



Recommendations to Reduce Structural Vulnerability

Structural Vulnerability

Based on the assessment of structural vulnerability for the ODF Assessment of Risk, Table 6 identifies the main hazards within the Sunriver CWPP. For each hazard or risk listed, an action is recommended to address the threat or decrease the risk. The adequacy of water resources for fire suppression was not considered under this assessment. This topic is addressed under Action Plan and Implementation.

Table 6 – Structural Vulnerability Hazards and Recommendations

Primary Hazards	Recommended Actions	☑
Defensible space – hazardous vegetation	Continue with LFR Compliance, FireFree, FireWise.	
Structural composition – 271 homes still have wood shake roofing	Continue education efforts to change roofing to Class A Fire Resistant roof. Comply with LFR, FireFree, FireWise.	95% have Class A roofing
Road widths 20-24 feet	Maintain height and width clearance through LFR and SB 360 for roads less than adequate for emergency response and egress.	
Poor fire service access in some areas	Maintain height and width clearance through LFR and SB 360 for safe turnarounds.	
Poorly signed evacuation routes	Sign and maintain routes.	



Other Recommendations

Education

As stated in the Purpose of the Sunriver CWPP, four of the goals for this planning effort are to:

- Instill a sense of personal responsibility and provide steps for taking preventive actions regarding wildland fire,
- Increase public understanding of living in a fire-adapted ecosystem,
- Increase the community's ability to prepare for and respond to wildland fires, and
- Increase the community's ability to recover from wildland fires.

With these goals in mind, education and outreach are top priorities for the Sunriver CWPP. The rapid influx of new residents and vacationers is just one reason the Steering Committee places high value on the education of Sunriver area residents and landowners. Many residents and visitors are unfamiliar with wildland fire and have limited experience with issues like defensible space. Residents and visitors will continue to benefit from clear examples of what a fire resilient forest and community look like as well as easy access to resources that help them take action.

There are several opportunities to enhance educational efforts in the Sunriver area. All local fire districts, the US Forest Service, the Oregon Department of Forestry, the Central Oregon Fire Prevention Cooperative and Project Wildfire all provide wildland fire prevention programs through a variety of individual and collaborative efforts. SROA is working with Project Wildfire and the Sunriver Scene to develop wildfire awareness and prevention information to distribute through mailings, displays, bike-path kiosks, in offices, at owner meetings, on the websites and in rental units in Sunriver.

The Steering Committee also recommends support for projects that enhance a community's ability to communicate necessary information in the event of a wildfire. Programs that develop and maintain neighborhood phone trees or communication lists that identify neighbors who may need additional assistance during an evacuation are encouraged.

Utilizing the information in Table 6, property owners are strongly encouraged to learn more about how they can reduce the hazards on their own property. Local residents are encouraged to contact SROA and their local fire department for information. Residents may also find additional information on how they can reduce hazards and protect themselves at www.firefree.org and www.firewise.org.



Action Plan and Implementation

The Steering Committee recognizes that the Sunriver CWPP is a living tool with multiple applications. The following actions are intended to assist individuals and agencies in the implementation of this CWPP across Sunriver and the adjacent WUI.

Reduce hazardous fuels on public lands

Immediately following the acceptance and signed approval of this plan, the Steering Committee will make copies of the 2010 Sunriver CWPP available to all public land managers including the Deschutes National Forest and the Oregon Department of Forestry. The intention of the Steering Committee is to engage in continued discussions with the Sunriver community and adjacent landowners to implement the CWPP and accomplish hazardous fuels reduction projects in the most expeditious manner possible. The Steering Committee recognizes the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal or other private projects and recommends that future projects consider these benefits when selecting areas for treatment.

Reduce hazardous fuels on private lands

The intention of the Steering Committee is to engage in continued discussions with landowners to facilitate fuels reduction projects on private lands through the approved Sunriver Ladder Fuels Reduction Plan and the implementation of Senate Bill 360. These actions can be accomplished through education activities and grants for specific projects on private lands.

Reduce Structural Vulnerability

The Steering Committee is charged with the task of engaging community members to review the Structural Vulnerability Assessment in this CWPP and identify projects that will strengthen the potential for the neighborhoods to survive a wildland fire within the Sunriver WUI. The ODF Assessment of Risk and Tables 6 & 7 can be utilized as a resource for homeowners to improve the fire resistance of their homes on an individual basis and also by groups to implement education programs.

The Steering Committee is also charged with the task of working with the fire department and Sunriver Utilities to identify and assess the water resources available for fire suppression in Sunriver and the surrounding WUI. The Steering Committee can make recommendations for projects to ensure adequate water resources are available for fire suppression.

Increase Awareness and Education

The Steering Committee will work with SROA, the fire departments and Project Wildfire to review the educational programs available and identify potential projects for implementation.

Identify, Improve and Protect Critical Transportation Routes

The Steering Committee will work with Sunriver Fire Department, Sunriver Police Department, SROA, Deschutes County, and Oregon Department of Transportation to identify and map existing transportation and evacuation routes. The Steering Committee will assist in conducting further assessments to determine the evacuation needs of Sunriver and identify potential projects developing new routes and/or improving existing routes.

The Steering Committee will continue to encourage federal land managers to work with local landowners to minimize closures of roads that can be used as alternate evacuation routes.

Fund Projects

The Steering Committee will encourage and assist community groups in seeking funding for fuels reduction, educational, and other projects to decrease overall risks of loss from wildland fire.



Evaluation and Monitoring

The Steering Committee faced a complex task in the comprehensive revision of the Sunriver Community Wildfire Protection Plan. Implementing and sustaining these efforts will require a significant commitment. Building a collaborative and cooperative environment with the fire department, community-based organizations, local government and the public land management agencies has been the first step in reducing the risk of loss from wildland fire. The Steering Committee pledges to maintain this cooperation with the public over the long-term with the commitment of all the partners involved.

At a minimum, the Steering Committee shall include: a member of the Sunriver Owners Association Board of Directors; SROA staff; the Program Coordinator from Project Wildfire; a

Chief Officer from Sunriver Fire Department; a representative from Oregon Department of Forestry (ODF); a representative from Central Oregon Fire Management Service (COFMS), and Deschutes County along with members of the Sunriver area public.

The Steering Committee agrees that the Sunriver Community Wildfire Protection Plan will be a living document, intended to promote fuels reduction, educational, and other projects to decrease overall risks of loss from wildland fire; revisited at least annually to address its Purpose.

SROA and the Sunriver Fire Department will work with Project Wildfire to convene the Steering Committee as often as the Steering Committee deems necessary to implement and review the Sunriver Community Wildfire Protection Plan. Topics for discussion can include:

- Identification and assessment of new or treated risks.
- Evaluation and tracking of progress toward goals.
- Updating of maps.
- Adoption of new and/or revised priorities.
- Identification of specific projects.
- Discussion of grant opportunities and determination of projects eligible for funding.
- Writing of grants.
- Identification of appropriate projects to address additional items as outlined in the Action Plan for Structural Vulnerability, Education and Critical Transportation Routes.
- Coordination of additional items, projects and assessments.

SROA, the Sunriver Fire Department and Project Wildfire will ensure that the evaluation and monitoring activities listed above are addressed by the Steering Committee each year. As members of the Steering Committee change, Project Wildfire will ensure that it maintains a balanced representation of agency and public members, with a continued focus on inviting interested parties to participate in the review and planning process.



Acknowledgements

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