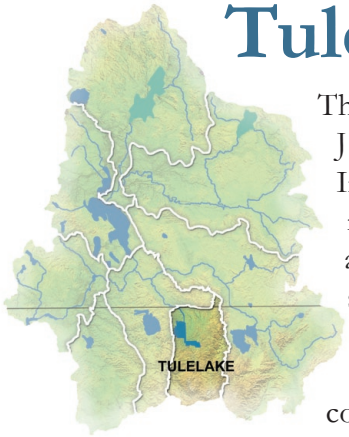
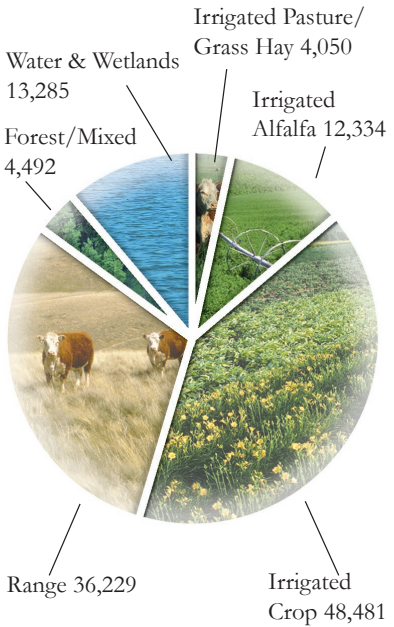
# Tulelake Subbasin




The Tulelake Subbasin covers 296,600 acres, bordered by the J Canal and the Lava Beds National Monument. The Tulelake Irrigation District and the Tulelake National Wildlife Refuge receive water from the USBR Klamath Project. Tulelake is a remnant of historic Lake Modoc that once connected the subbasin with both Lower and Upper Klamath Lake. The Lost River watershed was once a closed basin. Runoff flowed into Tulelake and evaporated. Pumping plants and drains constructed as a part of the project have provided an outlet from Tulelake, which now functions as an open basin.

**Tulelake Subbasin**
Agricultural Land Use/Cover




Irrigated agriculture is generally supplied by the USBR. Alfalfa, grain, potatoes, onions, mint and pasture are the principal crops. Fields are flood or sprinkler irrigated depending on the year and crop. Often diversions lack devices to measure water delivery. Pasture condition is fair, and most have not been renovated for some time. Groundwater provides 40-50 percent of water for irrigated pastures, and most excess water is reused.

Rangeland is the other significant land use. Most ranches are cow/calf operations that have winter holdings in the subbasin. Rangelands are generally encroached with juniper.

Wildlife habitat along the Lost River has reeds and bullrush, providing some habitat for waterfowl and songbirds. Suckers have been located in the river and Tulelake; however, it is not known whether they are successfully reproducing. There are few opportunities to improve habitat along this heavily manipulated reach of the river.

# Tulelake Subbasin

## Land Ownership

| | |
|---|---|
| Private Lands | 131,600 |
| Public Lands | 165,000 |
| **Total Land Area:** | **296,600** |

## Irrigated Acres

| | |
|---|---|
| USBR Project: | 62,600 |
| Non-USBR: | 2,200 |
| **Total:** | **64,800** |

## Resource Concerns

The Tulelake Subbasin is at the tail-end of the USBR Klamath Project. Irrigators depend on water-use decisions made by fellow irrigators and resource managers for their irrigation needs. Drought and increased competition for water leads to the primary resource concern in the basin - a reliable supply of water to meet agriculture, wildlife and other resource needs.

Water quality deteriorates as it moves through the USBR project. As measured by total phosphorus, water quality appears to be gradually improving. Agriculture is the dominant land use in this subbasin, but other sources of phosphorus and other pollutants exist.

The presence of ESA-listed suckers creates concerns for improving habitat and water quality.

The two national wildlife refuges support large waterfowl populations. Farmland on the refuges is leased to farmers to supply grain for waterfowl and shorebirds. These populations depend on refuges, leased lands and adjacent farms during the fall and spring migratory periods. Both refuges depend upon tailwater from the USBR project to maintain their marshes and ponds.

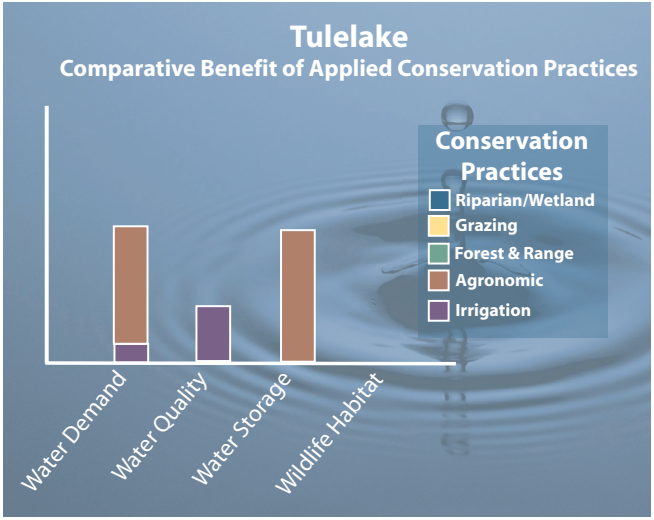
## Conservation Accomplishments

In the Tulelake Subbasin during the last two years, significant conservation progress has been made. With assistance from NRCS and local conservation districts, local land managers have improved the condition of natural resources on 72 cropland acres and 1,854 irrigated land acres, and have restored 21 acres of riparian and wetland areas.

## Priority Conservation Opportunities

**Water Demand:** On hay and croplands, upgrading existing irrigation systems and improving irrigation water management will decrease water demand. Subsurface drainage could be added before re-establishing alfalfa stands, permitting better control of water table and soil moisture levels.

During years that alfalfa fields are rotated to grain, winter flooding or pre-season irrigation could be used to reduce water demand.




**Water Storage/Yield:** Adding subsurface drainage may be the most significant practice to implement on cropland acres. Subsurface drains would allow farmers to winter flood or pre-irrigate fields, thereby reducing their demand for water during the irrigation season. If pre-irrigated, farmers could grow a cereal crop even if water deliveries are cut off during drought years.

In addition, juniper control on rangelands will yield additional water to meet downstream needs.

### Conservation Investment

**Projected Conservation Acres to be Treated***

Irrigated Land.....45,400
Range & Forestland...28,500
Wildlife Habitat.....1,700

**Estimated Installation Cost**

Irrigated Land
.....$18,263,000
Range & Forestland
.....$1,741,000
Wildlife Habitat
.....$298,000

**Estimated Annual Operation, Maintenance & Management Cost**

Irrigated Land
.....$2,590,000
Range & Forestland
.....$257,000
Wildlife Habitat
.....$25,000

*Based on conservation need and projected participation rates.