

Appendix D

Fuel Treatment Types for Lane County

One of the minimum requirements for a Community Wildfire Protection Plan (CWPP) as described by the Healthy Forests Restoration Act is the identification of prioritized fuel reduction projects. A CWPP must identify and prioritize areas for hazardous fuel reduction treatments, as well as recommend appropriate treatment methods. Due to the diverse topography and eco-regions present in Lane County, the appropriate treatment methods vary considerably by vegetation type, annual precipitation, slope, aspect, and elevation.

The purpose of this appendix is to compare the common fuel treatment methods for each of the three eco-regions found in Lane County: the Coast Range, Willamette Valley, and Cascade Mountains. The following table provides information on the advantages, concerns, seasonality, application in the wildland-urban interface, and maintenance and scheduling for prescribed fire, mechanized thinning, and manual treatments across Lane County. The table only provides a general framework, and individual projects will need to be tailored to the conditions present in the local area. Local fuels specialists should be consulted in order to determine the most feasible array of fuels treatment options for a given geographical area.

Lane County Eco-Region Contacts

Coast Range

- o Siuslaw National Forest, Mapleton Ranger District (Florence, OR) 541 902-8526
- o Western Lane Fire Protection District (Veneta, OR) 541-997-8713

Willamette Valley

- o Western Lane Fire Protection District (Veneta, OR) 541-997-8713
- o Eastern Lane Fire Protection District (Springfield, OR) 541-726-3588

Cascade Mountains

- o Willamette National Forest (Eugene, OR) 541-225-6300
- o Umpqua National Forest, Cottage Grove Ranger District (Cottage Grove, OR), 541-767-5000

The structure of the table was adapted from the Florida Department of Community Affairs guide, Wildfire Mitigation in Florida: Land Use Planning Strategies and Best Development Practices¹. Bev Reed, fuels specialist at the Cottage Grove Ranger District of the U.S. Forest Service modified the table with information appropriate to Oregon.

Table D.1: Comparison of Fuel Treatment Types

Coast Range					
Treatment Methods	Advantages	Concerns	Seasonality	Application in WUI	Maintenance & Scheduling
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> - Encourages herbaceous growth and supports native species and ecosystems - Cost effective fuels treatment method in most cases 	<ul style="list-style-type: none"> - Broadcast & understory burning requires skilled application - Multiple entries may be required to achieve objectives - Re-burn potential in areas of heavy fuels or duff 	<ul style="list-style-type: none"> - Broadcast & understory burning constrained by weather, fuels characteristics, and smoke management constraints - Pile burning may be conducted under a broader range of conditions (i.e. less constraints) 	<ul style="list-style-type: none"> - Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment
Mechanized (i.e. large equipment) Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Cost effective over larger areas - Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal - Can be followed by prescribed fire where needed 	<ul style="list-style-type: none"> - Large equipment limited to gentler slopes - Potential “product” may be market-dependent - May be less economically feasible on small sites due to move-in/move-out costs - May create short-term increase in fire risk 	<ul style="list-style-type: none"> - May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns - May be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Re-entry into thinning areas may be scheduled using standard silvicultural practices
Manual (i.e. hand) Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Can treat areas that cannot be treated by prescribed fire or mechanical means 	<ul style="list-style-type: none"> - More labor intensive; may not be cost effective in areas of heavy fuels - May require more than one entry to achieve initial objectives for site 	<ul style="list-style-type: none"> - Work can usually be conducted year-round - Chainsaw use may be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning) 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Re-entry into thinning areas may be scheduled using standard silvicultural practices

Willamette Valley					
Treatment Methods	Advantages	Concerns	Seasonality	Application in WUI	Maintenance & Scheduling
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> - Encourages herbaceous growth and supports native species and ecosystems - Cost effective fuels treatment method in most cases 	<ul style="list-style-type: none"> - Broadcast & understory burning requires skilled application - Must invest time in informing and educating the public - Complete mop-up, if required for air quality reasons, may increase costs 	<ul style="list-style-type: none"> - Burning constrained by weather, fuels characteristics, and smoke management constraints - Low elevation seasonal inversions and valley fog may affect burning opportunities 	<ul style="list-style-type: none"> - Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods - Most burning opportunities will exist along outer perimeters of urban areas/boundaries 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon kinds of sites being treated, condition class goals and degree of change made via initial treatment - Recreation and other high use areas may be evaluated annually as part of a fire prevention and fuels maintenance program planning
Mechanized Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Cost effective over larger areas - Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal - Can be followed by prescribed fire where needed - Opportunities may exist for public to readily utilize material (i.e. chips, firewood, etc.) 	<ul style="list-style-type: none"> - Potential “product” may be market-dependent - May be less economically feasible in isolated sites due to move-in/move-out costs - May create short-term increase in fire risk, especially in high-use recreation areas - In high use areas, if site precludes prescribed fire as a follow-up treatment, fuels removal or increased fire prevention patrols may be warranted 	<ul style="list-style-type: none"> - May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns - May be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods - Proximity to private residences may limit mechanical use due to noise concerns 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Re-entry into thinning areas may be scheduled using standard silvicultural practices - Recreation and other high use areas may be scheduled for annual mechanized treatments (i.e. mowing) - Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts -
Manual Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Opportunities for volunteers, partnerships, stewardships or homeowner involvement - Can access areas that cannot be treated by prescribed fire or mechanical means 	<ul style="list-style-type: none"> - More labor intensive; may not be cost effective in some areas - May require more than one entry to achieve initial objectives for site 	<ul style="list-style-type: none"> - Work can usually be conducted year-round - Chainsaw use may be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning) 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts

Cascade Mountains					
Treatment Methods	Advantages	Concerns	Seasonality	Application in WUI	Maintenance & Scheduling
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> - Encourages herbaceous growth and supports native species and ecosystems - Cost effective fuels treatment method in most cases 	<ul style="list-style-type: none"> - Broadcast & understory burning requires skilled application - Multiple entries may be required to achieve objectives - May require additional costs if mop-up or post-burn monitoring of site is required 	<ul style="list-style-type: none"> - Broadcast & understory burning constrained by weather, fuels characteristics, and smoke management constraints - Pile burning may be conducted under a broader range of conditions (i.e. less constraints) 	<ul style="list-style-type: none"> - Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment
Mechanized Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Cost effective over larger areas - Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal - Can be followed by prescribed fire where needed 	<ul style="list-style-type: none"> - Large equipment limited to gentler slopes - Potential “product” may be market-dependent - May be less economically feasible on small sites due to move-in/move-out costs - May create short-term increase in fire risk, especially in high-use recreational areas 	<ul style="list-style-type: none"> - May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns - May be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Re-entry into thinning areas may be scheduled using standard silvicultural practices - Recreation and other high use areas may be scheduled for annual treatments designed to minimize risk of human-caused fire
Manual Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> - Large local labor and contract pool - Can treat areas that cannot be treated by prescribed fire or mechanical means 	<ul style="list-style-type: none"> - More labor intensive; may not be cost effective in areas of heavy fuels - May require more than one entry to achieve initial objectives for site 	<ul style="list-style-type: none"> - Except at highest elevations, work can usually be conducted year-round - Chainsaw use may be constrained by fire season requirements in summer 	<ul style="list-style-type: none"> - Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning) 	<ul style="list-style-type: none"> - Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment - Re-entry into thinning areas may be scheduled using standard silvicultural practices

¹ State of Florida. 2004. *Wildfire Mitigation in Florida: Land Use Planning Strategies and Best Development Practices*. Florida Department of Community Affairs and Florida Department of Agriculture and Consumer Services.