INGRAM MEADOW RESTORATION
&
NORTH GRIZZLY HABITAT ENHANCEMENT PROJECT
Project Completion Report

Location: Ochoco National Forest – Lookout Mountain Ranger District, Crook County, Oregon

Project Coordinator: Andrew Passarelli, District Wildlife Biologist
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Field Completion Date: 10/30/2020

Project Type	*Size of Treatment Area*	*Total Cost*	*Source of Funds*
Meadow and Riparian Enhancement	25 acres	$150,000	NFF, RMEF, USFS
Aspen Enhancement	5 acres	$5,500	RMEF, USFS
Hardwood Protection	5 acres	$8,000	NFF, USFS
Big Game Security	20 miles	$25,000	BMEI, USFS

PROJECT SUMMARY:

The Lookout Mountain Ranger District on the Ochoco National Forest implemented a multi-faceted project to enhance and restore habitat conditions across multiple different habitat types. Through a holistic approach to landscape restoration this project enhanced approximately 1,350 acres of habitat for wildlife species including pollinator species such as silver-bordered fritillary and bumble bees; big game including elk and mule deer; and a myriad of other wildlife species in-between. Treatments included in this effort consisted of meadow restoration, aspen enhancement and protection, improving big game security through installing effective barriers on closed roads, and reconnection of the floodplain through stream restoration and riparian improvements. These treatments aligned in a cohesive strategy to improve habitat conditions for a multitude of wildlife species, including priority species, with the goal of restoring native habitats for native species and encouraging elk redistribution from private land to public lands, as well as addressing current challenges within local and regional priority habitats.

PROJECT ACCOMPLISHMENTS:

With help from multiple partners the Forest Service accomplished the multi-faceted restoration and habitat improvement project. The water table within the 25-acres of Ingram Meadow was restored through placement of debris and fill. Riparian hardwoods were planted and should establish thanks to the protection provided by individual cages and the temporary wildlife exclusion fencing. Fencing surrounding the meadow was retrofitted with wildlife-friendly fencing materials to prevent injury or harm to wildlife. The 5-acre Rooster Rock aspen stand was enhanced by felling conifers and reducing the competition for nutrients and sunlight, which should allow that stand to flourish into the future. Numerous administratively closed roads within the project area were physically closed utilizing gates, berms, rocks, and/or debris. These closures helped to secure over 1,300 acres of habitat for big game that will assist in keeping elk on public land late into the season.

COOPERATING AGENCIES AND/OR CONSERVATION GROUPS:

National Forest Foundation: $105,000 (reconnection of floodplain and riparian planting/protection within Ingram Meadow)
Rocky Mountain Elk Foundation: $15,000 (30 acres of meadow and aspen habitat enhanced)
Blue Mountain Elk Initiative: $20,000 (construction of physical barriers on 20 miles of roads)
Heart of Oregon (AmeriCorps): In-kind labor - $1,500 (construction of 1-acre buck and pole fence in Ingram Meadow) – *cost funded by USFS*
Region 6 Interagency Special Status/Sensitive Species Program: $25,000 (pre-disturbance survey and monitoring, seed collection and propagation, transplanting of sensitive botanical species) – *internal competitive funding from USFS*
US Forest Service (Ochoco NF): $17,000 (project oversight and management, additional supplies/materials)

PROJECT MEDIA COVERAGE:

A press release informing the public of the project was done as part of the ongoing implementation. Social media was utilized during portions of implementation where photos were shared with the public informing them of the treatments, the methods, and the purpose behind the restoration.

PROJECT IMPLEMENTATION PHOTOS:

Figure 1: Members of the Youth Conservation Corps reconstruct wildlife-friendly fence around Ingram Spring to prevent degradation from livestock. The spring lies at the bottom of Ingram Meadow and represents a unique and critical habitat for wildlife.

Figures 2 and 3: Existing livestock-exclusion fencing surrounding Ingram Meadow was retrofitted to be wildlife-friendly**.** Smooth wires on both top and bottom as well as providing the proper spacing and heights ensured that wildlife passage into and out of the restoration area would be safe and free from harmful barriers.

Figure 4: Autumn in Ingram Meadow. Along with enhancing the fence around the meadow, multiple activities were conducted to improve various aspects of the habitat within the meadow itself. Wildlife use of this meadow was abundant, even during implementation, as can be seen by the multiple elk pictured within the meadow near the part-way completed buck and pole fence.

Figure 5: Wildflowers and bumble bees dot the landscape in late spring in Ingram Meadow. In the background you can see the recently planted hardwoods lie protected within their individual cages.

Figure 6: Thinning slash and debris along with fill material such as soil and rock were placed inside the channel to slow the water flow and cause it to saturate the meadow during high seasonal flows.

Figure 7: After implementation, surface water was present in various small ponds and across the large meadow expanse radiating outward from where the original 2-foot wide channel had been.

Figure 8: Riparian plants were planted and caged within the meadow restoration along the newly saturated areas. Numerous shallow pools and pits were created to help provide additional surface water to wildlife throughout the year.

Figures 9, 10, and 11: Members of the Heart of Oregon – AmeriCorps group assisted the U.S. Forest Service in construction of a half-acre buck and pole fence that excluded wildlife from a portion of the meadow that had some existing hardwoods which were heavily browsed as well as newly transplanted aspen and other hardwoods as part of the restoration efforts. Materials were sourced from onsite, using conifers encroaching into the meadow as the fence poles and rails.

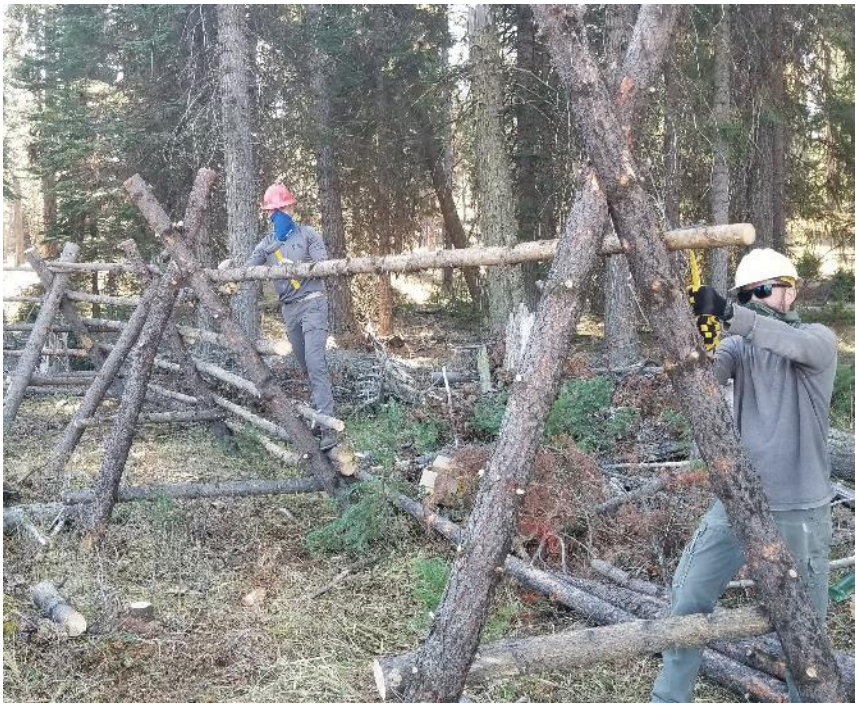

Figure 12: This 8-foot-high, three-dimensional, fence will assist and accelerate the growth of hardwoods at this site, by excluding big game species. However, due to use of natural materials, this fence will be allowed to deteriorate over time at which point, it will once again allow for big game use giving the hardwoods sufficient time to recover and or establish.

Figure 13: Numerous logistical challenges were present in trying to mitigate concerns around COVID-19. However, this large-scale fencing project was completed successfully, and most importantly, safely.

Figure 14: Just down the road from Ingram Meadow lies a well-established 5-acre aspen stand associated with an additional spring near Rooster Rock. Encroaching conifers were competing with young sprouts for nutrients and sunlight, so to reduce this competition conifers were fell within 100 feet of an aspen sprout. In areas where the trees could not be safely cut, they were girdled to reduce competition and also provide variability for wildlife habitat.

Figures 15 and 16: Before and after photos of the conifer felling within Rooster Rock. On the left you can see all the young aspen sprouts in the foreground and on the right, you can see the felled trees and slash placed around them to protect the sprouts from browsing by livestock and wildlife while they mature.

Figures 17 and 18: Aspen was released along three of the four edges, as well as within the interior of the stand. Small patches of fir consisting of a few large diameter trees were left for habitat diversity and cover across the five-acre stand.

Figures 19 and 20: Photos of before and after treatment of a section of the Rooster Rock aspen stand. In the first photo aspen and fir co-dominate the canopy, while in the second photo aspen is the dominant species and the multi-aged stand of fir is almost non-existent save for a few large diameter trees. Sunlight is now able to pass through the entire width of the stand which should allow for expedited growth of sprouts on both sides.

Figures 21 and 22: U.S. Forest Service sawyers completed the conifer felling within the Rooster Rock aspen stand and utilized the opportunity to provide additional training and certifications to personnel. Members from the wildlife, aquatics, and recreation departments on the Ochoco National Forest participated in making this a success.

Figure 23: In order to reduce browsing on the aspen sprouts and to reduce pressure from livestock, efforts were made to directionally fell conifers to provide some protection around young trees. In addition, the existing buck and pole fence around the stand was improved by adding thinning slash, creating a temporary barrier that will reduce, but not eliminate, use of certain parts of the stand.

Figures 24 and 25: At one end of the aspen stand lies a spring, which also includes a well-defined path through the stand, bisected by a wallow. This area was left untouched to provide habitat characteristics conducive for its use by wildlife. After implementation a remote sensor game camera was placed and a bull elk bugling at the wallow was captured on video indicating use of the area by elk is still occurring.

Figure 26: Throughout the northern portions of the Grizzly Wildlife Management Unit over 20 miles of roads were physcially closed to provide additional security habitat for big game in an effort to ensure deer and elk are maintained on public land. These closures represented approximately 1,300 acres of habitat improvement for big game. Pictured here is the construction of a berm which was utilized as part of an "entrance treatment" which consisted of a berm, placement of slash, debris, and/or boulders, and disguising the road bed for a sight distance to deter unauthorized motor vehicle use.

Figures 27 and 28: Multiple tactics were utilized to reduce and prevent unauthorized motor vehicle use of closed roads within the project area. Pictured here are examples of multiple berms, and the placement of slash, debris, and boulders to secure the physical closures. In addition, two gates were placed on the landscape to allow for continued, but infrequent, administrative access when needed.

PROJECT RESULT ACTIONS:

Post-monitoring data will show that we have changed the hydrology within Ingram Meadow and have greatly increased the water storage ability, allowing for the expansion of hardwoods, riparian vegetation, and sensitive botanical species. Aspen sprouts will be increasingly more abundant at Rooster Rock, and that stand should expand over time and develop multiple age classes to allow it to be maintained long into the future. Monitoring behind road closures will show that a reduction in motorized vehicle use has occurred and therefore elk and mule deer will be provided with a more secure habitat on public land. In addition, because of the holistic approach to restoration a multitude of other wildlife species, including a sensitive native butterfly, will benefit from these treatments on the landscape. Over time the area is expected to provide increased forage and security for big game species as well as more suitable summer range, seasonal transition, and parturition habitats.

MONITORING IN PLACE:

This project was monitored during implementation to ensure treatment prescriptions and project goals were met. Monitoring points were established during the planning phase and will be informally monitored by District personnel as time goes on. Post-treatment effectiveness monitoring will occur periodically upon project completion to document project impacts and help guide future treatments.

Various different monitoring strategies were employed for numerous wildlife species in order to anecdotally determine presence-absence or potential impacts from the treatments. Specifically, acoustic monitoring devices were installed in Ingram Meadow prior to treatments to survey for bats; remote-sensor game cameras were installed in both Ingram Meadow and Rooster Rock aspen stand to monitor use by wildlife; butterfly and bumblebee surveys were completed in Ingram Meadow prior to treatments. Vegetation surveys were conducted in Ingram Meadow to measure pre-disturbance levels of riparian vegetation. These survey methods are repeatable and will allow the Forest Service to have some feedback regarding treatment effectiveness and the use of the area by wildlife species prior to, and following, treatments.