McKenzie River Trust: Restoring Native Habitat

Project summary: To restore and conserve over 1,000 acres at the confluence of the McKenzie and Willamette Rivers, return agricultural land to forests, grasslands and wetlands, and provide native vegetation for fish and wildlife habitat.

Regional setting: Western Oregon contains some of the most diverse habitats in the United States. Bounded on the east by the summits of the Cascades, the mountains give way to the rich agricultural lands of the Willamette Valley to the west. At the coast, habitats range from the tidal estuaries of the Pacific Ocean to old growth firs of the Coast Range south to the mixed forests of the Umpqua River basin.

Land trust mission: To protect special lands for their fish and wildlife habitat, water quality and other natural values.

Service area: All river basins in Lane and Douglas counties, Oregon (Long Tom River, McKenzie River, Siuslaw River, Umpqua River, Coast Fork Willamette, Middle Fork Willamette, mainstem Willamette and coastal streams)

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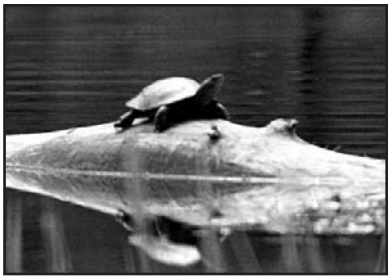
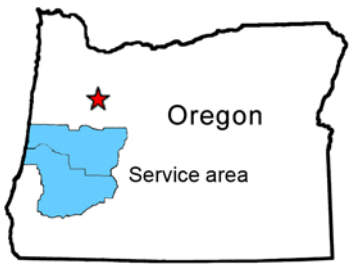
Biodiversity Values

Twenty to 40 miles wide and 120 miles long, the Willamette Valley is a long, level alluvial plain with scattered groups of low basalt hills. Fertile soil and abundant rainfall make the valley the most important agricultural region in the state. In addition, it has one of the richest assemblages of fish and wildlife species in the Northwest: 31 fish, 18 amphibian, 154 bird and 69 mammalian species are native to the basin.

Since the mid-1800s, much of the Willamette Valley ecoregion has been altered by urban and agricultural development, particularly affecting oak woodlands, oak savanna, grassland, riverine and wetland habitats. About one-third of the species in the basin are now listed as threatened, endangered or species of concern by state and federal fish and wildlife management agencies due to loss of habitat, invasive species and other impacts of human encroachment.





Top: Forest understory, photo courtesy of the McKenzie River Trust. Above right: Western pond turtle, photo courtesy of the Register-Guard, Eugene, Oregon. Above right: Project area in Oregon.

Conservation Strategy

After a regional assessment conducted in 2000 by the McKenzie Watershed Council identified the confluence of the McKenzie and the Willamette Rivers as a top priority for conservation due to its rich biological diversity, the McKenzie River Trust began working with the Green family, who owned over 1,000 acres in this location, to restore and protect an active floodplain. The Green Island complex contains eight

separate islands, 11 side channels and is bordered by four miles of the Willamette River and an additional four and a half miles of the "old" McKenzie River channel. Most important, these floodplain habitats provide a haven for thousands of migratory birds and a nursery for at-risk species such as juvenile spring chinook salmon, the western pond turtle and red-legged frogs. Surveys in recent years have documented more than 140 species of birds on the property.

After farming in the area for over 70 years, the Green family wanted their land protected and restored to native habitat for the benefit of local people and wildlife. The McKenzie River Trust saw this unique opportunity and decided to take on this large project, despite their small size (2.5 full time employees) as a way to grow their organization. So by June 2003, the McKenzie River Trust worked out a deal with the family to purchase the property at below market value for $1.7 million.

While the trust recognized the importance of undertaking this step to protect such an important landscape, the trust faced a big challenge in funding the project. With seed money from a grant from the Eugene Water and Electric Board, the trust was able to raise additional funds from its individual supporters and a number of grant sources, including the U.S. Fish and Wildlife Service, the National Fish and Wildlife Foundation and the Oregon Watershed Enhancement Board. The sale of a conservation easement on the property to the Bonneville Power Administration allowed the trust to recapture its initial investment and establish a stewardship fund for long-term restoration and management of the Island.

Developing a Restoration Plan

Once the acquisition was complete, the trust then focused its energy on creating a restoration plan for Green Island. The long range restoration goal for the property is to restore the floodplain processes across the project site. This is being accomplished by restoring 465 acres of farmland to native vegetation, controlling blackberry, knotweed and other invasive plants, and breaching or removing flood control structures to allow the rivers to access the historic floodplain more frequently. The partners expect that with more active historic side channels and other hydrologic features, species such as juvenile Chinook salmon will benefit greatly.

To plan the restoration work and the future look of Green Island, the trust partnered with the East Lane Soil and Water Conservation District, the McKenzie Watershed Council and the US Fish and Wildlife Service to form the Green Island

Flying over Green Island. Photograph by Jim Houk, U.S. Fish and Wildlife Service. Below: Oak trees and vegetation on Green Island.

Technical Team, which is comprised of biologists, botanists, hydrologists and other consultants. To begin developing a restoration and management plan, these partners conducted baseline assessments of Green Island's plant and animal life, hydrological features and other natural features.

While the technical team was creating its plan, the trust began some small scale removal of invasive, non-native Scot's broom and blackberries on 25 acres, funded by Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service. The trust entered into a Memorandum of Agreement with the U.S. Fish and Wildlife Service that will allow staff from the William L. Finley National Wildlife Refuge to lend their valuable experience, technical expertise and elbow grease to the work on Green Island.

The invasive plant removal showed some early successes as underlying buckthorn and other native shrubs, grasses and forbs erupted in blooms the following spring. That winter, the partners organized a volunteer event to plant a mix of over 3,000 native trees across an additional 18 acres of former farm ground.

Implementing the Restoration Plan

The restoration plan was finalized in 2006 and outlined how the trust will take the agricultural land out of production and slowly allow the rivers to recapture the floodplain. Over 10 years, approximately 50 acres will be taken out each year to fully retire all the agricultural land. The breaching and removal of dike materials will follow as native vegetation becomes reestablished.

In these early years the trust is testing a mix of understory and overstory planting techniques in order to determine best practices for such a large-scale restoration across a floodplain that is a mix of river cobble and alluvial soils. Each year more volunteers and partner organizations have joined in the planting and monitoring efforts. For its 2008 planting event, the trust expects upwards of 300 volunteers to spend a day with their hands in the dirt across 50 acres! Many of these people will already see that trees that they helped plant in previous years are getting established and transforming the floodplain.

The trust will be making its first dike breaching and channel reconnection in the northwest corner of the island in the fall of 2007 or 2008. An historic side-channel is blocked upstream by a dike, blocked downstream by a sediment plug and hemmed in on one side by a steep dike and farm road. By removing the two blockages and shaving back the steep slope, the trust hopes to have more frequent use of the old side channel by juvenile salmon and other aquatic species.

While all of the restoration work proceeds, the trust is working in partnership with Oregon State University, Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service to monitor how fish and wildlife species respond to the changes. Many partners in the Willamette Basin are looking to the Green Island project as a baseline test site for similar projects throughout the valley.

Funding the Restoration

With grants received to support the project, the trust created a Green Island Fund to cover long-term management costs associated with the island. In addition, the trust has used a combination of seven different private and public funding sources to fund their restoration work, including the NRCS Wildlife Habitat Incentives Program, a North American Wetlands Conservation Act (NAWCA) grant and a grant from the Pacific Salmon Commission. The Bonneville Power Administration and Oregon Department of Fish and Wildlife continue to provide base funding for management and restoration, while the Fish and Wildlife Service provides planning expertise, field staff and equipment for much of the technical work. As the project grows, so grows the circle of support and community investment in the McKenzie River Trust.

Volunteers planting trees. Photograph by Dave Stone.

Camas lily (Camassia). Species native to western North America. Photograph courtesy of McKenzie River Trust.