



Klamath Watershed Partnership

Where land, water and people come together

Type of Restoration Projects Available

Riparian Restoration: The land adjacent to the river, known as the riparian area, is critical for the ecosystem. Vegetation filters out nutrients from runoff, the root systems help stabilize the stream banks and reduce excessive erosion, and woody trees and shrubs that fall in the stream provide fish with protection from predators and promote higher water tables by increasing flood plain connectivity. Improper grazing management can degrade riparian areas. Lack of shade causes stream temperatures to rise, and overland flow nutrients entering the waterway contribute to excessive algae growth. During late summer, as algae dies and decomposes, the oxygen levels decrease, negatively impacting fish health. Types of projects to help improve the riparian condition:

- **Grazing Management:** The Klamath Watershed Partnership works with ranchers to find ways to restore the ecosystem, while also maintaining an economically viable grazing operation. The Partnership can provide interested landowners with a Grazing Management Plan with practical strategies to balance ecosystem needs with production interests.
- **Fencing:** Often the most practical way to manage grazing is by fencing the streams. The Partnership applies for funding, designs the fencing plan, secures any necessary permits and works with contractors to install the fencing. Partnership staff work with landowners every step of the way, and manage the project from start to finish.
- **Off-stream Watering:** Cattle that are fenced from the river need alternative sources of water. The Partnership works with contractors to design and install off-stream watering systems, and if pumping is needed, oversees the installation of solar pumps to save on power costs.

Wetlands: The Upper Basin used to have thousands of acres of natural wetlands, most of which was reclaimed for agricultural use. Now we know that wetlands make a major difference in water quality and provide late season flows as river and lake levels decrease. They also help filter out nutrients and provide habitat for numerous birds, fish & animals. The Partnership works with landowners as well as state and federal agencies to restore wetlands around Upper Klamath Lake and Lake Ewauna, as well as the rivers and streams in the Upper Basin.

Juniper Management: While Junipers are native to the Basin, fire suppression has resulted in their spreading far beyond their normal range. Reducing the number of junipers may result in significant water savings, and help restore the natural hydrology of the area.

Irrigation Improvements: We work with ranchers and farmers to conserve water and improve the quality of the water entering the rivers. Planting dryland crops reduces irrigation demands and more efficient irrigation systems can reduce water use without reducing production. Tailwater recycling systems reduce irrigation withdrawals, and tailwater areas filter runoff before it enters the river, improving water quality.

Springs/Streams: Streams and rivers serve many purposes, including water supply, wildlife habitat, energy generation, transportation and recreation. A stream is a dynamic, complex system that includes not only the active channel but also the floodplain and the vegetation along its edges. Streams are meant to twist and turn. Springs historically have provided spawning habitat for a variety of fish, and a source of cold, clean water for the river, improving water quality. In decades past we didn't recognize the consequences of straightening channels to reduce flood impacts. Types of projects to assist landowners who are interested in spring and stream management:

- **Channel Modification:** In some situations, mechanically altering the channel form can speed the restoration of natural processes of the river. Moving levees back from the riverbanks can allow the river, at high flows, to flood the land and replenish the water table; and water that is retained in the soil is held longer in the season, enhancing late-season flows.
- **Reconnection:** Reconnect cold water influences to the stream providing vital cold water habitat for fish during hot weather.
- **Restoration:** Taking a stream and restoring it to its original condition helps with the flow and prevents stream bank erosion.

Fish Screens: Fish screens are designed to prevent fish from swimming or being drawn into irrigation diversions. The Partnership works with the Oregon Department of Fish and Wildlife to install fish screens on diversions, protecting the fish from entrainment and landowners from regulatory penalties.

Vegetation Plantings: Grasses provide a buffer that filters nutrients out of pasture runoff, shrubs help stabilize banks and reduce erosion, and fallen trees provide habitat for fish. While grazing management protects the area so vegetation can return, planting native vegetation can speed up this process.

Dryland Crop Management: With the many water issues surrounding the Klamath Basin, the Partnership is working with landowners to reduce irrigation demands through alternative crop species. One way is to identify perennial dryland crop mixtures with the greatest potential for production.

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