Dam Replacement Projects Benefit Landowners and Wildlife

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Photography by Jeremy Hill

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When the perfect storm of opportunity presents itself, it's wise to take advantage of the situation, and that's precisely what happened for the Harney Basin Wetlands Initiative, a collaborative of the High Desert Partnership, in the form of grants awarded to demolish and replace two local dams, the Tyler and Sweek dams, that were falling into disrepair.

Like other diversion structures on streams throughout the Harney Basin, the two dams on the Silvies River near Burns provide critical infrastructure for private landowners who use flood irrigation to produce hay and forage for their livestock operations. They also play a key role in sustaining seasonal wetlands with continental importance for migratory birds.

Chris Colson, Ducks Unlimited regional biologist and Harney Basin Wetlands Initiative member, has been heavily involved in bringing these dam replacement projects to fruition from the planning stages of selecting which dams to replace to obtaining funding and working with landowners. The goal was to focus on dams higher in the water system so that the benefits could be appreciated lower down. They also wanted to address dams that delivered water to the most significant acreage, helping landowners and water users who flood irrigate to continue to do so. "We didn't want to replace a little one that only diverted across 100 acres. We wanted thousands of acres, if possible," Colson said.

Flood Irrigation Impacts

Maintaining flood irrigated meadows is a high priority for the Harney Basin Wetlands Initiative. Two major culprits that can affect the migratory birds in the Pacific Flyway are the prevalence of carp, which destroy lake habitat, and the conversion of flood irrigation to sprinkler irrigation of the wet meadows in the Harney Basin. Replacing dams that help landowners flood irrigate benefits migrating birds who depend on the feed they get from these meadows to fly north and breed.

Pictured above: Aging Sweek Dam along the Silvies River prior to its removal.

Ben Cate, High Desert Partnership Ecological Coordinator, noted that historically, flood irrigation across the west has declined considerably in the last 10 to 20 years and while it hasn't declined as much in Harney County, the tendency is to convert to sprinklers. "Seeing the trend across the west, we're trying to get out in front of it in Harney County to basically have a voice that says this is actually really important waterfowl habitat, and we can't just continue to lose it," Cate said. "We're going to try to preventatively make it so people

can continue to flood irrigate." While there are a lot of flood irrigated meadows on the Malheur National Wildlife Refuge, there are many flood irrigated meadows on private land that are just as important.

The Lifespan Of A Dam

Many of the current dams in Harney County were installed 80 or 90 years ago. They are dilapidated and as a result, they cause erosion in the water channels. Many of them are unsafe or inoperable. The Tyler and Sweek dams, which are located just outside of Burns, are at least 75 years old. Such dams are constructed to last about 75 years, so they are at the end of their lifespans. When dams such as these start to fail, the landowners and water users who utilize them are faced with the cost of repairing or replacing them. Because the dams need to provide fish passage, the cost of replacing them is $500,000 or more per dam. It's no wonder that landowners often turn to less expensive means to deliver the water they need. "There are just so many reasons why people switch from flood irrigation to sprinkler irrigation, generally due to manual labor and the actual time it takes to flood irrigate," Cate said. "When you can operate a pivot sprinkler system from your cell phone, that's a pretty big incentive for people who are having a hard time finding workers or who don't have kids to pass down their ranches to."

Ensuring Flood Irrigation Continues

This is why the Harney Basin Wetlands Initiative has sought out grant funding to help landowners cover the costs of replacing these dams that allow flood irrigation practices to continue. The Harney Basin Wetlands Initiative found the Tyler and Sweek dams were solid candidates for replacement in that they were located higher up in the system and would affect potentially thousands of acres of migratory bird habitat. Funding was obtained though a grant from the Oregon Watershed Enhancement Board (OWEB) and the projects were given the green light from the partnership. "It's a win-win," Cate said. "Landowners get an updated infrastructure at essentially zero cost out of pocket, and it's also going to ensure that the flood meadows will continue into the future."

Pictured above: The new Sweek Dam along the Silvies River completed fall of 2019.

Ken Brinkley is a landowner who uses the Sweek Dam to irrigate his meadows. "We've been trying to figure out for years what we could do to repair the dam and none of us that are on it could really afford to do what needed to be done," Brinkley said. He's grateful to be working with Colson and the Harney Basin Wetlands Initiative to make it happen. The new dam will let more water through and allow the water users to hold water in the fall.

Colson noted that the OWEB grant not only pays for the cost of the actual dam but also for the design and engineering as well as the permitting process. Half a million dollars might seem like a lot for a dam, but the necessity of fish passage is what can escalate the cost. Fish ladders require quite a bit of engineering. While