



Wetlands Collaborative Receives Funding to Help Fight Invasive Carp and Improve Habitat

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by Lauren Brown



The Harney Basin Wetlands Collaborative (HBWC), a collaborative of the High Desert Partnership, was awarded a six year grant for more than \$8 million from the Oregon Water Enhancement Board (OWEB) Focused Investment Partnership program. Funding for these grants comes from the Oregon Lottery and Federal Pacific Coast Salmon Recovery funds provided by the National Ocean and Atmospheric Administration.

“This funding is imperative for HBWC. It will help with restoration efforts to meet the needs of ranchers, migratory birds and other species that rely on the Harney Basin wetlands for their survival,” said Melissa Petschauer, Harney Basin Ecological Coordinator.

Pictured: A flooding wet meadow in the Harney Basin spring 2024. Photo by Brandon McMullen.

With this funding, the Harney Basin Wetlands Collaborative will build on more than 13 years of research and on the ground projects improving the aquatic health and sustainability of Malheur Lake, and the wild flood-irrigated wet meadows across the Harney Basin. The collaborative plans to focus on: reducing carp populations;

implementing management tools to control invasive plants; replacing aging flood irrigation infrastructure; reconnecting floodplains and restoring riparian areas; and managing aquatic habitats for wetland restoration.

Improving Malheur Lake

The HBWC has been working with the Malheur National Wildlife Refuge to improve conditions at Malheur Lake for years. Dominic Bachman, aquatic biologist with the refuge, noted that the FIP funds will help implement practices to limit common carp reproduction and recruitment by the year 2029. Reducing the number of common carp from Malheur Lake will also reduce turbidity in the lake and encourage the expansion of emergent vegetation, which provides habitat for migratory birds and other wildlife.



Pictured: Some of many carp caught during an August 2020 carp round-up at the Malheur National Wildlife Refuge.

The FIP funds will help improve the emergent vegetation in and around the lake by using knowledge gained from prior research to implement wind barrier and emergent transplantation projects to promote improved water quality. “We will be determining the optimal locations on the lake

for wind reduction barriers,” Bachman said. “We will be working with partners to design and engineer the most efficient barrier size, density and distance apart. We will continue with the strategic transplantation of hardstem bullrush to enhance the stability of the reduction barriers.”

Other goals for the FIP funds include providing private landowners with water and flood irrigated wet meadow management information, and tools to benefit and enhance forage production habitat for breeding and migratory birds; reducing the sediment input to Malheur Lake; monitoring and studying sediment sources and ice effects on the wetlands of Malheur Lake; and better understanding of the ecological relationships between wetland, riparian, and stream management actions and the vegetation response and bird use of different wetland habitats throughout the basin.

Improving wet meadow habitat

To improve the flood-irrigated wet meadows, the collaborative has been working with its partners to replace outdated water diversion structures. With previous funding HBWC was able to replace multiple strategic irrigation diversions on the Blitzen River, Silvies River and Silver Creek watersheds. Also, through the previous FIP funding, Ducks Unlimited partnered with Natural Resource Conservation Service to replace multiple in-field irrigation structures on several farms and ranches that made the dams more useful and water management more efficient.



For example, the installation of the Rose and Cote dams was completed in 2023. These new structures comply with Oregon water law to enable fish passage and they enable surface water distribution across a total of 4,048 acres of historical Silvies River floodplain and seasonal wet meadows. “This is a one-two punch for landowners and wildlife alike,” said Ashley Tunstall, a regional biologist with Ducks Unlimited. “It simultaneously allows more sustainable water usage for the landowners and enhances thousands of acres of crucial wet meadow habitat for migrating and resident waterbirds.”

Pictured: The new Cote Dam is an example of a type of project this funding can help make happen, in-field irrigation structure improvements that makes water management more efficient. Photo by Brandon McMullen.

The Dunn Dam on the Blitzen River is another water diversion structure that is set to be replaced starting in late summer with the project to be completed by the fall. “This project is funded by North American Wetlands Conservation Act, Oregon Water Enhancement Board, Oregon Department of Fish and Wildlife, and the High Desert Partnership legislative funds—a truly collaborative effort,” Tunstall said.

Limiting invasive weeds

To tackle the objective of managing invasive plants, the OWEB funds will support the analysis of three different kinds of reed canary grass occurrence and compare the diversity of plants, water regimes, bird habitat structure, bird species use and macro-invertebrates within each of the vegetation types across four study sites, according to Esther Lev with Wet Meadow Partners.

“An improved understanding of vegetation-hydrology relationships will help us better understand the effects of water management on both agricultural and wildlife,” Lev said. “Macro-invertebrates are known to be an important food source for many bird species, but their relationship to vegetation structure in this region is poorly understood.”

The recommendations that come from this study will help support multi-bird species use and productive agriculture. They will also help select and define the best future wet meadow restoration locations as well as desired future conditions, management and maintenance strategies.

Ensuring stakeholder engagement

Over the years, the collaborative has managed to combine the interests of multiple partners and stakeholders by providing an open and inclusive approach to those who may not initially realize their shared interests.

One way they have done this is by conducting workshops for landowners and wet meadow managers. These workshops have helped set a community wide basin vision and generated actions that conserve wet meadow habitats by supporting flood irrigation, agricultural activities, the health and survival of bird populations and the Harney Basin economy.

At these workshops, experts and participants share current and historic data, observations, land management activities as well as lessons learned. This helps to build a fuller understanding of the adaptations and changes in water levels and plant communities in response to climate change. "Maintaining active working relationships with partners and landowners is critical to the success of meeting and implementing HBWC intentions and objectives. We have found that having both indoor workshops and field tours to be beneficial," Lev said. "Landowners have immense flood meadow experience and have been very willing to share their observations, review and comment on the data analysis, assumptions and water and land management recommendations."

Field trips that include landowners, natural resource professionals, agency staff and politicians to meadow sites to see the conditions in person have been beneficial and have offered new perspectives on remote sensing mapping and data modeling. "The joint field visits provide everyone with common visions and understanding of management and market challenges, which have increased land manager presence and participation at Harney Basin Wetland Collaborative meetings," Lev said.

Overall goals

Lev said the collaborative's purpose is not to simply complete individual projects but to appreciate and support how the wetlands system works as a whole in the Harney Basin. "We are trying to understand the dynamic and quality of flood irrigated wet meadow and wetland areas and the best vegetation and water management approaches to improve habitat and function and adaptability to changing water availability and climate," she said.

The OWEB funding will help the collaborative with that goal by funding the projects to help them better understand those dynamics and advance the work that has been ongoing for some time. "Further investment from OWEB makes it possible for HBWC to continue their work improving the aquatic health of the Harney Basin for birds, wildlife and the ranchers that make their lives and living here," Petschauer said.

This article is provided by High Desert Partnership; a Harney County nonprofit convening and supporting six collaboratives including the Harney Basin Wetlands Collaborative.

