



OREGON ENVIROTHON

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Roots and Resiliency: Fostering Forest Stewardship in a Canopy of Change

Your team has been invited to submit a proposal for an updated forest management plan for the Meadow Creek Restoration Project. The Meadow Creek watershed is in the northeastern portion of the U.S. Forest Service's La Grande Ranger District in the Blue Mountains of Eastern Oregon. Prior management decisions, including decades of fire suppression and past timber harvest and livestock grazing, have left this area vulnerable to fire, disease, and insect pests, particularly in light of the stressors of a changing climate.

The project area is neighbors with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and is home to the Starkey Experimental Forest and Range research facility. The Tribes rely on the forest as a source of traditional First Foods, including salmon, steelhead, berries, deer and elk. The Starkey Experimental Forest and Range is used by scientists from around the world and is the primary field location for studying the effects of deer, elk and cattle on ecosystems within the Blue Mountains. As a federal public forest, the project area is also used by the general public for recreation and for non-timber forest products, including firewood, mushrooms, huckleberries and Christmas trees.

Your team's goal is to develop a forest management plan for the Meadow Creek watershed that will increase the sustainability of the forest and improve its provision of critical ecological services and resources, including traditional First Foods. Your plan should take into consideration climate change and its effects, best practices of forest management, Indigenous Traditional Ecological Knowledge, and the needs and rights of project area users and neighbors.

Your plan should include:

Plan Background

- The historic and current environmental conditions of the Meadow Creek project area.
- What essential resources and other benefits the project area currently provides or could provide.
- How climate change is expected to affect the project area and its surrounding area.
- Other natural and human-caused processes and management challenges affecting the project area.
- Project area neighbors and users.

- The needs and rights of project area neighbors and users.

Plan Details

- Your recommendation for restoring and enhancing the project area.
- How your plan will enhance fire resilience, wildlife habitat, grazing, and the sustainability of resources.
- The specific forest management strategies and tools you recommend and why.
- How your plan is informed by both western science and Indigenous Traditional Ecological Knowledge.
- How your plan will improve the project area's ability to provide essential resources in the face of future challenges, including how it will increase access to First Foods.
- Provisions for public engagement about the plan, including public education and public comments.
- Provisions for monitoring and evaluating plan outcomes to refine it over time.

Note that all forest management plans for federal lands undergo a process for ensuring that the plans meet federal regulations before any forest management occurs. Therefore, your plan does not need to specifically address federal regulations.

Please see the attached Project Overview for details about the project.

We look forward to reviewing your plan. The best proposal will be identified for further consideration by the U.S. Forest Service's Meadow Creek Restoration Project team.

Project Overview

The Meadow Creek Watershed Restoration Project consists of approximately 50,965 acres in the northeastern portion of La Grande Ranger District. It is in the Meadow Creek watershed of the Upper Grande Ronde River sub-basin. (See Figure 1.)

The project area is the home of the 23,734-acre Starkey Experimental Forest and Range, which is completely contained within it. The project area also has over 3 miles of shared boundary with private land. Several roads provide access to the project area.

The goal of the project is the long-term restoration of the watershed to improve the provision of First Foods and other critical ecological services. It will be based on an understanding of historic and current conditions, important natural and human-caused processes, and impacts on First Foods and other resources.

The project will be informed by western scientific information, incorporate the Confederated Tribes of the Umatilla Indian Reservation's [River Vision](#) and [Upland Vision](#), and acknowledge the connection between Tribal Treaty rights and the recovery of salmon and steelhead populations.

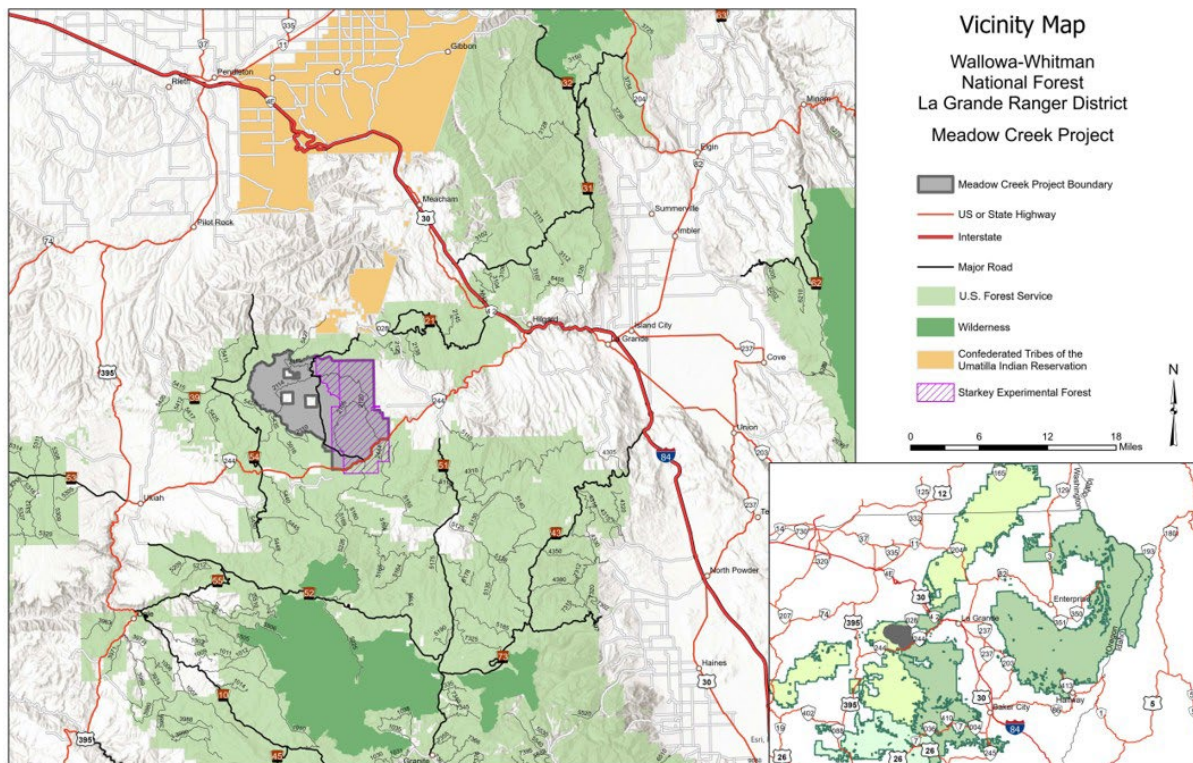


Figure 1- Meadow Creek Vicinity Map

Meadow Creek Project Area

The Meadow Creek Project Area consists of a mosaic of different forest and vegetation types, as shown in Table 1 below.

It reflects vegetation patterns shaped by past forest management, wildfires, and wildfire suppression activities. From about the 1910s to the 1980s, the forests were actively managed to suppress fires and extract resources. Then after that, there was a many-year period of minimal management. These past forest management approaches have led to dense forest stands that are susceptible to severe wildfire and other disturbances like insect outbreaks, diseases and drought.

Table 1—Meadow Creek Project Area Vegetation

Forest or Vegetation Type	Primary Species	Current Acreage	Site Characteristics
Dry upland forests	Ponderosa pine Douglas-fir Grand fir	18,414 acres	At mid to low elevations, usually on south- or east-facing slopes where moisture is limited. Frequent, low-intensity surface fires help create open landscapes with large, fire-resistant trees that are spaced widely apart.
Moist upland forests	Grand fir Ponderosa Pine Western larch Douglas-fir Subalpine fir	10,164 acres	At mid to high elevations, usually facing north or west. Surface fires occur regularly or infrequently and burn with mixed intensity.
Cold upland forests	Mixed conifer Grand fir Western larch Lodgepole pine Subalpine fir Grand fir Englemann spruce	7,429 acres	At high elevations with cooler temperatures. Surface fires occur infrequently and vary in intensity.
Woodland/shrubland & grasslands	Western juniper Idaho fescue Blue bunch wheat grass Sagebrush Mountain mahogany	14,958 acres	At low and mid elevations, valley floors and ridgelines. Surface fires occur frequently and are low in intensity.

Natural and Human Disturbances. Disturbances like fire play a key role in shaping and maintaining the diverse structure of the Meadow Creek landscape. When humans alter these natural disturbance patterns, landscapes can become simpler and more uniform, reducing plant diversity.

Years of fire suppression in the area have significantly changed the makeup of the forests across all types—dry, moist, and cold. Tree species that used to thrive with occasional fires, like ponderosa pine, lodgepole pine and western larch, have been largely replaced by species that are less tolerant to fire, like Douglas-fir and grand fir. The forest structure has also shifted from open spaces with scattered, single-layered trees to crowded, multi-layered forests that are more vulnerable to severe fire.

Forests have spread into areas that used to be grasslands, reducing the amount of grass available for grazing. There has also been a significant decrease in hardwood (deciduous) trees, especially near rivers and streams, leading to a loss of tree diversity and [a reduced functioning of waterways](#). These changes have increased the amount of dry fuel material in the forests, making them much more prone to wildfires that are severe enough to burn entire forest stands, something that happened infrequently in the past. The majority of the project area is currently at a high risk for severe wildfires.

Insects and diseases have also altered the forests. In recent years, there have been widespread outbreaks of pests and diseases due to changes in tree species and other conditions, which have contributed to the decline of older trees and have affected the forest structure. The risk of severe outbreaks remains high for pests such as western spruce budworm, Douglas-fir tussock moth, Douglas-fir beetle, mountain pine beetle and western pine beetle.

Harvesting (logging) and other human activities have also impacted the forests. Harvesting operations have altered the species of trees, their size, how close they are to each other, the number of canopy layers or the overall structure of the forest. In areas where trees were harvested, large old trees were often replaced with young seedlings, either through planting or natural growth.

Traditional First Foods and Other Resources. Changes in the Meadow Creek watershed resulting from past forest management decisions have caused a decline in traditionally and ecologically important First Foods and other resources important to people with ancestral ties to the project area. There is now a need to restore balance to the ecosystem to support these culturally important foods, improve the natural processes that sustain them, and ensure clean, cold water for salmon, steelhead, and other aquatic species.

Local Economy. Communities in Northeast Oregon rely heavily on the area's natural resources and the infrastructure that supports resource management on public lands. Key industries like forestry, ranching and recreation play a significant role in the local and regional economy. Public lands help keep these industries running by providing both resources and recreational opportunities. However, the region has seen a major decline in its timber industry over the past 25 years, with 17 mills and over 35 forest contractors closing. Today, Union County has only

two sawlog mills and one particle board plant, while Wallowa County has a mill that processes green logs and some salvaged wood for firewood or biomass.

Multiple Uses. A large proportion of the project area is designated for “multiple use.” People use the project area for recreation, like hunting, fishing, camping, and motorized or non-motorized activities. The project area is also used for grazing livestock. Many locals harvest non-timber forest products such as firewood, mushrooms, huckleberries, and Christmas trees, either for personal use or to sell, helping to support the local economy. Because of this, it's important to keep providing a mix of forest resources, from timber to recreation, to sustain the community's needs, and to allow for responsible use of revenue to reinvest into the forest.

Starkey Experimental Forest and Range. The Starkey Experimental Forest and Range is a one-of-a-kind, world-class research facility used by scientists from around the world. It is the primary field location for studying the effects of deer, elk, and cattle on ecosystems within the Blue Mountains. Interactions between cattle, elk and deer have been studied intensively since 1989 when approximately 25,000 acres were enclosed by an eight-foot-high big game fence. The area is managed by the Pacific Northwest lab and the Wallowa-Whitman National Forest. Oregon Department of Fish and Wildlife and Oregon State University are the primary research partners.

Resources

- [Braiding Indigenous and Western Knowledge for Climate-Adapted Forests: An Ecocultural State of Science Report](#). 2024. Report that brings together Indigenous Knowledge and Western Science to make recommendations for restoring forest resilience.
- [Climate Adaptation Strategies for Western Washington and Northwest Oregon Forests](#). Northwest Natural Resource Group. Describes different forest management strategies.
- [First Foods and Life Cycles](#). Confederated Tribes of the Umatilla Indian Reservation.
- [In This Together: A Collaborative Vision for Healthy Stream Habitats and First Foods](#). Article about the Meadow Creek Restoration Project.
- [La Grande Ranger District](#) and [Wallowa-Whitman National Forest](#). USDA Forest Service.
- [Priority Landscape Restoration](#). Umatilla National Forest. 2022. A story map of landscape restoration projects in the Umatilla and Wallowa-Whitman National Forests.
- [River Vision](#). Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources. 2011.
- [Sixth Oregon Climate Assessment](#). 2023. Oregon Climate Change Research Institute. A biennial report on the impacts and risks of climate change in Oregon.
- [Upland Vision](#). Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources. 2019.