



5.2.5 Land and Vegetation Management

The other federally required CWPP topic, along with addressing structural ignitability, is to develop strategies for reducing ignition risk from wildfire fuels. Wildfires may be reduced when there are fewer locations with enough vegetative fuel to quickly generate large fires that escape firefighter control. Strategic fuels reduction can be developed on a landscape scale and is most likely to succeed when aligned with larger land management planning processes and goals.

The previous section on structural ignitability focuses on managing wildfire fuel on properties. Objectives of actions in this section focus on strategies for aligning land management goals and facilitating cooperation between public and large private landowners to reduce risk in large open spaces and to adjacent development.

Tables are included in each fire district section in Chapter 7, outlining their priority locations for future fuels reduction projects (which may also include defensible space projects) and providing a direct justification for future fuels reduction grants.

Mechanical Vegetation Management

Most wildfire fuel reduction in Multnomah County occurs through thinning, pruning, and mechanical removal of vegetation. On a landscape level, fuel reduction can reduce the intensity of future fires and potentially improve environmental values when integrated with resource management goals, such as the restoration of [oak savanna habitat](#). Mechanical management is very labor intensive, creating a need for resource planning for staff and equipment to perform the work, and strategies for disposing of debris.

Prescribed Burning

Risk mapping shows that some areas of Multnomah County would benefit from wildfire, because they are isolated from development and fire is overdue for improving habitat values.

Prescribed fire is the use of controlled low-intensity burning that reduces fuel buildup while also providing ecosystem benefits of

wildfire and has been used for decades in parts of Multnomah County, especially in areas with lower-intensity ground fuels such as grass and invasive shrubs. Prescribed fire can be difficult to implement widely because of potential health impacts to the large adjacent population and the density of key transportation infrastructure that could be disrupted by smoke. Continuing to assess the feasibility of prescribed burn locations is a part of ongoing multi-dimensional fuel management strategy.



Figure 43 - A prescribed burn at Quamash Prairie Natural Area in Washington County, performed in coordination with a wildland fire team from the [Confederated Tribes of Grande Ronde](#). [Metro](#)

Fuels Management Limitations

Although fuel treatment is an important part of this plan, it should also be noted that large-scale fuel treatment is not as effective at reducing wildfire intensity in wet forests as it is in dry forests. Fuel management should not be seen as tool that limits the need for continuing risk awareness, fire prevention and suppression efforts, and robust alerting and evacuation planning.

In dry forests, fire suppression and land management practices have caused fuel buildup that has, over time, turned frequent low-intensity fires into large, high-intensity fires. In this region, large, infrequent high-intensity fires have always been part of wildfire behavior. During extreme fire-weather conditions, as in the statewide wind-driven 2020 Labor Day fires, fuel treatment efforts performed before the fires west of the Cascades were not found to have had any impact on reducing fire severity.⁶⁷ Maintaining fuel reduction benefits in wet climates is much more difficult, as vegetation regrows quickly and management needs to be renewed repeatedly in the same locations.

Fuel treatment is still a favored strategy however, where reducing ground fuels and ladder fuels in WUI areas may reduce the risk of severe fire where forests closely intersect with residences.⁶⁸ Fuel treatments in disturbed forests may preserve the health of trees adapting to climate change and may also be effective in areas with more frequently burning, lower-severity fuels such as grasses and shrubs. Thinning vegetation to maintain defensible space around structures and infrastructure is likely to be the most beneficial application, so that those valued assets are more likely to survive when wildfires do happen.

Invasive Species

Removal of invasive species is an attractive approach to fuels management because it addresses reducing fire risk while restoring native fire-adapted ecosystems. Invasive plants can change wildfire risk by adding to fuel loads and changing the nature of fire progression. Scotch Broom and Himalayan Blackberry are common invasive shrubs in this region, and spread rapidly in disturbed areas, becoming thick ladder fuels that can become the source of a crown fire.⁶⁹

Invasive species are difficult to control, as their success is based on their ability



Figure 44 - Scotch Broom growing in Clackamas County. Photo [Clackamas Soil and Water Conservation District](#).

⁶⁷ [Cascadia Burning: The historic but not historically unprecedented 2020 wildfires in the Pacific Northwest, USA](#), Ecosphere, M.J. Reilly et al; 2022, pgs 11-12.

⁶⁸ [Fire FAQs – What is forest fuel and what are fuel treatments](#), Oregon State University Extension Service, S.A. Fitzgerald, C. Berger, D. Leavell; January 2019.

⁶⁹ [Fire Prevention](#), East Multnomah Soil and Water Conservation District

to easily spread and resist management. Building collaboration between Soil and Water Conservation Districts and other natural resource organizations and wildfire risk managers may be a way to leverage funding.

Debris

Slash is vegetative debris from a number of potential sources and is a persistent wildfire risk. Slash—whether from fuel reduction projects, left over from winter storms, as part of agricultural and forestry activities, yard debris, or other land management projects—can be difficult to dispose of safely. In the past, burning of slash piles was common, but as wildfire seasons continue to lengthen the times of year and locations where open burning can occur are becoming more limited. Escaped slash burns have caused a number of wildfires, including five fires that started in high winds in Clatsop County in November 2022, burning nearly 500 acres well after burn bans had ended.



Figure 45 - The US Forest Service using a smokeless air curtain burner to turn debris into biochar. A large burner can process a ton of debris every hour.

Chipping or hauling debris are the most common other methods for disposing of debris. Both require equipment and are labor intensive. Biochar can be made by burning debris and is a useful soil conditioning product. Smokeless air curtain burners have been used by the U.S. Forest Service for decades, as they are a safer method for burning debris to create biochar. The feasibility of methods that require expensive equipment can be assessed through shared or pooled resources.

Urban Planting and Forestry

Additional fuel is being created each year due to increased tree mortality caused by disease, invasive pests, and tree species replacement caused by climate change. Forestry practices can be reviewed to determine how to best replace dead trees.

Within cities, jurisdictions can re-evaluate risk from urban trees and landscaping. Urban planting lists are used to promote beautification and ecological values, but may need to be revised to better prioritize fire and drought resistance.

Utility and Transportation Right of Ways and Infrastructure Protection

Vegetation management may be able to be coordinated through shared interests and resources among those with land management requirements in utility or transportation right-of-ways. Protecting infrastructure with the same techniques as structural protection principles should also be a consideration when designing projects on public lands.

Equity Considerations

- Including social vulnerability in risk mapping can support identifying locations where fuels management work can benefit less resourced residents, or those with other barriers to resilience.

| Mitigation Strategies | Lead Agency/Jurisdiction |
|---|--|
| Partner with private and public land managers, including power utilities, to reduce hazardous fuel loading in forested lands, open space, and other vegetated corridors. | Gresham Fire |
| Identify continuing funding sources for fuels reduction processes, including contracts for felling, brush treatment, and on-call forestry service. | Gresham Fire |
| Provide hazardous fuels assessment and mitigation training to City Natural Resources management and staff. | Portland Fire & Rescue Public Education |
| Coordinate between agencies/jurisdictions to maximize effectiveness of vegetation management projects. | Portland Fire & Rescue Public Education |
| Partner with managers of forested areas to reduce invasive vegetation and ladder fuels in natural area boundaries that abut communities located in a wildfire hazard zone. | Portland Fire & Rescue Public Education |
| Support property owners in replacing invasive species on their properties with native, fire-resistant plants. | Portland Fire & Rescue Public Education |
| Create incentives for and address barriers to encourage fuel reduction and defensible space, including updates for related city policies. | Portland Fire & Rescue Public Education |
| Develop a program for Parks Bureau staff about wildfire fuels assessment, how to create defensible space, and initial wildfire response training and safety. | Portland Fire & Rescue Public Education |
| Incorporate climate forecasting, adaptive management and functional assessments when revising site-specific management plans. | Portland Bureau of Environmental Services |
| Consider additional updates to City Plant list with more robust identification of fire-resistant plantings, and identify tree species resilient to drought and hotter summers to replace dying trees. | Portland Bureau of Planning & Sustainability |
| Train Portland Parks & Recreation staff who work in natural areas in fire science and how to perform hazardous fuels assessments at Parks-managed natural areas in order to target fuel reduction efforts. | Portland Parks & Recreation |
| Obtain funding for long-term vegetation management in key locations. | Portland Parks & Recreation |
| Support the Protect The Best program to stop the spread of invasive species in natural areas. | Portland Parks & Recreation |
| Consider wildfire risk when assessing and developing ecological prescriptions for management of large, publically owned natural areas. Include wildfire risk in new management plans and updates to existing plans. | Portland Parks & Recreation |
| Develop a comprehensive vegetation management treatment program for Portland Parks & Recreation properties, considering mechanical removal and other strategies. | Portland Parks & Recreation |

Chapter 5 – Wildfire Topic – Land and Vegetation Management

| Mitigation Strategies | Lead Agency/Jurisdiction |
|--|---|
| Coordinate with Portland Parks & Recreation’s existing Ecologically Sustainable Landscapes Initiative to plant wildfire-resistant vegetation. | Portland Parks & Recreation |
| Create defensible space in mapped high-risk wildfire Bureau properties through fuel mitigation in heavily camped areas. | Portland Water Bureau |
| Thin trees on key arterial routes to maintain evacuation routes. | Scappoose Fire |
| Support the development of grants or other opportunities that could facilitate the shared use of air curtain burners by fire districts and resource management agencies across the county or region, to safely dispose of vegetative debris. | Multnomah County Emergency Management |
| Support land management projects with private landowners in the Tualatin Mountains (ex. NW McNamee Road area) of Western Multnomah County to create native fire-resilient landscapes and enhance defensible space. | West Multnomah Soil and Water Conservation District |