



U.S. Fish & Wildlife Service

Partners for Fish & Wildlife Program



*Big Game Seasonal Habitat & Migration Corridor Report  
Fiscal Year 2023 Accomplishments*



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Mule deer bucks. Photo by Clint Wirick/USFWS.

## Introduction

The western United States (U.S.) is home to some of the largest herds of wild native ungulates in North America. However, critical winter habitat and migration corridors between seasonal ranges that many of these populations rely on face significant threats. Habitat fragmentation from development often limits the availability of high-quality forage and cover, roads and fences impede movement between and within seasonal ranges, and degraded habitat limits the health and reproductive success of herds.

On February 9, 2018, the Secretary of the Interior signed Secretarial Order (S.O.) 3362, *Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors*. S.O. 3362 directs appropriate bureaus within the Department of the Interior (DOI) to work in close partnership with the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming to enhance and improve the quality of big game winter range and migration corridor habitat on Federal lands under the management jurisdiction of the DOI in a way that recognizes state authority to conserve and manage big game species and respects private property rights. Since 2018, the focus of S.O. 3362 has been centered around enhancing winter and migration corridor habitat for Rocky Mountain elk, mule deer, and pronghorn within priority areas in State Action Plans (which were developed in response to S.O. 3362) and for specific priority projects on Tribal lands. Actions have been taken across ownerships, and voluntary agreements with willing landowners and Tribes are an important tool to achieve strategic results.

On January 27, 2021, the Biden Administration issued Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*. From this Executive Order, a preliminary report titled, “Conserving and Restoring America the Beautiful” (ATB) was developed for the National Climate Task Force and recommended a ten-year, locally led campaign to conserve and restore the lands and waters upon which we all depend. ATB outlines six early focus areas and recommendations, with one recommendation being to, “Expand Collaborative Conservation of Fish and Wildlife Habitats and Corridors”. The report acknowledges that “the Trump Administration launched a promising effort to enhance the winter range and migration corridor habitat of elk, deer, and pronghorn on DOI-managed lands” and adds, “this initiative could be expanded to include other land managers, to build partnerships with working ranches and other landowners, and to conserve corridors and seasonal ranges for other species.” As a result, senior leadership from the U.S. Fish and Wildlife Service (Service) are interested in understanding the scope of on-the-ground projects that the Partners for Fish and Wildlife (PFW) Program completed related to big game habitat improvements in seasonal ranges and migration corridors, which aligns with the Biden Administration’s priorities.

The Service’s PFW Program was established in 1987 and has since emerged as a leader in delivering voluntary habitat restoration and enhancement projects on private lands. In response to S.O. 3362, the PFW Program began focusing efforts within and tracking big game winter habitat and migration corridor project accomplishments and has since expanded tracking efforts to include projects completed in summer habitat. To address these priorities, PFW Program

biologists complete a wide variety of practices with willing private and Tribal landowners, including restoring degraded habitat, installing wildlife-friendly fences to enhance big game movements, and designing creative grazing systems to increase forage production (see Appendix A for examples of big game project accomplishments completed in Fiscal Year 2023).

The PFW Program has demonstrated success at building partnerships with landowners to conserve and restore wildlife habitat, especially related to big game habitat improvements in winter range and migration corridors. This report describes the work of the PFW Program and its Fiscal Year (FY) 2023 accomplishments with partners supporting big game seasonal habitat and migration corridors within the 11 western states. In this report, “seasonal habitat” is defined as winter and/or summer range, to accurately reflect how data are summarized. In all cases, project accomplishments reported benefit at least one of the S.O. 3362 target species (i.e., Rocky Mountain elk, mule deer, pronghorn) and align with the current Administration’s priorities.



Elk calf foraging for food during winter in Wyoming. Photo by Kourtney Stonehouse.

### **Fiscal Year 2023 Accomplishments**

In FY 2023, the PFW Program contributed over \$2.5 million and leveraged nearly \$15.8 million with cooperators to support voluntary conservation of big game seasonal habitat and migration corridors for an \$18.3 million impact and a total leveraging ratio of \$7.25 from a cooperator for every dollar of PFW Program funds (Table 1). The PFW Program funds include over \$2 million invested into completed projects directly delivered by PFW Program staff in FY 2023 and an additional \$500,000 awarded to a cooperative agreement with the National Fish and Wildlife Foundation (NFWF) for the Western Big Game Seasonal Habitat Migration Corridors Fund. The PFW Program also improved habitat for big game species using nearly \$816,000 of Bipartisan Infrastructure Law (BIL) funding in FY 2023.

**Table 1.** PFW Program and partner contributions in Fiscal Year 2023 to big game seasonal habitat and migration corridor projects.

<b>FY 2023 Activities</b>	<b>PFW Program Contributions (Cash only)</b>	<b>Cooperator Contributions (Cash and In-kind)</b>	<b>Total Conservation Value</b>
PFW Program Accomplishments	\$2,026,195	\$3,068,138	\$5,094,333
NFWF Western Big Game Seasonal Habitat and Migration Corridors Fund	\$500,000	\$12,721,506	\$13,221,506
<b>Total</b>	<b>\$2,526,195</b>	<b>\$15,789,644</b>	<b>\$18,315,839</b>

Through the extraordinary efforts of external and internal partners, 108 actions were completed to improve seasonal habitat and migration corridors for big game species with PFW Program project funding across 9 western states (Table 2). Completed on-the-ground activities include:

- Restoration and enhancement of over 25,100 upland and wetland acres of seasonal habitat and migration corridors with 95% (23,899 acres) within winter range and/or migration corridor habitat.
- Improvement of over 50 miles of river, shoreline, and stream channel miles with over 98% (49.7 miles) occurring within winter range and/or migration corridor habitat.
- Removal, installation, or modification of nearly 52 miles of fencing that affect big game in migration corridors and winter range.

PFW Program projects completed by cooperators and Program staff include treatment and removal of invasive species and reseeding to native habitat, juniper and pinyon pine control, implementation of grazing management systems to improve the quality of habitats, and restoration of wetlands and riparian habitat. Fencing projects included removal of wildlife-unfriendly fences (e.g., woven wire fences), installation of new wildlife-friendly fences, and fence modifications to wildlife-friendly specifications that allow wildlife to pass through or over fences unharmed.

**Table 2.** PFW Program accomplishments in Fiscal Year 2023 that improved seasonal and migration corridor habitat for big game species using PFW Program funds and leveraged contributions<sup>1</sup>. Total leveraged includes all non-PFW Program and partner contributions.

State	Upland Acres Restored/Enhanced	Wetland Acres Restored/Enhanced	River/Shoreline/Stream Miles Restored/Enhanced	Miles of Fencing Removed, Installed, or Modified	PFW Program Contribution	Total Cooperator Contribution Leveraged
AZ	1,910.5	0.0	0.0	0.0	\$312,000	\$69,000
CA	20.0	70.2	4.2	0.0	\$331,324	\$789,633
CO	1,398.8	6.3	0.0	1.8	\$13,075	\$133,244
ID	0.0	3.5	0.0	1.5 <sup>a</sup>	\$29,290	\$82,403
MT	17,425.4	385.6	38.7	39.2	\$28,321	\$1,047,274
NV	0.0	48.8	0.5	0.0	\$28,647	\$51,386
OR	1,994.5	664.0	6.6	0.0	\$1,182,980	\$609,663
UT	0.0	4.5	0.4	0.0	\$100	\$79,307
WY	1,178.6	0.0	0.0	9.3	\$100,458	\$206,228
<b>Total</b>	<b>23,927.8</b>	<b>1,182.9</b>	<b>50.4</b>	<b>51.8</b>	<b>\$2,026,195<sup>b</sup></b>	<b>\$3,068,138</b>

<sup>a</sup> In Idaho 73 wildlife gates and crossings were installed in strategic areas to improve migration for Rocky Mountain elk, mule deer, and pronghorn. These accomplishments are not captured under fence miles.

<sup>b</sup> The PFW Program invested \$1.49 million in winter and/or migration corridor habitat. Additional investments of \$528,275 from the PFW Program restored or enhanced 1,212 upland and wetland acres and 0.7 miles of river habitat (totals included in this table) exclusively within summer range habitat for big game species.

<sup>1</sup> The PFW Program also invested \$17,490 Program dollars, with partners contributing an additional \$120,076, for maintenance and follow-up in areas previously restored, enhanced, or established. This work ultimately benefited big game species across 928 upland and 33 wetland acres and 3.5 miles of stream channels. Maintenance and follow-up accomplishments are not included in Table 1 because they occur on previously restored, enhanced, or established areas and are not tracked by the Department of Interior.

The PFW Program contributed \$500,000 to support NFWF’s Western Big Game Seasonal Habitat and Migration Corridors Fund. PFW funds in combination with partner contributions and leveraged resources, resulted in a collective conservation impact of over \$13.2 million for big game winter and migration corridor habitat. PFW Program staff serve on an advisory panel with other partners to assist with project proposal review and development of project recommendations submitted to the NFWF Board of Directors for funding approval. In FY 2023, NFWF ultimately awarded 13 grants for projects in big game winter habitat and migration corridor priority areas on private, Tribal, and federal lands. These projects are expected to protect 57,000 acres through conservation easements; restore 105,000 acres of public, private, and Tribal lands; improve management on 192,000 acres of rangelands; and remove or improve 230 miles of fencing to be wildlife-friendly. For more information on NFWF’s Western Big Game Seasonal Habitat and Migration Corridors Fund and awarded grants in FY 2023, see [NFWF’s press release](#).

The PFW Program also used \$815,758 of Bipartisan Infrastructure Law (BIL) funding in FY 2023, which resulted in additional habitat improvements across 4,481 acres and 1.5 miles of stream channels in big game seasonal habitat and migration corridors in 4 western states (Table 3).

**Table 3.** PFW Program accomplishments in Fiscal Year 2023 that improved seasonal and migration corridor habitat for big game species using Bipartisan Infrastructure Law (BIL) funding.

State	Upland Acres Restored/Enhanced	Wetland Acres Restored/Enhanced	Stream Channel Miles Restored/Enhanced	Service Cash Contribution	Partner Contribution	Total Conservation Value
MT	0.0	8.4	0.0	\$500	\$4,500	\$5,000
NV	1,338.5	274.1	0.0	\$264,637	\$33,476	\$298,113
UT	712.9	3.1	0.0	\$150,000	\$223,448	\$373,448
WY	2,143.7	0.0	1.5	\$117,944	\$21,253	\$139,197
<b>Total</b>	<b>4,195.1</b>	<b>285.6</b>	<b>1.5</b>	<b>\$533,081</b>	<b>\$282,677</b>	<b>\$815,758</b>

The PFW Program accomplishments described here are a credit to the cooperating landowners, Tribes, organizations, and agencies which voluntarily collaborated with the PFW Program staff. Across all FY 2023 big game project accomplishments completed using PFW Program and BIL funds, the PFW Program worked with 39 conservation partners (Table 4). The cooperation and support of PFW Program partners are essential to the long-term conservation and sustainability of habitats benefitting western big game and all other species sharing the landscape.



Staff from the Bureau of Indian Affairs, Natural Resources Conservation Service, a local Conservation District and U.S. Fish and Wildlife Service meet to plan a fencing project in Wyoming that ultimately benefited elk, mule deer, pronghorn, and many other species. Working collaboratively with partners is key to achieving landscape-scale conservation. Photo by Mark Hogan/USFWS.



**Table 4.** List of Fiscal Year 2023 external partners the PFW Program collaborated with to deliver habitat restoration and enhancement projects in big game seasonal and migration corridor habitat on private and Tribal lands.

<b>Partner Type</b>	<b>Partner Name</b>
<b>Conservation District</b>	Honey Lake Resource Conservation District, CA Routt County Conservation District, CO Saratoga Encampment Rawlins Conservation District, WY Soil & Water Conservation District (SWCD) - Klamath, OR
<b>Federal Agency</b>	Bureau of Land Management National Oceanic and Atmospheric Administration Natural Resources Conservation Service Prairie Pothole Joint Venture
<b>Local Unit of Government</b>	Carbon County Weed and Pest, WY Grande Ronde Model Watershed, OR Utah Watershed Restoration Initiative
<b>NGO/Land Trust</b>	California Conservation Corps Colorado Wildlife Heritage Foundation Ducks Unlimited Klamath Watershed Partnership Montana Conservation Corps Mule Deer Foundation Pheasants Forever Ranchers Stewardship Alliance Southwest Montana Sagebrush Partnership Sportsmen Club The Nature Conservancy Water For Wildlife Wildlands Restoration Volunteers, CO Winnett Agricultural Community Enhancement and Sustainability World Wildlife Fund
<b>Private Corporation</b>	Green Diamond Resource Company Owyhee Rangeland Management, LLC
<b>State Agency</b>	Arizona Game and Fish Department Colorado Parks and Wildlife Idaho Fish and Game Oregon Watershed Enhancement Board Utah Division of Wildlife Resources Wyoming Department of Agriculture Wyoming Game and Fish Department Wyoming Water Development Commission Wyoming Wildlife and Natural Resource Trust
<b>Tribal</b>	Burns Paiute Tribe Summit Lake Paiute Tribe

## **Conclusion and Looking Forward**

The PFW Program contributed over \$2.5 million to big game seasonal habitat and migration corridor projects, which, along with partner contributions, resulted in a total conservation value of over \$18.3 million (see Appendix A for project examples). Of the \$2.5 million provided by the PFW Program, \$500,000 was awarded to NFWF through a cooperative agreement. Additionally, the PFW Program delivered nearly \$816,000 in project funds using BIL funding which further benefitted big game species in seasonal habitats and migration corridors.

The PFW Program supports big game migration corridor and seasonal habitat restoration and enhancement projects which align with the Biden Administration, Department, and Service's dedication to voluntary conservation and restoration of wildlife habitat and amplify the Service's contributions to the ATB initiative. The PFW Program will continue to engage and build partnerships with external and internal partners to conserve, protect, and restore valuable big game migratory and seasonal habitat on private and Tribal lands through voluntary agreements.

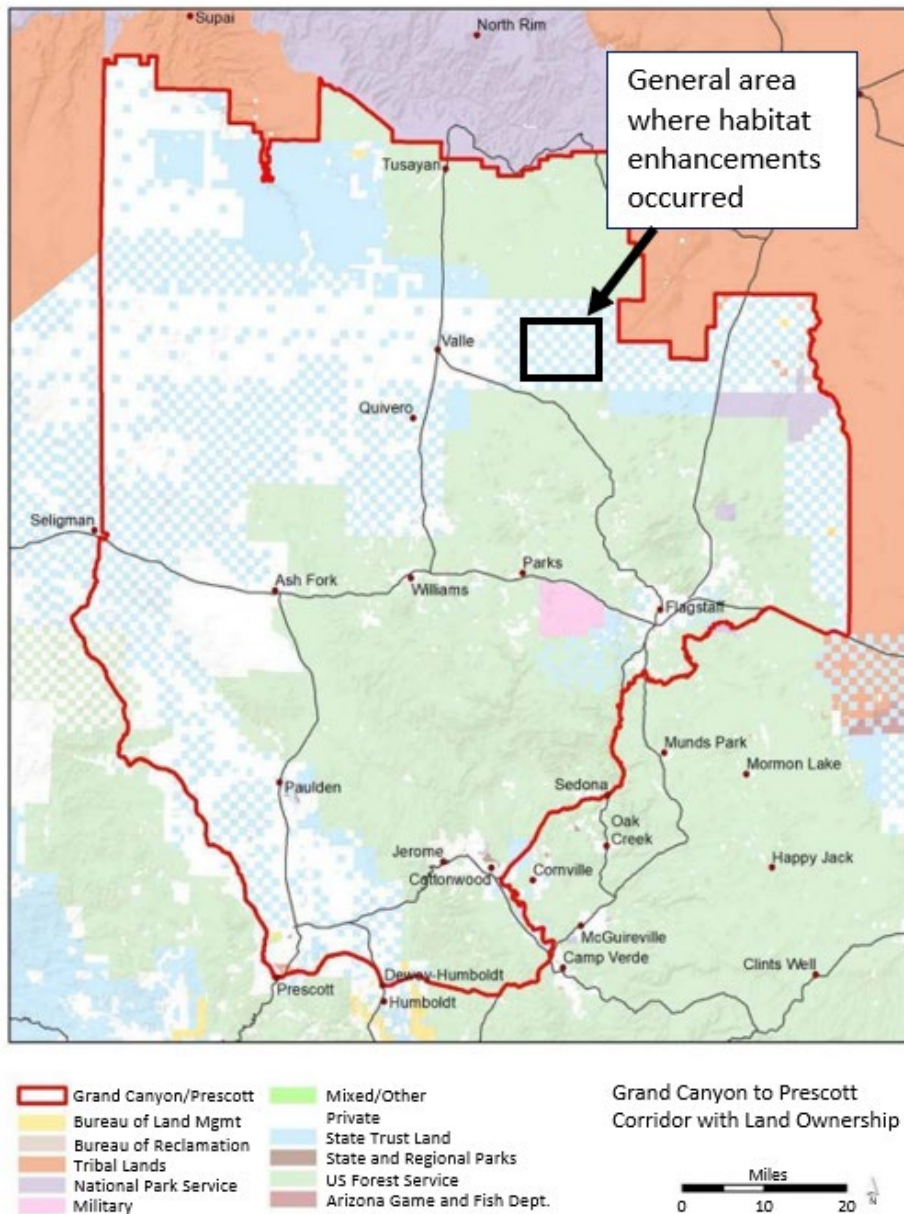
**Appendix A: Examples of Big Game Winter Habitat and Migration Corridor  
Restoration/Enhancement Accomplishments for FY 2023 in Arizona and Oregon**



Bull elk crossing a fence marked with sage-grouse fence markers. Photo by Clint Wirick/USFWS.

## Grassland Enhancement for Big Game Migration in Arizona

The Northern Arizona Grassland Enhancement project was a collaborative effort involving the Arizona Game and Fish Department (AZGFD), a private landowner, and the PFW Program. This initiative focused on enhancing 950 acres of land to protect ungulate big game winter range and migration corridors. AZGFD's State Action Plan had pinpointed the Grand Canyon to Prescott Corridor Complex as a high-priority area based on the best available science. The project addressed the need to reduce juniper tree distribution and abundance across this complex's grasslands.



Grand Canyon to Prescott Corridor priority area map from Arizona Game and Fish Department State Action Plan. Map is modified here to show where habitat enhancements for this project occurred.

Decades of fire suppression, changes in rainfall and temperatures, and historical livestock grazing had allowed juniper trees to encroach upon Northern Arizona's grasslands and savannahs, resulting in fragmented grasslands and diminished diversity and productivity of grasses, forbs, and shrubs. This adverse transformation significantly impacted open grassland ungulate species like pronghorn and other big game species, including Rocky Mountain elk and mule deer.

In cooperation with a private landowner in Coconino County, grasslands were successfully restored by eliminating encroaching juniper trees. Using a drum grinder on a rubber-tired tractor, encroaching one-seed juniper trees were removed while preserving mature ones. The project targeted 950 acres of historically open grassland with few scattered trees. The photos below showcase the landscape restored to an open grassland habitat.

Although monitoring of grassland species is in the early stages, an upsurge in grassland birds is anticipated and project participants eagerly await the results of their grassland enhancement endeavors. This partnership demonstrates a commitment to preserving and improving essential wildlife habitats in Northern Arizona.



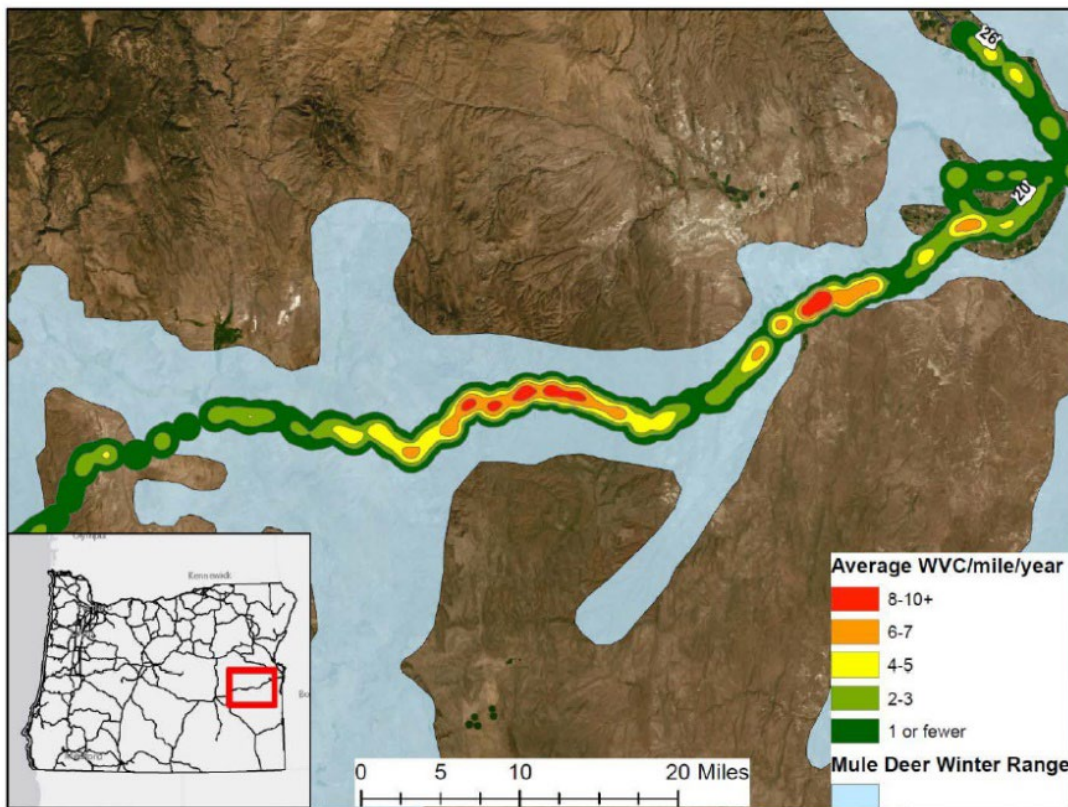
Before (left) and after (right) habitat enhancements. Photos by Jennifer Kaplan/USFWS.



Before (left) and after (right) habitat enhancements. Photos by Jennifer Kaplan/USFWS.

## Working with Tribal Partners to Control Medusahead in Big Game Winter Range in Eastern Oregon

In eastern Oregon, along Highway 20 between the communities of Harper and Juntura, lies one of the state's most densely populated mule deer winter ranges. Unfortunately, Highway 20 bisects mule deer winter range in this area, making mule deer-vehicle collisions common. Loss of quality habitat due to wildfire, habitat conversion to introduced/non-native annual grasses, and loss of shrubs also pose significant threats to mule deer in the region. For these reasons, this area was identified as a priority area for mule deer in Oregon's State Action Plan for implementing Secretarial Order 3362.

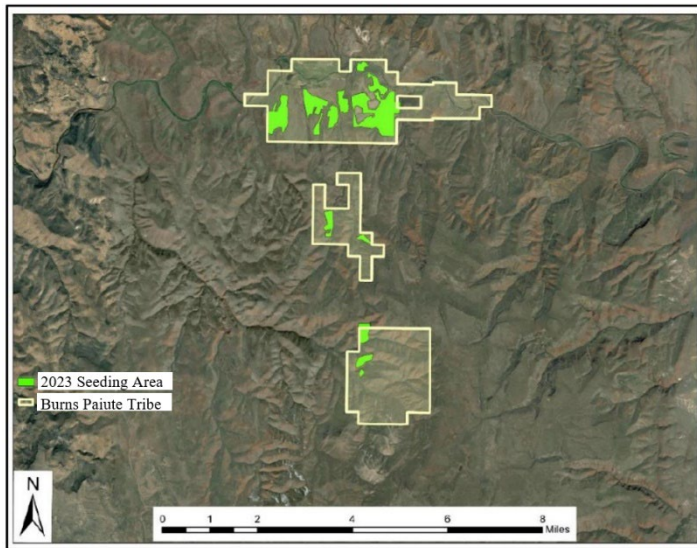


Location of U.S. Highway 20 in eastern Oregon, along with annual average wildlife-vehicle collisions (WVC) per mile each year. The highway bisects high-density mule deer winter range. Map from the 2020 Oregon Action Plan developed for implementation of S.O. 3362.

To improve winter range habitat for mule deer in this area, the Burns Paiute Tribe, in partnership with the PFW Program, conducted habitat treatments to control medusahead, a non-native, invasive annual grass, on the Malheur River Wildlife Mitigation Site (MRWMS). MRWMS is a 6,385-acre property owned and managed by the Burns Paiute Tribe and dedicated to protecting and enhancing wildlife habitat. Several management plans identify this site as a key component for the restoration of aquatic and terrestrial habitat within the Malheur River basin. Additionally, elk and Greater sage-grouse use this area for critical seasonal and life stages, respectively. Habitat improvements on MRWMS were conducted away from Highway 20 to reduce the need

for deer to regularly cross the highway to access adequate forage. 500 acres were treated by aerially spraying herbicide to control medusahead. This project complements an adjacent project, where 500 acres were similarly treated using grant funding from the High Desert Partnership's Southeast Oregon Wildfire Resiliency Project. PFW Program funds were leveraged to procure over 10,500 pounds of native seed mix to aerially reseed 1,000 acres across projects with native grasses, forbs, and Wyoming big sagebrush.

Although the project is in the early stages of monitoring outcomes, the herbicide treatments were effective at suppressing medusahead in spring of 2023. Since seeding in fall 2023, the site has received much moisture and project partners are hoping for normal to above average winter precipitation (i.e., snow) to maximize seed germination.



Map showing the Malheur Wildlife Mitigation Site. Areas highlighted in green are where medusahead treatments and re-seeding occurred. Map from Burns Paiute Tribe Final Report.



Broadcasting native seed mix from helicopter. Photo by Collin Williams/Burns Paiute Tribe.

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Cover: Pronghorn by Clint Wirick/USFWS