

## The Greater Williams Prairie Restoration Area

**State(s):** Oregon

**Managing Agency/Organization:** USDA Forest Service, Ochoco National Forest

**Type of Organization:** Government

**Project Status:** Scheduled for July 2021- September 2022

**Project type:** WNTI Project

**Project action(s):** Riparian or Instream Habitat Restoration, Barrier removal, Watershed or population assessment, Instream Flow Acquisition Planning, Watershed Connectivity, Monitoring, Education/Outreach. Assessment of 1 watershed, Assessment of 6 populations, Removal of 1 barrier, Reconnection of 3.5 miles of stream and 560 acres of riparian restored, 10 public presentations to reach 500 individuals.

**Trout species benefitted:** Interior Redband Trout

**Population:** Headwaters North Fork Crooked River Watershed – NF Crooked River

**Project summary:** Previous years WNTI funding ([2017](#) & [2019](#)) were awarded to the Lower Deep Creek Floodplain Restoration Project, which is located approximately 12 miles downstream of the Williams Prairie Project Area. The Lower Deep Creek Floodplain Restoration Project was the first of several larger scale stream restoration projects planned on both public and private lands in the Upper North Fork Crooked River Area. Projected out-year private land restoration on a 10,400 acre meadow/prairie (Big Summit Prairie) would connect Lower Deep Creek Floodplain Restoration Project and the Williams Prairie Project Area.

The Greater Williams Prairie Restoration Area (GWPRO) project will focus on whole-watershed restoration "from ridgetop to valley bottom" over approximately 17,497 acres of the Ochoco National Forest in Central Oregon. The project has been designed to restore water table elevations and stream/meadow function, restore aquatic and terrestrial flora and fauna habitat, improve forest health, increase climate change resiliency, improve cattle management and decommission and/or close approximately 20 miles of road. All of this work will be completed under a new and unique stewardship restoration model dubbed "All Hands, All Brands". The North Fork Crooked River, which flows through the project area, is part of the National Wild and Scenic Rivers System and restoration and protection of Outstandingly Remarkable Values (ORVs) is of utmost importance. This subwatershed lies within a USFS Region 6 Terrestrial Restoration and Conservation Strategy (TRACS) Priority Area and is ranked in the top ten in the region for late-seral ponderosa pine habitat. In addition, it has been identified as a Priority Subwatershed for restoration within the National Watershed Condition Framework. The area is one of two known Oregon locations for the Silver Bordered Fritillary butterfly, which is on the Regional Forester's Sensitive Species List. An innovative habitat enhancement component, specific to this species, is being planned in this subwatershed. The project area has an extensive distribution of Redband Trout, which is also on the Regional Forester's Sensitive Species List and is located upstream of a strong-hold population of Redband Trout, in Deep Creek. There are dispersed populations of Columbia Spotted Frogs, which are also listed on the Regional Forester's Sensitive Species List and a 'Candidate' species by the US Fish and Wildlife Service. Several beaver populations are established in the area and are expected to be key players in the recovery of prairies and meadows. The subwatershed also includes approximately 1,000 acres of the Lookout Mountain Recreation Management Area which is a roadless area managed to provide big game habitat and semi primitive recreational opportunities within a natural setting. The Confederated Tribes of Warm Springs have an interest in partnering on the re-establishment of camas and other cultural plants in the area.

**Problem the Project Addresses:** This project area is highly valuable for many ecosystem resources. Primary concerns within the project area include the incision of existing stream and meadow systems (and subsequent loss of water table elevation leading to impacts to floral and faunal species and habitat), runoff effects from the road network, conifer encroachment on meadows and prairies, impacts from cattle grazing and the effects of existing road-stream crossings on aquatic passage (primarily Redband Trout) and subsequent impacts on water quality and quantity. Forest Health is also of utmost concern due to past management practices that have led to vegetative conditions that are out of the historic range of variability and impacting floral and faunal species and habitat.

Those resource conditions outlined above are expected to have additional implications given the projected climate change impacts over the next several decades and beyond. Climate change impacts will have extensive effects on aquatic and terrestrial ecosystems, especially as the frequency of extreme climate events (drought, low snowpack) and ecological disturbances (flooding, wildfire, insect outbreaks) increase (Halofsky et al 2019).

The "Essential Projects" outlined within the Watershed Restoration Action Plan for this project area are expected to restore, maintain and/or modify ecosystem and "whole watershed" function to address the causes

of degradation and increase climate change resilience within the Headwaters North Fork Crooked River Watershed. Post project conditions are expected to be more resilient to hotter and drier summers through restoration of water tables (the sponge) in prairies and meadows and also thinning and burning of overstocked stands making them more resilient to wildfires. Other project activities are expected to improve water quality and improve ecosystem conditions that favor aquatic and terrestrial survival over the long-term, especially red band trout.

Anticipated impacts of climate change include decreased snowpacks with earlier snowmelt that will shift the timing and magnitude of streamflow; peak flows will be higher and summer low flows will be lower. Snowpacks on the eastern flank of the Cascade Mountain Range will be especially sensitive and snow residence time is expected to decrease by 7 to 8 weeks. Earlier snowmelt timing will potentially result in summer streamflow losses of 40 to 60 percent by 2040 and 60 to 80 percent by 2080 (Halofsky et al 2019) throughout South Central Oregon and more specifically 10-20 percent by 2080 in the Headwaters North Fork Crooked River area. These projected conditions could have lethal and long-term viability concerns to Redband Trout and other aquatic and terrestrial organisms. As mentioned previously, those "Essential Projects" outlined within this project area have been designed to make the localized ecosystems more resilient to climate change. Without the planned "Essential Projects" this area is not expected to be resilient to long term climate change.

**Objectives:** The primary objective of the GWPRA is to restore a subwatershed area, "from ridgetop to valley bottom". Accomplishments include:

- Water Table Restoration – filling approximately 3 miles of degraded stream gullies (with earthen and woody material) within Williams Prairie to bring the water table up to the valley surface. This activity would have a direct impact on approximately 560 acres of meadow in the Prairie.
- Aquatic and Terrestrial Flora and Fauna Habitat Restoration –Riparian planting of shrubs and hardwoods, as well as large wood placement, will complement water table and aquatic habitat restoration activities in suitable areas over several thousand acres. Other areas will be enhanced with native forbs and grasses, with an emphasis on improving wildlife forage, native perennial moist meadow vegetation, and pollinator habitat. Invasive annual grass treatments would occur on 150 acres. As one of two known Oregon locations for FS sensitive Silver Bordered Fritillary butterfly, an innovative habitat enhancement component specific to this species is being planned. The possibility of partnering with the Confederated Tribes of Warm Springs on establishing areas of camas and other cultural plants will also be explored. See below for forest health treatments tied to terrestrial fauna restoration.
- Forest Health Restoration- Thinning and burning in the GWPRA, including those areas of conifer encroachment around the Prairie but also within the greater area. The GWPRA lies within a Region 6 TRACS Priority Watershed and is ranked in the top ten in the region for late- seral ponderosa pine habitat. Currently there are approximately 5,431 acres of non-commercial thinning treatments, 450 acres of commercial harvest and 1,099 acres of mechanized slash treatment and hand piling identified to benefit pine as well as 10.5 acres of aspen restoration. Stewardship opportunities are in the initial stages of planning. The project area and restoration items create a unique opportunity to integrate multiple FS resources as well as many partners using the Stewardship Authority. Through the use of the Stewardship Agreement, the timber value can be utilized to provide funding for service items. These service items are associated with the restoration work and could include road closures to improve elk security and hydrologic function, non-commercial thinning to improve ungulate forage and bark beetle risk reduction, hardwood restoration which could include hard wood planting, and various other aquatic restoration items.
- Cattle Management- incorporating a grazing plan to allow for higher forage production as well as protection of restoration areas. Approximately 4 miles of temporary fence construction.
- Travel Route Improvements – incorporating travel route restoration projects (i.e. road decommissioning, closure and aquatic organism passage projects). This area has been identified as a priority for elk habitat and security improvement within the Blue Mountains. Focus will be placed on the closure of approximately 20 miles of road as well as decommissioning 3 miles of road.

All of the above activities are outlined as "Essential Projects" in the Watershed Condition Framework - Watershed Restoration Action Plan completed in 2019. This work will also protect and restore Riparian Management Objectives within the Inland Native Fish Strategy as well as the Aquatics Standards and Guidelines within the Ochoco National Forest Management Plan.

In 2021 activities will include plugging and filling approximately 3 miles of degraded stream gullies within Williams Prairie to bring the stream network back up to the floodplain/meadow/prairie elevation. This will be accomplished by using excavators, dump trucks and a dozer to fill the degraded channel(s). This portion of

the project is expected to cost approximately \$400,000. Requested WNTI funds would be entirely utilized for part of this portion of the larger project.

Also, in 2021, commercial harvest (\$20,250) and non-commercial thinning (\$582K) are projected to start up on 450 and 5,431 acres, respectively. In addition, mechanized slash treatment and hand piling (\$330K) would occur on 1,099 acres. These activities would have aquatic and terrestrial assigned targets (acres and miles enhanced) and outyear projects will be funded through the "All Hands, All Brands" restoration model.

In 2022 activities include riparian planting (\$40K), aquatic organism passage structure installation (\$280K), temporary fence construction (\$8K), invasive annual grass treatment (\$25K) and sensitive and cultural plant restoration (\$15K). In addition, some of the non-commercial and mechanical slash treatments could be ongoing in 2022. Some of the road closures (\$57K) would occur in 2022, however some roads would need to be left open until harvest treatments are completed.

In 2023 most of the project is anticipated to be completed and the remainder of the roads could be closed/decommissioned.

The Forest Service will be the responsible official for all work within this project, however, a stewardship agreement with the Oregon Mule Deer Foundation (OMDF) will allow the Forest Service to accomplish the majority of work through service contracts run through OMDF.

**Partners:** Over the past 28 years Blue Mountain Elk Initiative (BMEI) has developed a track record of successfully supporting landscape scale restoration projects. As a result, many partners have signed on to support BMEI's work across the Blue Mountain Forests, including the Ochoco National Forest. These partners include but are not limited to; Rocky Mountain Elk Foundation, National Wild Turkey Federation, Back Country Hunters and Anglers, Oregon Hunters Association, Oregon Foundation for North American Wild Sheep, Oregon Rangeland Trust, Access and Habitat ODFW, Confederated Tribes of the Umatilla, WDFW, Oregon State University Extension Service, The Nature Conservancy, Eastern Oregon Agriculture Research, and Wallowa Resources.

Each partner listed as well as the many others that have supported BMEI projects have a unique capacity to assist and support restoration work. The "All Hands, All Brands" restoration model that we are using for the Greater Williams Prairie Restoration Area simply uses each partner for their capacity to support the project. What makes the model unique is that partners collectively support the project and implement the work using the authorities provided by the Forest Service. An example would be the use of Stewardship Agreements and the Stewardship Authority to accomplish restoration work with our partners. The Forest Service has formed many Stewardship Agreements across the country to accomplish restoration projects with the National Wild Turkey Federation (NWTF). The Stewardship Agreement allows the Forest Service to exchange timber value with their partner to pay for restoration work, as well as provide funding for other restoration items. As a result of the NWTF's restoration efforts utilizing Stewardship Agreements, they have become the 7th largest purchaser of federal timber products in the country, Although the Stewardship Agreement is entered between the Forest and the NWTF, multiple partners support NWTF work through fund raising efforts that allow a variety of other restoration items to be accomplished under the Stewardship Agreement. The NWTF has the administrative capacity to manage the Stewardship Agreements, while they rely on the capacity of other non-profit partners to help with project support through; fund raising efforts, direct cash contribution, information education, and on the ground work such as volunteer labor.

The GWPRA project will utilize this model to unify partner support and expand the pace and scale of restoration work under the BMEI umbrella. Other anticipated partners not mentioned above include Oregon Watershed Enhancement Board, Discover Your Forest, Trout Unlimited, ODFW, EPA, Oregon Wildlife Foundation and Oregon Shed Hunters, among others.

- U.S. Forest Service – Ochoco National Forest
- Blue Mountain Elk Initiative
- SFHP (Forest Health)
- Rocky Mountain Elk Foundation
- Oregon Hunters Association
- Oregon Watershed Enhancement Board
- Oregon Wildlife Foundation
- National Wild Turkey Foundation
- Trout Unlimited
- Oregon Department of Fish and Wildlife

- Crooked River Watershed Council
- Oregon Shed Hunters
- Western Native Trout Initiative

**Project Monitoring:** The US Forest Service will be the agency responsible for the long-term maintenance and monitoring of the project area. Monitoring will be completed in conjunction with the US Forest Service, National Wild Turkey Federation (NWTF), ODFW, OMDF, and other partners. This project is still in the development phase so no official monitoring plan has been developed, but monitoring will be an essential component and a requirement for many aspects of this project. This is especially the case since this project is a Nationally piloted Watershed Restoration Action Plan that addresses resilience to climate change. The Forest Service will install ground water wells in Williams Prairie and monitor the pre and post project water table elevations in restored prairies/meadows as well as monitor pre and post-project stream flows. Photo points will be established and repeated on an annual basis. The Forest Service has pre-project Level 2 stream habitat survey data and we will continue with post project Level 2 surveys. Monitoring will include quantitative evaluation of aquatic and terrestrial habitat and species counts. ODFW will lead both of those efforts. Additional monitoring will be conducted by Forest Service hydrologists, fisheries biologists, botanists, ecologists and wildlife biologists to evaluate changed conditions in habitats, number of new pool areas created, % of planted plants surviving, water temperatures, number of relic channels reactivated, size of the sediment in active channels and changes in Redband Trout abundance, among others.

**Funding Source(s):** National Fish Habitat Action Plan

**Project cost:** \$50,000

**Start Date:** 07/13/2021 **Completion Date:** 9/30/2022

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