



Tule Lake National Wildlife Refuge

Pacific Southwest Region

Refuge Complex Map

Lower Klamath NWR

Tule Lake NWR

Clear Lake NWR

Upper Klamath NWR

Bear Valley NWR

Klamath Marsh NWR

Self-Guided Auto Tour

Tule Lake National Wildlife Refuge

The Tule Lake Tour Route begins 4 miles south of the Refuge Visitor Center on Hill Road.

Follow the numbered posts to learn more about the past, present, and future of Tule Lake National Wildlife Refuge



Before you begin:

- This auto tour route is 9.6 miles one way
- This auto tour route ends at the NE entrance of Lava Beds National Monument, at which point you can travel west and return to Hill Road, or north to Hwy. 139
- Your car is a great "blind". Staying in your car will greatly increase your observation opportunities.
- Please pull over to the shoulder as much as possible when observing.
- Binoculars and/or a spotting scope will greatly enhance your observations.
- Be Alert! Watch for cars and farming equipment.

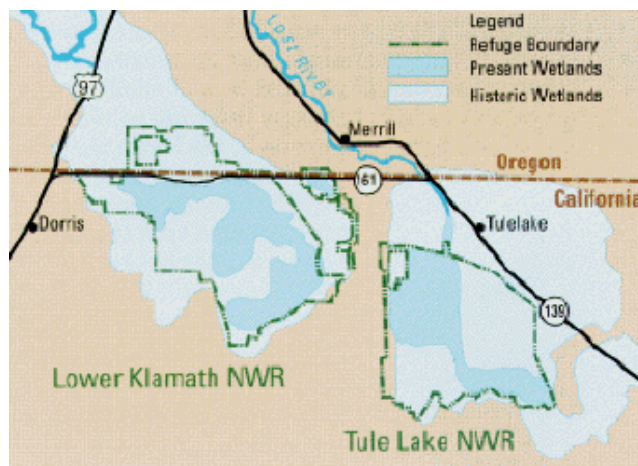
BEGIN-at brochure station

Tule Lake National Wildlife Refuge is not entirely wetland. Over 8,400 acres have always been high and dry! Behind you, on the west side of Hill Road loom the rocky cliffs and uplands of Sheepy Ridge. During spring and summer many birds of prey nest here. Take some time to scan the rocks and small caves for red-tailed hawks, prairie falcons, and barn & great horned owls. During this time, large colonies of cliff swallows use these cliffs to attach their mud nests. In winter, bald eagles may perch here searching for waterfowl prey. Mule deer also frequent the upper slopes of the ridge.

to 100,000 acres of open water and marsh...*what happened?*

Since the end of the last ice age, Tule Lake and the rest of the Klamath Basin has been an oasis for wildlife, particularly migratory birds. Situated in the middle of the **Pacific Flyway**, the Basin and its 350,000 acres of wetlands provided a critical resting and feeding ground for up to six million waterfowl. Periodic droughts followed by high water years resulted in highly productive marshes. These marshes were also seen as an attractive opportunity to the first settlers and their potential to grow crops was soon realized. If the water could be drained or diverted away, rich lake bottom soils could be farmed. In 1902 Congress passed the Reclamation Act, the land under

the Reclamation Act, the land under Tule Lake was ceded by the state of California to the federal government,



and by 1905 the Klamath Reclamation Project had begun with the ultimate goal of "reclaiming" the Basin's wetlands...including Tule Lake.

The first major water diversions started during 1907. By the 1960's, 75% of Klamath Basin wetlands had become irrigated farmlands. Tule Lake had shrunk to the present 13% of its original size. The low jagged mountain you may see in the background is the "peninsula". At one time it was surrounded on three sides by Tule Lake. Today it is surrounded on all sides by agriculture.



Concern over the welfare of Basin wildlife and migratory birds led to the 1928 establishment of **Tule Lake National Wildlife Refuge** as a "refuge and breeding ground for birds". Despite the refuge designation, reclamation remained a primary purpose of these lands, and lake drainage and homesteading continued. In a situation unique to wildlife refuges, the **US Fish and Wildlife Service** and the **Bureau of Reclamation** jointly manage the 39,000 acre refuge. Today refuge lands are intensively managed to benefit both wildlife and people.

2. "Sharecropping For Wildlife"

17,000 acres of the Tule Lake Refuge are managed as irrigated croplands. The majority-15,000 acres of these croplands are 5 year leases administered by the U.S. Bureau of Reclamation. The U.S. Fish & Wildlife Service has final administrative control on these lands. Although primarily planted in cereal grains or soil building crops such as alfalfa, up to 25% may be planted in row crops, usually potatoes, sugar beets, and onions. These row crops may not be as readily utilized by wildlife. The Fish & Wildlife Service administers approximately 2,000 acres for the direct benefit of wildlife.



The fields you see along the auto tour route are Fish & Wildlife Service "cooperative farming units". The objectives of these units are to provide nesting cover and food for migratory birds. In this program, farmers plant cereal grains such as barley, winter wheat, or oats. At harvest time, one third of the grain is left behind as food for migratory waterfowl. Green browse, such as winter wheat is planted here during the fall migration to provide nutrient-rich food for the duck-sized *cackling Canada geese*...a species of special concern. Any time of the year is a good time to scan these fields for coyotes.

3. Tule Lake is Stabilized

"In a mid-October day of almost any year when the southern migration along the Pacific Flyway is in mid-flight, a visitor to Northern California's Tule Lake may still see a sight as full of wonder as that of the buffalo and [passenger] pigeons; the sight of 6 million ducks and geese gathered in a single rendezvous"

Sports Illustrated, December 1959

Unfortunately, reclamation was still recognized as the primary purpose of the land!

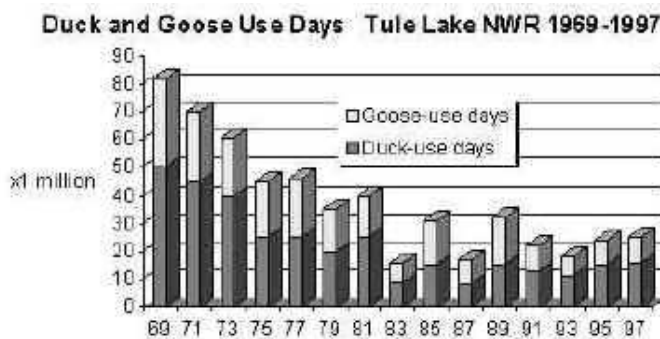
In 1964, Congress moved to preserve the successful mix of wetlands and

croplands from further drainage and homesteading. The Kuchel Act

allows for "optimal agricultural use that is consistent with waterfowl management".



Heralded as the final success for Tule Lake Refuge, the Kuchel Act legislation was passed during a time of limited knowledge in marsh ecology and waterfowl management. The very ecological processes that resulted in the high productivity of Tule Lake (the great fluctuations in size and depth) ended when the wetlands became restricted to their current size by dikes such as the one you are now driving on.



Stabilization is the slow death of a marsh

Over the past 40 years, overall wetland quality has declined through siltation and lack of habitat diversity. The result is that Tule Lake has since suffered declines in waterfowl use, declines in waterfowl production, and reduced numbers of waterbirds using the wetland.

See for yourself on the 10 mile Lower Klamath auto tour loop.

4. The "English Channel"

This relatively narrow channel is affectionately referred to as the "English Channel". A connecting channel between the two large wetlands, this is one of the deepest areas of Tule Lake, and home to an endangered species. The Lost River Sucker feeds near the bottom on detritus, algae, and insect larvae. Sucker fish prefer water depths of three feet or more. Unfortunately, due to siltation, water depths have decreased in Tule Lake

...of water...; and... water depths have decreased in this area by approximately 14 inches since the Kuchel Act was passed. Less than 10% of the

existing lake meets the preferred depth requirement for the sucker fish.

In general, the deeper water here results in a great area to view Western and Clark's grebes, canvasback and ruddy ducks, and loafing geese during spring and summer. Be sure to check the perching poles for raptors. Bald eagles and rough-legged hawks frequent this area in winter.

south shore of the southern sump and uplands. At the end of the tour route you will be at the NE entrance of Lava Beds National Monument.

*A **left turn** will take you along the north shore of the southern sump to paved county road 111. This route may be rough and slow speeds are recommended.*

5. Hovey Point...Wetland/Cropland Rotation...Restoring the Balance

At the tour marker you may drive 100 feet to the right and view a *new* seasonal marsh known as Hovey Point. Concern over the continued decline in wetland productivity and waterfowl use in Tule Lake has stimulated interest in reclaiming farmland back to marshes. The Fish & Wildlife Service proposes rotating wetlands and croplands on the Tule Lake Refuge. Dividing the refuge into 1,000 to 6,000 acre management units; refuge managers would rotate wetlands and agriculture among these units over a several year period for the benefit of both. This rotation of farm to wetland/and back mimics the creation and destruction of wetlands that used to occur along the edges of a naturally fluctuating Tule Lake.



Hovey Point is one of four study plots totaling 640 acres throughout the refuge where farmland has been returned to marsh...a *fluctuating seasonal marsh!* These are the first seasonal marshes seen on Tule Lake since it was stabilized in the 1950's! Biologists are investigating the impacts of this plan on water quality, wetland development, wildlife use, etc. If these small scale wetlands are successful, the refuge hopes to introduce larger areas of seasonal and long term rotational wetlands.

Refuge staff and cooperators are extremely enthused about the preliminary results with fantastic numbers of waterfowl using these new wetlands during the spring and fall migrations. Could Tule Lake resume its place as one of the premier waterfowl refuges in North America? We think so.

6. Perching Trees & Photoblinds

Due to the scarcity of trees in this arid habitat, those few that grow along the lake shore are highly prized as perching spots for birds of prey. Look closely and you may spot one in the lone willow tree. There is even a photography blind at the base of this tree, which is excellent for bald eagle

the base of this tree, which is excellent for bald eagle photography during winter months. One mile ahead, a



boardwalk leads to a wheelchair accessible blind. The Fish & Wildlife Service maintains 8 photoblinds on Lower Klamath & Tule Lake Refuges.

Information and reservations for this popular activity are available at the refuge visitor center or [CLICK HERE](#).

We hope that you have enjoyed this tour through Tule Lake National Wildlife Refuge. As you can see the Klamath Basin and Tule Lake have been through drastic changes in this last century, mostly due to reclamation. We will do our best to balance the needs of wildlife, while allowing sustainable agriculture.

You can be a part of a healthy Refuge too by supporting your National Wildlife Refuge and educating yourselves and others about the important role wetlands play in the lives of migratory waterfowl and other wildlife.

Thanks for sharing our wetland!



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Last updated: April 1, 2009

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