



Wildlife in the Harney Basin Benefit from Habitat Restoration

While birds are on the forefront with spring migration, other creatures also benefit from improved habitat

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by Lauren Brown

As part of the Pacific Flyway, Harney County gets a front row seat for the annual spring migration. The High Desert Partnership has worked with local partners to bolster habitat that will ensure migrating waterfowl will continue to rest and fuel up on the wet meadows and land on and around Malheur National Wildlife Refuge. While these projects primarily benefit the birds and land managers, they have the added bonus of helping other wildlife as well.

The Harney Basin Wetlands Collaborative, a collaborative supported by the High Desert Partnership, supports flood irrigation by working with private landowners to address infrastructure issues that might hamper irrigation of the wet meadows. These meadows provide both wetland habitat and an agricultural product. Migrating birds benefit by refueling on the tender green shoots that emerge from the flooded meadows, and ranchers will get a cutting of hay after the water recedes and the birds move on.

Lee Foster, a wildlife biologist for the Oregon Department of Wildlife Hines district, said that there are a host of small mammals that also thrive in this wetland environment. "There is a whole list of shrews and mice and voles that a more productive system is going to benefit," he said. "Increasing plant productivity, increasing water availability, wet meadow restoration and all that should benefit those species."



He noted that the refuge also supports a herd of mule deer. Increasing plant productivity within the wet meadows also increases the forage resources for the deer herd. Foster said the herd produces some big bucks and is popular with photographers.

Photo by Terry Steele Nature Photography, terrysteelenaturephotography.com

The mesocosm study conducted at Malheur Lake is examining the nutrients in the water, the amount of wind shear taking place and the turbidity of the water to eventually determine the best way to bolster submergent and emergent vegetation. While carp can create turbid water by stirring up sediment from the lake bottom and leaving it suspended, that's not the only

issue at Malheur Lake. Wind wave action also contributes to this problem, which led to the mesocosm study that started in 2021. A mesocosm creates an enclosed environment that allows a small part of the natural environment to be studied separate from the surrounding environment. The mesocosms provide controlled conditions to observe potential impacts on

surrounding water and vegetation if various factors could be manipulated through actions such as man-made barriers or islands. The mesocosm study is one effort toward increasing the amount of vegetation that will improve habitat for birds as well as fish and other aquatic creatures. "Anything that benefits fish populations is going to benefit things that eat fish, particularly otters," Foster said.

The native redband trout is one species of fish that will benefit by restoring the habitat in and around Malheur Lake, and one project targeting that is the removal of the invasive carp from Malheur Lake and the Blitzen River. Carp can be destructive to the lake bottom because of their feeding habits, which uproot vegetation and create turbid water. Kirk Handley, an assistant district fish biologist with ODFW Hines District, noted that in low water years, it's much easier to remove carp from the lake and river and knock back the population.

He said redband trout are visual predators and need relatively clear water to effectively feed. "When that water is turbid, it warms up faster so redband trout are competing with carp directly for food and other resources," Handley said. Decreasing the carp population will benefit the redband trout population as well as other native fish species.

Handley said another project that could help the native fish populations in the Blitzen River would be the removal of the Page Springs weir, which is a joint project between ODFW and the Bureau of Land Management. Handley said the weir was built years ago as part of a United States Geological Survey gauging station and is basically a concrete wall to block off water to gauge stream flow. "It's about a mile upstream from Page Springs Campground, and that can be a pretty nasty fish barrier during base flows in the summer and most of the winter," he said. Redband trout need to move to find cooler water and while they've shown through radio telemetry studies that the trout can find passage in the spring, in the summer the weir proves to be a substantial barrier. "We think if we get that dam removed, it'll really help the redband out there in the Blitzen," Handley said. He believes it will potentially help other species, such as mountain whitefish, native suckers, redband shiners and tui chub as well.

Another study underway in Malheur Lake and the Blitzen River involves freshwater mussels. There are three varieties of mussels that call the Harney Basin home: the Western pearlshell mussel, the Western ridged mussel and a floater species.

Alexa Martinez, a wildlife biologist with the Malheur National Wildlife Refuge, said they surveyed a portion of the river from Sodhouse Lane to Diamond Lane. "We ended up finding more colonies than expected," she said. Western pearlshell mussels were found predominantly in the south end coming from the freshwater runoff of Steens Mountain. The Western ridged mussel prefers slower moving water while the floater mussel species are found all over and don't seem to have a particular water preference. Martinez said the purpose of the survey is to understand populations and densities of mussels living in the basin and to monitor them for future habitat restoration projects. The mussels are an indicator species and Martinez shared: "They're filter feeders, so they help clear up water, they are great indicator species of water quality," she said. "Mussels play an important role in rivers by filtering water and improving water quality by removing bacteria, algae, and other impurities. They are great species to have in the ecosystem," Martinez said.

There is a petition to list the Western ridged mussel as an endangered species, and while it hasn't been listed yet, the potential is there. Handley said they are currently researching how to treat the lower portion of the Blitzen for carp and not impact the freshwater mussels there.

Habitat restoration benefits many different creatures including birds, aquatic creatures and mammals and the Harney Basin Wetlands Collaborative will continue its work toward reviving Malheur Lake and sustaining the practice of wild flood irrigation that creates the wet meadow habitat found in the Harney Basin.

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

