

Sunriver Ladder Fuels Reduction Plan

Fire protection and forest health in Sunriver

REVISED: APRIL 15, 2023

Sunriver Owners Association
PO Box 3278
Sunriver, OR 97707
541-593-2411
www.sunriverowners.org

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INTRODUCTION

The Wildland-Urban Interface (WUI) is a geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels. A major issue for forest health and wildland urban interface communities like Sunriver is the buildup and accumulation of combustible materials, referred to as “fuel loading.” Fuels are combustible materials, including vegetation and structures, that can create a serious fire risk to both communities and forested environments if not properly managed.

Before the influence of humans, frequent, low-intensity fires would burn quickly through underbrush, naturally managing fuel load, preserving large trees, and maintaining diverse, multi-story forests.

Today, in an urban forest environment such as Sunriver, burning (controlled or otherwise) is impractical and dangerous. Alternatives to burning are necessary to protect properties and enhance forest health and support Sunriver’s diverse ecosystems. Manual removal, clearing and thinning, although labor intensive, are highly effective when applied uniformly and consistently throughout the community.

The Sunriver Ladder Fuels Reduction (LFR) Plan (the “Plan”) establishes guidelines, that apply to all Sunriver Owners Association (SROA) owned property (“SROA property”) and privately owned property (“private property”). The Plan was created in 1995 and the implementation of these guidelines was made mandatory for all properties in Sunriver in 1996 (Section 4.01 of the Sunriver Rules & Regulations). This has been reviewed by the Oregon Department of Forestry (ODF) and the Sunriver Fire Department (SRFD).

The Plan contains guidelines that are consistent with achieving the three goals of the National Cohesive Wildland Fire Management Strategy (“Cohesive Strategy”). The Cohesive Strategy is designed to address wildland fire-related issues across the nation in a collaborative, cohesive manner and represents the evolution of national fire policy. The primary, national goals that are supported in this Plan are:

- Resilient landscapes
- Fire-adapted communities
- Safe and effective wildfire response

The Sunriver LFR Plan has been periodically revised (most recently in December 2003) to reflect evolving wildfire science, best practices, and legislative standards. For example, the Plan was updated to assist Sunriver property owners to meet obligations outlined in the Oregon Forestland-Urban Interface Fire Protection Act of 1997 (SB360) and the International Fire Code (IFC). In 2005, SROA signed a historic cooperative agreement with the Oregon Department of Forestry that recognized the Sunriver LFR Plan met or exceeded its requirements and could be used as an alternate to SB360. This agreement remained valid through 2021, until the Act was superseded through the enrollment of SB762 by the 81st Oregon Legislative Assembly. As wildfire science, best practices, legislative standards (such as those under SB762) continue to progress, the Sunriver LFR Plan will be reviewed and updated as appropriate.

1.0 APPLICATION & ASSIGNMENT

- 1.1 To maintain a balance between the urban community and forest environment, reduce wildfire risk and enhance forest health, SROA sets forth and adopts the following criteria for the removal of vegetation from all Sunriver properties.
- 1.2 The use of “should” in this Plan indicates a standard, condition, or action is **advisory**. It is strongly recommended that all owners meet all guidelines outlined in this Plan, but any standard, condition, or action that is designated as “should” (be met) is not subject to inspection for compliance with this Plan. The use of “shall” in this Plan indicates a standard, condition, or action is **compulsory** and thereby required by rule. Any standard, condition, or action that is designated as “shall” (be met) is subject to inspection for compliance with this Plan.
- 1.3 The SROA Natural Resources Department is responsible for the implementation of this Plan on SROA property.
 - (A) The SROA Natural Resources Department is responsible for ladder fuels reduction and forest management on SROA property and shall inspect all SROA property on a regular basis for tree thinning and removal of flammable vegetation, hazard trees and roadside obstructions. Ladder fuels reduction and forest management on SROA property support Sunriver Owners by extending defensible space on private property.
- 1.4 Owners of private property (“Owners”) shall be responsible for meeting the fuels reduction standards and maintaining defensible space outlined in this Plan on their properties, subject to the permitting process outlined herein. The entire property shall be subject to fuels reduction standards outlined in this Plan.
 - (A) The SROA Natural Resources Department shall inspect all private property annually, biannually, or as determined by the Natural Resources Department Director for compliance with the criteria contained herein.
- 1.5 It is also strongly recommended that all owners use ignition-resistant building materials, construction methods, and other strategies to harden the home or other structures. Owners may refer to the SROA Design Committee Manual of Rules and Procedures, Deschutes County building codes, and the Sunriver Fire Department for more information.

2.0 PERMITTING

- 2.1 In accordance with 4.01 of the Sunriver Rules and Regulations, Forest Management Permits (“Permits”) issued by the SROA Natural Resources Department are required for some vegetation removal activities as outlined in this Plan.
 - (A) If a Permit to remove vegetation is required by this Plan, Owners shall obtain a Permit prior to performing any such activities.

(B) Permits will be issued to an Owner and may be issued to an Owner's designated representative (such as a private contractor or property manager) as requested. Owners assume responsibility for the performance of activities noted on the Permit.

2.2 As part of the permitting process, an on-site evaluation shall be made by SROA Natural Resources Department staff before a Permit is issued. The Permit shall identify work that is authorized to be performed and any on-site field markings. Inspections following an on-site evaluation or issuance of a Permit may be made on a random basis or on request.

(A) Only SROA Natural Resources Department staff are authorized to mark a tree on SROA and private property with paint. Tampering with, applying paint to, or altering paint on a tree is prohibited.

2.3 Private property Owners have sole responsibility for verification of property lines and applicable sub-association approvals before alteration of any vegetation. Permits do not authorize cutting or removal of vegetation on properties not owned by the Permit holder.

2.4 Permits are valid for 120 days from the date of issue, unless otherwise noted on the Permit. If authorized work is not completed prior to the Permit expiration date, Owners shall contact the SROA Natural Resources Department for guidance.

3.0 VEGETATION REMOVAL

3.1 PRIVATE PROPERTY

Reference Sec 1.4: Owners of private property ("Owners") shall be responsible for meeting the fuels reduction standards and maintaining defensible space outlined in this Plan on their properties, subject to the permitting process outlined herein. The entire property shall be subject to fuels reduction standards outlined in this Plan.

Reference Sec 2.1: In accordance with 4.01 of the Sunriver Rules and Regulations, Forest Management Permits ("Permits") issued by the SROA Natural Resources Department are required for some vegetation removal activities as outlined in this Plan.

Reference Sec 2.3: Private property Owners have sole responsibility for verification of property lines and applicable sub-association approvals before alteration of any vegetation. Permits do not authorize cutting or removal of vegetation on properties not owned by the Permit holder.

3.1.1 DEBRIS REMOVAL ON PRIVATE PROPERTY

(A) The processing and disposal of vegetation and debris generated on private property, including shrubs or brush, live and dead limbs, seedlings, or material from felled trees, is the responsibility of the Owner. The debris is to be disposed of as it is created.

(1) Large woody debris (i.e., trunks > four inches (4") DBH) generated by the removal of trees shall be processed and stored within the property boundaries or hauled to an off-

site location unless directed or approved by the SROA Natural Resources Department Director.

- (2) Logs shall be removed unless approved by the SROA Design Committee as a landscape design element.

(B) Methods for Owners to dispose of debris include:

- (1) Chip and blow the debris back over the ground from which it was removed. All chipped material must remain within private property boundaries and shall not exceed two inches (2") in depth. Chip should not be placed within five feet (5') of any structure. Blowing or leaving chip piles on SROA property is prohibited.
- (2) Haul to an off-site location.
- (3) Participate in the SROA Ladder Fuels Pickup Program according to program guidelines and restrictions.

(C) Contractors working on private property are responsible for disposal of all debris created. Contractors shall not leave debris for pickup nor participate in the SROA Ladder Fuels Pickup Program.

3.1.2 SHRUBS/BRUSH ON PRIVATE PROPERTY

(A) Bitterbrush and manzanita

- (1) Bitterbrush and/or manzanita within fifteen feet (15') of any structure shall be removed.
- (2) Bitterbrush and/or manzanita shall be cleared underneath and within three feet (3') beyond the dripline of conifer trees and seedlings.
- (3) Smaller (less than two feet (< 2') tall), well-spaced (three feet (3') clearance between individual shrubs) bitterbrush and/or manzanita shrubs may remain in isolated areas. In no case shall bitterbrush and/or manzanita exceed 20% ground coverage.
- (4) The SROA Natural Resources Department Director shall determine the amount of bitterbrush and/or manzanita to be removed based on a site-specific analysis.
- (5) No Permit is required for bitterbrush and/or manzanita removal on private property.

(B) Conifer landscaping shrubs

- (1) All juniper and arborvitae shrubs shall be removed.
- (2) Conifer landscaping shrubs should be removed from within five feet (5') of any structure and/or underneath and within three feet (3') beyond the dripline of conifer trees.
- (3) No Permit is required for the removal of juniper, arborvitae, or conifer landscaping shrubs as described in Sections 1-2 above.

(C) Other live native shrubs or brush

- (1) Removal of native shrubs or brush including but not limited to wax currant, rabbitbrush, and Oregon grape within five feet (5') of any structure is allowed. No permit required.
- (2) Removal of native shrubs or brush including but not limited to wax currant, rabbitbrush, and Oregon grape beyond five feet (5') of any structure is prohibited unless directed or approved by the SROA Natural Resources Department Director. A permit is required.

3.1.3 BRANCHES/LIMBS ON PRIVATE PROPERTY

(A) Live limbs

- (1) On pine trees taller than twenty feet (20') in height, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, any portion of live limbs shall be removed up to a minimum height of six feet (6') and a maximum height of eight feet (8') from grade.
- (2) On pine trees shorter than twenty feet (20'), including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, only the limbs from the lower one-third (1/3) of the tree shall be removed.

(B) Dead limbs

- (1) On all conifer trees, any portion of a dead limb shall be removed to a minimum height of ten feet (10') from grade.
- (2) Dead limbs on all other trees may be removed to a minimum height of ten feet (10') from grade.

(C) All limbs near Owner's structure

- (1) Conifer tree limbs that are located between the structure and the trunk of a tree shall be removed to create five feet (5') clearance from the structure. If the tree is located within five feet (5') of the structure, the limbs shall be removed to the trunk.
- (2) Conifer tree limbs that are located between the outlet of any chimney and the trunk of a tree shall be removed to create fifteen feet (15') clearance from the outlet of the chimney. If the tree is located within fifteen feet (15') of the outlet of the chimney, the limbs shall be removed to the trunk.
- (3) Wood shake roofs may require greater clearance as indicated by the SROA Natural Resources Department Director.

(D) Tree branches adjacent to driveway pavement edge should be removed or pruned to provide fourteen feet (14') vertical clearance above the pavement surface for emergency vehicle access.

(E) No Permit required to remove limbs as described in Sections A-D above.

(F) Select pine trees may be "crown cleaned" or "crown thinned" to improve tree health or reduce potential hazards. Crown cleaning work shall be performed under the direction of a Certified Arborist. A Permit is required.

3.1.4 TREES ON PRIVATE PROPERTY

(A) Removal of pine trees including Ponderosa and Lodgepole pine trees equal to or larger than four inches (4") DBH requires a Permit.

- (1) Pine trees, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, shall be thinned to a minimum of six to eight feet (6-8') separation between trunks.
- (2) Pine trees, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, may be thinned to a greater (i.e., density, slope, etc.) or lesser (i.e., clump of

healthy Ponderosa trees) separation only at the direction or approval of the SROA Natural Resources staff.

- (3) Optimal forest health considerations such as structural issues, disease, possible hazard, overcrowding, growth under the canopy of a larger tree, forest conversion and succession, etc. may be considered by SROA Natural Resources Department staff when determining if a pine tree, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, can be removed.
- (4) It is highly recommended that other conifer trees planted as part of an approved landscape plan, including but not limited to Spruce or Fir, have a minimum of ten feet (10') separation between trunks and are not located underneath or within three feet (3') beyond the dripline of other conifer trees.

- (B) All trees shall be cut so as to leave a stump no higher than four inches (4") above grade.
- (C) All planted juniper and arborvitae trees shall be removed. No Permit is required.
- (D) All trees or portion(s) thereof that are completely down on the ground shall be removed. No Permit is required.
- (E) All standing dead trees shall be removed, except those designated by SROA as wildlife trees. A Permit is required to remove standing dead Lodgepole and Ponderosa pine trees equal to or greater than four inches (4") DBH.

3.1.5 SEEDLINGS ON PRIVATE PROPERTY

- (A) All Lodgepole pine seedlings or saplings less than four inches (4") DBH shall be thinned to six to eight feet (6-8') spacing. Any Lodgepole pine seedling or sapling less than four inches (4") DBH may be removed. No permit is required.
- (B) Ponderosa pine seedlings or saplings less than four inches (4") DBH shall be thinned to six to eight feet (6-8') spacing. Ponderosa seedlings may be thinned to a greater or lesser separation at the direction or approval of the SROA Natural Resources Director. A Permit is required.
- (C) If located within five feet (5') of a structure, all Lodgepole and Ponderosa pine seedlings or saplings should be removed. No permit is required.
- (D) Ponderosa pine seedlings or saplings less than four inches (4") DBH growing into the canopy of larger Ponderosa pine trees shall be removed. Ponderosa pine seedlings or saplings less than four inches (4") DBH growing into the canopy of larger Lodgepole pine trees may be retained under the direction and approval of SROA Natural Resources Department staff. A Permit is required.
- (E) All standing dead seedlings or saplings shall be removed. No Permit is required.
- (F) Seedlings or saplings shall be cut to grade level.

3.1.6 FLAMMABLE MATERIAL ON ROOFS, GUTTERS, AND UNDER DECKS ON PRIVATE PROPERTY

- (A) Roofs, gutters, and the areas under decks shall be maintained free of accumulated needles, dead leaves, and other flammable vegetative material during fire season (as determined annually by the Oregon Department of Forestry, typically May-November). No Permit is required.
- (B) The area under decks should be maintained free of other non-vegetative flammable material (such as lumber, furniture, etc.) during fire season (as determined annually by the Oregon Department of Forestry, typically May-November).

3.1.7 GRASSES ON PRIVATE PROPERTY

- (A) All dry grasses located within zero to five feet (0-5') of any structure should be maintained to an average height of less than four inches (4") during the fire season (as determined annually by the Oregon Department of Forestry, typically May-November). No Permit is required.

3.1.8 FIREWOOD ON PRIVATE PROPERTY

- (A) During fire season (as determined annually by the Oregon Department of Forestry, typically May-November) firewood shall be stored in a solid, fully enclosed space such as a garage or other structure approved by the Design Committee, or at least twenty feet (20') from ANY structure. If twenty feet (20') from any structure is not attainable, firewood shall be stored at the property line furthest from all structures, including structures located on neighboring properties. Owners may refer to SROA Rules & Regulations for additional information about firewood storage on private property.

3.2 SROA PROPERTY

Reference Section 1.3 (A) - The SROA Natural Resources Department is responsible for ladder fuels reduction and forest management on SROA property and shall inspect all SROA property on a regular basis for tree thinning and removal of flammable vegetation, hazard trees and roadside obstructions. Ladder fuels reduction and forest management on SROA property support Sunriver Owners by extending defensible space on private property.

3.2.1 OWNER/CONTRACTOR LFR WORK ON SROA PROPERTY

- (A) SROA Natural Resources Department staff may authorize Owners or contractors approved by the SROA Natural Resources Department Director to do limited LFR work on SROA property at their own expense and risk, subject to issuance of a Permit, signing of a liability waiver, and/or other requirements. Authorization may be granted for bitterbrush or manzanita removal, limbing, removal of Lodgepole seedlings/saplings (four inches (4") DBH or less). Trees larger than four inches (4") DBH must be removed by SROA, or a contractor approved by the SROA Natural Resources Department Director.

3.2.2 DEBRIS PROCESSING, REMOVAL, AND RESTORATION ON SROA PROPERTY

- (A) Vegetation and debris from SROA property, including shrubs or brush, live and dead limbs, seedlings, or material from felled trees, shall be processed by chipping in-place and broadcast onto SROA property, or by hauling to a location specified by the SROA Natural Resources Department Director.
- (B) Trees greater than four inches (4") DBH shall be cut into firewood sixteen to eighteen inches (16-18") in length and left for use by Owners or SROA employees. An SROA Firewood Collection Permit is required.
- (C) Trunks and stumps of large trees may be left in place at the direction of the SROA Natural Resources Department Director for wildlife, to block illegal paths, or to decay as a nutrient source.
- (D) Owners shall not disturb or remove downed tree trunks longer than eighteen inches (18") in length found on SROA property.
- (E) Owner use of chainsaws, splitters, or other mechanical equipment on SROA property is prohibited.

3.2.3 SHRUBS/BRUSH ON SROA PROPERTY

- (A) Bitterbrush and Manzanita
 - (1) Bitterbrush and/or manzanita within fifteen feet (15') of any structure shall be removed.
 - (2) Bitterbrush and/or manzanita shall be cleared underneath and within three feet (3') beyond the dripline of conifer trees and seedlings.
 - (3) Smaller (less than two feet (< 2') tall), well-spaced (three feet (3') clearance between individual shrubs) bitterbrush and manzanita shrubs may remain in isolated areas. In no case shall bitterbrush and manzanita exceed 20% ground coverage.
 - (4) The SROA Natural Resources Department Director shall determine the amount of bitterbrush and/or manzanita to be removed based on a site-specific analysis.
 - (5) At the discretion of the SROA Natural Resources Department Director, stands of bitterbrush and/or manzanita may remain. In some areas, bitterbrush and/or manzanita are desirable for wildlife habitat, noxious weed control, erosion, and to preserve natural landscapes.
- (B) Conifer landscaping shrubs
 - (1) All juniper and arborvitae shrubs shall be removed.
 - (2) Conifer landscaping shrubs should be removed from within five feet (5') of any structure or under and within three feet (3') beyond the dripline of conifer trees.
- (C) Other live native shrubs or brush
 - (1) Removal of native shrubs or brush including but not limited to wax currant, rabbitbrush, and Oregon grape within five feet (5') of any structure is allowed.

- (2) Removal of native shrubs or brush including but not limited to wax currant, rabbitbrush, and Oregon grape beyond five feet (5') of any structure is prohibited unless directed or approved by the SROA Natural Resources Department Director, or is necessary to meet the guidelines of section 3.2.7, herein.

3.2.4 BRANCHES/LIMBS ON SROA PROPERTY

(A) Live limbs

- (1) On pine trees taller than twenty feet (20') in height, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, any portion of live limbs shall be removed up to a minimum height of six feet (6') and a maximum height of eight feet (8') from grade, except in special screening areas designated by the SROA Natural Resources Department Director.
- (2) On pine trees shorter than twenty feet (20'), including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, only the limbs from the lower one-third (1/3) of the tree shall be removed, except in special screening areas designated by the SROA Natural Resources Department Director.

(B) Dead limbs

- (1) On all conifer trees, any portion of a dead limb shall be removed to a minimum height of ten feet (10') from grade.

(C) All limbs near SROA structures

- (1) Limbs of all conifer trees shall be removed to create clearance of at least five feet (5') from a roof or wall.
- (2) Limbs of conifer trees shall be removed to create clearance of at least fifteen feet (15') from the outlet of any chimney

3.2.5 TREES ON SROA PROPERTY

- (A) Pine trees, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, shall be thinned to a minimum of six to eight feet (6-8') separation between trunks.
 - (1) Pine trees, including but not limited to Ponderosa, Lodgepole, Austrian, and Scotch pine trees, may be thinned to a greater (i.e., density, slope, etc.) or lesser (i.e., clump of healthy Ponderosa trees) separation only at the direction or approval of the SROA Natural Resources Department staff.
 - (2) Optimal forest health considerations such as structural issues, disease, possible hazard, overcrowding, growth under the canopy of a larger tree, forest conversion and succession, etc. may be considered by SROA Natural Resources Department staff when determining if a pine tree, including Ponderosa, Lodgepole, Austrian, and Scotch pine trees, can be removed.
 - (3) It is highly recommended that other conifer trees planted as part of an approved landscape plan (i.e., at SROA facilities), including but not limited to spruce or fir, have a minimum of ten feet (10') separation between trunks and are not located under or within three feet (3') beyond the dripline of other conifer trees.

- (B) All trees shall be cut so as to leave a stump no higher than four inches (4") above grade level.
- (C) All planted juniper and arborvitae trees shall be removed.
- (D) All standing dead trees shall remain as wildlife trees except those designated for removal by SROA Natural Resources Department staff.

3.2.6 SEEDLINGS ON SROA PROPERTY

- (B) All Lodgepole pine seedlings or saplings less than four inches (4") DBH shall be removed.
- (C) Ponderosa pine seedlings or saplings less than four inches (4") DBH shall be thinned to six to eight feet (6-8') spacing. Ponderosa seedlings may be thinned to a greater or lesser separation at the direction or approval of the SROA Natural Resources Department Director.
- (D) If located within five feet (5') of a structure, all Ponderosa pine seedlings or saplings shall be removed.
- (E) Ponderosa pine seedlings or saplings less than four inches (4") DBH growing into the canopy of larger Ponderosa pine trees shall be removed. Ponderosa pine seedlings or saplings less than four inches (4") DBH growing into the canopy of larger Lodgepole pine trees may be retained under the direction and approval of SROA Natural Resources Department staff.
- (F) All standing dead seedlings shall be removed on a regular basis.
- (G) Seedlings shall be cut to grade level.

3.2.7 VEGETATION CONSIDERATIONS ALONG ROADWAYS & PATHWAYS ON SROA PROPERTY

- (A) SROA will maintain road and pathway vegetation to provide adequate sight lines at intersections, remove obstructions to motorists and pathway users, maintain visibility and effectiveness of directional signs and streetlights. Removal of large, healthy trees should be avoided, if possible. Consideration should be given the possibility of relocating a sign or streetlight. Specific road or pathway vegetation management activities may be done by SROA employees or contractors with prior written authorization of and acting under the general supervision of the SROA Natural Resources Department Director.
- (B) Roads and pathways shall be maintained to provide sight lines in accordance with Public Works Department guidelines. If the SROA Public Works Department Director and SROA Natural Resources Department Director differ on treatment of vegetation along a paved surface, the SROA General Manager shall make the final decision.

3.2.7.1 TREES ALONG ROADWAYS & PATHWAYS ON SROA PROPERTY

- (A) Roadside and pathway trees may be removed if within five feet (5') of a road pavement edge or three feet (3') of a pathway pavement edge to reduce obstructions and address

other considerations identified by the Public Works Department Director. The SROA Natural Resources Department Director may designate areas to receive alternative treatment to prevent environmental degradation. Specimen trees identified by the SROA Natural Resources Department Director may remain indefinitely.

- (B) Any tree stumps greater than three inches (3") diameter that are three feet (3') or less from a road or pathway pavement edge shall be cut or ground to a depth of four to six inches (4-6") below grade level to ensure snowplow safety. Stumps less than three inches (3") diameter that are three feet (3') or less from a road or pathway pavement edge shall be cut at grade level.

3.2.7.2 NATIVE SHRUBS AND GRASSES ALONG ROADWAYS & PATHWAYS ON SROA PROPERTY

- (A) Native shrubs and grasses may be retained along roadways and pathways, providing they do not obstruct visibility at intersections, to prevent environmental degradation. Trimming and/or removals may be necessary to ensure that this vegetation does not encroach upon and reduce available pavement width and to support ingress/egress.

3.2.7.3 BRANCHES/LIMBS ALONG ROADWAYS & PATHWAYS ON SROA PROPERTY

- (A) Tree branches adjacent to roads shall be removed or pruned to provide five feet (5') horizontal clearance from the pavement edge and fourteen feet (14') vertical clearance above the pavement surface. Tree branches adjacent to pathways shall be removed or pruned to provide three feet (3') horizontal clearance from the pavement edge and ten feet (10') vertical clearance above pavement surface. Branch tips terminating in this zone may remain.

4.0 LFR ACTIVITIES ON SROA PROPERTY: NOTIFICATION & RESTORATION

- 4.1 SROA will mark approximate boundary lines with flagging and notify adjacent property Owners prior to each year's fuels reduction work. Notification will stipulate that Owners are responsible for contacting SROA if boundary flagging appears to be inaccurate. Any alteration, including but not limited to addition, removal, relocation, or modification of any kind to SROA-placed field markings is prohibited.
- 4.2 Restoration of private property will be required only if Owners previously notified SROA of incorrect boundary flagging or if LFR standards contained in this Plan have not been followed. Restoration will be as follows:
 - (A) Each tree less than four inches (4") DBH will be replaced with one Ponderosa pine sapling of four to six feet (4-6') in height (size depending on availability).
 - (B) Each tree greater than four inches (4") DBH will be replaced with three (3) Ponderosa pine seedlings/saplings of four to six feet (4-6') in height (size depending on availability).
 - (C) Regenerative vegetation such as native shrubs and grasses will not be replaced.
 - (D) Restoration trees, once planted, become the property and responsibility of the private property owner, who will have sole responsibility for their care and survival.

5.0 LADDER FUELS REDUCTION PLAN REVIEW

This Plan is to be reviewed and updated as needed by the SROA Natural Resource Department and approved by the SROA Board of Directors.

APPENDIX A: LFR Activities on Private Property - Permit Summary Table

Below is a quick reference of permitting requirements for ladder fuels reduction activities in Sunriver. **Refer to the Sunriver Ladder Fuels Reduction Plan for complete details and requirements.**

LFR Activity	Permit Required on Private Property?	LFR Plan Section #
Shrubs/Brush		
Bitterbrush, Manzanita removal	NO	3.1.2 (A)
Juniper, Arborvitae (all), and other conifer landscaping shrub removal (select locations)	NO	3.1.2 (B)
Other live native shrubs or brush	YES, except within 0-5' of structures	3.1.2 (C)
Limbs/Branches		
Live limbs (6'-8' from grade)	NO	3.1.3 (A)
Dead limbs (10' from grade)	NO	3.1.3 (B)
Pruning branches within 5' of roof/walls or 15' of chimney	NO	3.1.3 (C)
Trees		
Lodgepole/Ponderosa pine tree removal ($\geq 4''$ DBH)	YES	3.1.4 (A)
Juniper, Arborvitae tree removal	NO	3.1.4 (C)
Downed tree removal*	NO	3.1.4 (D)
Standing dead tree ($\geq 4''$ DBH) removal	YES, PP & LP only	3.1.4 (E)
Seedlings/Saplings		
Lodgepole seedling (<4" DBH) removal	NO	3.1.5 (A)
Ponderosa seedling (<4" DBH) removal	YES, except within 0-5' of structures	3.1.5 (B-D)
Standing dead seedling (<4" DBH) removal	NO	3.1.5 (E)
Flammable Materials		
Flammable materials on roof, gutters, and under decks	NO	3.1.6 (A-B)

*Only trees or portions of trees lying entirely on the ground may be removed without a permit.

APPENDIX B: Resources

Deschutes County Building Safety Division

117 NW Lafayette Ave.

Bend, OR 97703

Phone: 541.388.6574

<https://www.deschutes.org/cd/page/building-safety>

Deschutes County Natural Resources Department

61150 SE 27th Street

Bend, OR 97702

Phone: 541.322.7117

<https://www.deschutes.org/forester>

Deschutes County Sheriff's Office

63333 W. Hwy 20

Bend, OR 97703

Phone: 541.388.6655

<https://sheriff.deschutes.org/>

Oregon Department of Forestry

Prineville Unit Office (Eastern Oregon Area Office/Central Oregon District)

3501 NE 3rd Street

Prineville, OR 97754

Phone: 541.447.5658

<https://www.oregon.gov/odf/pages/index.aspx>

<https://www.oregon.gov/odf/fire/pages/restrictions.aspx>

<http://odfcentraloregon.blogspot.com/>

Oregon Office of the State Fire Marshal

3565 Trelstad Ave SE

Salem, OR 97317

Phone: 503.373.1540

<https://www.oregon.gov/osp/programs/sfm/Pages/Deputy-State-Fire-Marshals.aspx>

<https://www.oregon.gov/osp/programs/sfm/pages/default.aspx>

Oregon State University (OSU) Extension Services

3800 SW Airport Way, Building #4

Redmond, OR 97756

Phone: 541.548.6088

<https://extension.oregonstate.edu/deschutes>

<https://extension.oregonstate.edu/fire-program>

Project Wildfire/FireFree

61150 SE 27th Street

Bend, OR 97702

Phone: 541.322.7129

Email: info@projectwildfire.org
<https://www.projectwildfire.org/>
<https://www.firefree.org/firefreeevents/>

Sunriver Fire Department

57475 Abbot Drive
Sunriver, OR 97707
Phone: 541.593.8622
<https://sunriverfire.org/>
<https://www.sunriveremergencyinfo.com>

Sunriver Nature Center & Observatory

P.O. Box 3533
Sunriver, OR 97707
General Information: 541.593.4394
Administrative Office: 541.593.4442
Email: info@snco.org
<https://snco.org/>

Sunriver Owners Association - Community Development Department

P.O. Box 3278
Sunriver, OR 97707
Phone: 541.593.6645
Email: designinfo@srowners.org
<https://www.sunriverowners.org/departments/community-development>

Sunriver Owners Association - Natural Resources Department

PO Box 3278
Sunriver, OR 97707
Phone: 541.593.1522
Email: naturalresources@srowners.org
<https://www.sunriverowners.org/departments/natural-resources>

Sunriver Owners Association - Public Works Department

PO Box 3278
Sunriver, OR 97707
Phone: 541.593.2483
<https://www.sunriverowners.org/departments/public-works>

Sunriver Police Department

57455 Abbot Drive
P.O. Box 4788
Sunriver OR 97707 US
Phone: 541.593.1014
<https://www.sunriverpd.org/>
www.sunriveremergencyinfo.com

APPENDIX C: Definitions/Glossary/Terminology

Certified Arborist - Certified Arborists are individuals who have achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination administered by the International Society of Arboriculture (“ISA”). Certified Arborists must also continue their education to maintain their certification with ISA and adhere to a Code of Ethics. Certification is not a measure of standards of practice. Certification can attest to the tree knowledge of an individual but cannot guarantee or ensure quality performance.

Class B or below roof - As outlined in the International Building Code (IBC), all roof coverings are required to be tested in accordance with ASTM E 108 or UL 790 standards for fire resistance performance. This standard includes three classes of fire exposure:

- Class A roof coverings, which are effective against severe fire test exposures.
- Class B roof coverings, which are effective against moderate fire test exposures.
- Class C roof coverings, which are effective against light fire test exposures.

The SROA Design Committee Manual of Rules and Procedures requires that all roofing material used in new construction shall meet a Class 'A' fire rating. Additional information about roof material requirements is available through the SROA Community Development Department.

Conifer landscaping shrubs – Conifer shrubs can take many forms such as columnar, pyramidal, globose, spreading, weeping, and sculptural to name a few. Conifer shrubs have varying growth rates and sizes including miniature and dwarf and come in a variety of colors with green, blue, red, and gold tones. These characteristics make some conifer shrubs attractive choices for landscaping. However, conifer shrubs have some often-overlooked characteristics that make them unsuitable for use in a Central Oregon landscape. Conifer landscaping shrubs may contain accumulated debris (such as fine, dry or dead material within the plant such as branches and needles); stems, needles, or leaves with volatile waxes or oils; a low moisture content; gummy, resinous sap; or thick or dense branching patterns – all of which increase the flammability of the plant (meaning, the plant will ignite quickly and burn intensely). Conifer landscaping shrubs include, but are not limited to: juniper, arborvitae, and mugho pine.

Conifer tree - Conifers (division: Coniferae) are, most simply, plants that have cones. Cones can take many shapes including fleshy cones or cones with fused scales that look more like fruit or berries. What all these bodies or cones have in common is that the actual seeds are “naked” and not enclosed within fruits, as in the flowering plants. Most, but not all, conifers are evergreen as some conifer species lose their needles in the winter. Most conifers have needles, but a few species (native to Australia) have leaves. Conifers are adapted to grow in colder, drier conditions, but can become stressed in periods of extreme heat or low precipitation. Common conifer species include pine, spruce, fir, cedar, juniper, larch, sequoia, and arborvitae.

Crown cleaning – A type of pruning that includes the removal of non-beneficial dead, diseased, and/or broken branches.

Crown thinning – A type of pruning that includes reducing the density of live branches throughout the crown.

DBH – Diameter at breast height, or DBH, is the standard for measuring trees. DBH refers to the tree diameter measured at four and half feet (4.5') above grade.

Defensible space – The natural and/or landscaped area around a structure that has been maintained and designed to reduce wildfire danger by using vegetation that is fire resistant; A buffer surrounding your home to improve your home’s chance of surviving a wildfire, protect first responders, and help firefighters be more effective.

Dripline - The dripline of a tree is the area located directly under the outer circumference of the tree branches. Preventing ground fire from spreading to the tree canopy is a crucial measure in reducing Sunriver’s wildfire risk. This is achieved by eliminating the vegetation near the dripline of a tree that can act as a “ladder,” connecting ground fuels to the canopy.

Field markings – SROA staff use a variety of field markings on SROA owned property and private property such as flagging or ribbon, metal tags, paint, stakes or posts, and signage to designate project areas, locate critical landmarks or property monuments, document conditions, or to communicate messages to other staff, Sunriver owners, contractors, or the public. Field markings are generally temporary in nature. Alteration of SROA-placed field markings is prohibited.

Fire Adapted Community - A community that acknowledges and takes responsibility for its wildfire risk and implements appropriate actions at all levels.

Fire season – Oregon’s statewide fire season is established annually by the Oregon Department of Forestry. Historically, fire season represents the range between what is typically the season’s first large fire to the season’s last. Due to low snowpack levels, ongoing drought conditions, declining precipitation and temperature increases, fire season has been expanding in duration. In an effort to prevent fires from starting, the Oregon Department of Forestry (and other agencies such as the USDA Forest Service) impose restrictions pertaining to public and work-related activities.

Forest health - Forest health is a condition of forest ecosystems that sustains their complexity while providing for human needs. The SROA Natural Resources Department, in collaboration with local, county, state, and federal partners, works to maintain, enhance, and restore healthy forest conditions in Sunriver. Monitoring and managing forest insect, disease, invasive plant, fuel load, and wildlife conditions are a few examples of how SROA and its partners support forest health.

Forest management - Forest management is providing a forest the proper care so that it remains healthy and vigorous and provides the products and the amenities desired by the owner(s) of the forest. More a process than a subject or a science, forest management involves the development and execution of a plan integrating all the appropriate technical forestry principles, practices and techniques necessary to care properly for the forest. Managing the entire ecosystem – soils, plant life, watersheds, and wildlife – is critical to improving both forest health and wildlife habitat. Healthy, managed forests are less prone to major wildfires that destroy valuable wildlife habitat, recreational areas, homes, and structures and, increasingly, result in loss of life. There is not a one-size-fits-all approach to forest management, as different forest types require individual prescriptions.

Fuels – Any combustible materials including structures (homes) and vegetation.

Grade – The surface level of the ground.

Hazard tree – A hazard tree is one that has a structural defect or weakness that increases the likelihood of the tree to fail in whole or in part, and whereby the failure has the potential to cause damage to a high-value target such as people or structures, or to obstruct safety access routes. Trees may be defective due to age or genetics, disease, fire, site disruptions, injury, or other causes. Tree injuries may result from damage by mechanical equipment or vehicles; weather conditions such as wind, snow, ice, or drought; fungal or bacterial issues or disease; insects or pests, etc.

Home hardening - Home hardening is a “chimney to foundation” approach to wildfire and ember ignition mitigation. It addresses the most vulnerable components of a home with building materials, installation techniques, and elimination of conditions that make a home susceptible to ember ignition. Hardening, or preparing, your home starts at the top of your structure and works down and out to include zero to five feet (0-5') from the base of the structure, clearing combustible materials and blocking collection and access points for embers.

Ignition - Fire ignition is dependent upon three components (otherwise known as the fire triangle): oxygen, heat, and fuel. During a wildfire, there are three types of ignitions that threaten vegetation and structures: ember ignition, radiant heat, and direct flame contact.

Ingress/egress - Routes defined by public safety and emergency personnel for emergency response and evacuation. Ingress routes are used by emergency responders to enter a community and egress routes are used by the public to evacuate a community.

Ladder fuels - Any flammable or combustible materials that create a vertical link – or “ladder” – from the ground to taller flammable materials (such as a tree canopy or roof eave).

Landscape – A comprehensive term that refers to all of the visible features of an area of land, including vegetation and other physical elements. When used as a verb, “to landscape” means to alter or change a natural landscape.

A **natural landscape** includes the original land and elements on it that exist without having been altered by human activity or impact, or have been restored to such after impact.

A **designed landscape** is one that has been altered by humans through the introduction, elimination, or modification of vegetation (such as trees, shrubs, plants, grasses, etc.); landforms, terrain shape and elevation, or water elements (such as berms, swales, retaining walls, rock outcroppings, water features, etc.), and other physical elements (such as walkways, patios, etc.). Once created, a designed landscape requires maintenance.

Landscape plants – Non-native vegetation that has been introduced as part of a designed landscape.

National Cohesive Wildland Fire Management Strategy - In 2009, Congress passed the Federal Land Assistance, Management, and Enhancement (FLAME) Act and called for a National Cohesive Wildland Fire Management Strategy, also known commonly as the Cohesive Strategy, to address wildland fire related issues across the nation in a collaborative, cohesive manner. The Cohesive Strategy was finalized in 2014 and represents the evolution of national fire policy: To extinguish fire safely and effectively, when needed; use fire where allowable; manage our natural resources; and as a Nation, live with wildland fire. The primary, national goals identified as necessary to achieving the vision are:

- Resilient landscapes: Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- Fire-adapted communities: Human populations and infrastructure can withstand a wildfire without loss of life and property.
- Wildfire response: All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Native shrubs & trees - “Native” plants are those found naturally in Central Oregon at the time of European settlement. They have grown in this region for thousands of years and are adapted to the regional climate and soil. Native shrubs and trees provide habitat for birds, animals, and insects, which is important for feeding, reproduction, and protection from the elements and predators. These plants are already established in balanced, local ecosystems and are sustained by existing conditions. Native shrubs commonly seen in Sunriver include bitterbrush, manzanita, wax currant, Oregon grape, and rabbitbrush. Native trees commonly seen in Sunriver include Ponderosa and Lodgepole pine trees. Native shrubs and trees in Sunriver may be naturally occurring or planted; all are subject to the Sunriver Ladder Fuels Reduction Plan. Sunriver’s unique ecosystem reflects conditions found in multiple forest types and examples of species such as fir or Western juniper may be found in Sunriver. Likewise, aspen trees – which are commonly found along river corridors – may be native in some areas of Sunriver.

Native Sunriver Forest Types:

Ponderosa Pine Forest: Ponderosa pines forests are widely distributed in eastern and central Oregon, ranging in elevation from 2,500 to 6,000 feet. Ponderosa pines may be mixed with Douglas-firs, lodgepole pines, western larch, and quaking aspens. Volcanic pumice soils often support pure stands of ponderosa pines. Ponderosa pines thrive in dry climates of the high desert and are considered our primary tree here in Sunriver.

Lodgepole Pine Forest: Lodgepole pine forests are found throughout central and eastern Oregon. Lodgepole pine is a pioneer species that rapidly colonizes disturbed sites and often give way to more shade-tolerant species such as ponderosa pines. Most lodgepole pine stands develop after fire or logging. Lodgepole pine forests can grow in dense stands with lots of dead trees. They are very susceptible to disease and insect attacks. Lodgepole pine forests in eastern Oregon are generally found below 6,000 feet in elevation. Lodgepole pines are our secondary tree species to the ponderosa pine trees.

Subalpine Fir Forest: Sunriver is at the edge of the subalpine fir forest habitat to our west. Subalpine fir forests are a combination of several forest types all occurring above 4,500 feet in the Cascade Mountain range. These forests occur in cold climates with heavy winter snowpack and short growing seasons. Trees such as Douglas-fir, mountain hemlock, and lodgepole pines occur in subalpine fir forests.

Western Juniper Forest: Sunriver is on the outermost edge of the western juniper forest habitat which extends to the northeast. Western juniper forests are the driest forests in the Pacific Northwest. They are primarily found east of the Cascade Mountain range in Oregon. Juniper trees grow on rocky outcrops in eastern Oregon.

Pine tree – Pine trees (genus: Pinus) are evergreen conifers of the pine family (Pinaceae) that are native to northern temperate regions. Pine trees shed their older needles in the fall season but maintain foliage year-round. Pines are among the most abundant cone-bearing trees (conifers) on the planet with over one hundred known species. Common pine species include Ponderosa pine, Lodgepole pine, Jeffrey pine, Whitebark pine, and many more.

Planted – Vegetation that has been intentionally introduced to a landscape.

Resilient Landscapes - A landscape that can recover quickly or repel disturbances that may be a departure from normal circumstances.

Seedling or sapling – Any tree in Sunriver that is less than four inches (4") DBH. The terms “seedling” and “sapling” are used interchangeably in this Plan.

SROA Firewood Collection Permit – Wood rounds generated on SROA property or common areas from ladder fuels reduction activities are available to Sunriver property owners in good standing on a first come, first serve basis. A free SROA Firewood Collection permit and load tags are required from SROA to collect and/or transport firewood rounds or split wood only (up to 18" in length, not logs). The owner of record for the property must apply for the permit and must also be on site during firewood collection. Guidelines for obtaining an SROA Firewood Collection Permit and collecting firewood from SROA property or common areas are available on the SROA website.

SROA Ladder Fuels Pickup Program - To support Sunriver property owners with performing ladder fuels reduction work on their properties, the SROA Public Works Department offers roadside pickup of ladder fuels debris. Pickup takes place during the first week of the month from April to October only, weather and schedule permitting. This service is provided to individual property owners only; contractors working on private property are responsible for the disposal of all debris created. Guidelines for participating in the program are available on the SROA website.

Structure – A human built or constructed entity, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner. As used in this Plan, a “structure” is composed in whole or in part of material that is combustible, or has the ability to ignite or transfer fire. Structures may include, but are not limited to buildings, homes, decks, enclosures, screens or fences, monuments or signs, etc.

Thin – To selectively remove vegetation (such as trees, seedlings, shrubs, or branches) to a prescribed distance, density, clearance, etc.

Wall – A continuous vertical structure of any kind, including but not limited to the exterior of a building, enclosures, screens or fences, railings, etc.

Wildland-Urban Interface - The Wildland-Urban Interface (WUI) means a geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

Wildlife tree – A standing live or dead tree that provides present or future wildlife habitat. Wildlife trees provide food, safe nesting sites in the form of cavities and platforms, roosting and denning sites, hunting perches, display stations, and foraging sites for a wide variety of species. Standing live or dead trees

greater than eight inches (8") DBH are candidates for designation as a wildlife tree. Wildlife trees can remain in place for several decades and rarely pose any safety issues or represent hazardous conditions.