

# The evolution of a refuge into a wildlife area: The continuing saga of Gray Lodge

By John B. Cowan

More waterfowl come to winter in the upper Sacramento Valley than anywhere else along the Pacific Flyway. Their numbers vary from year to year, but may average as much as 3.5 million birds each winter.

As the Central Valley's natural swales, vast flood plains and riverine habitat began to disappear with the pressure of development, flood control, water storage and agriculture, protection of marshlands such as Gray Lodge Wildlife Area, and the Sacramento, Delevan, Colusa, and Sutter National Wildlife Refuges played increasingly crucial roles in providing habitat for wintering birds.

From 1947 to 1980, I served as Gray Lodge's manager, with only a brief 12 months in 1960 that I was on loan to a legislative committee. During my tenure, I witnessed Gray Lodge expand from 2,540 acres to 8,400 acres. The path Gray Lodge's development took is a remarkable conservation story, although a tale of a sometimes rather rocky road. Through many stages Gray Lodge became one of the nation's most intensely developed marshland wildlife areas.

In the early years, it was called Gray Lodge Refuge because its original purpose had been to provide sanctuary and resting areas for migrating waterfowl. When I moved there in November of 1947, my wife Avis and I received quite a shock the first evening. About 30 minutes after sundown almost 1 million ducks started leaving the refuge, heading for rice fields in which to feed. And that's when shots rang out — illegal market hunters and some local poachers were in the area. Since 1918, federal law has forbid the killing of waterfowl for the market, but an illegal market had quickly developed for the wild birds, particularly in the



Photo © J.R. Gallagher, Outdoor California Photography Award Program, 1990

**Waterfowl at Gray Lodge.**



Photo © John B. Cowan

**Garter snake eating bullfrog at Gray Lodge.**

restaurants of Sacramento and the San Francisco Bay Area. Research and interviews with participants in illegal market hunting indicate that from the 1930s to the 1950s, annual sales of waterfowl from the areas west of Gridley

and Biggs in Butte County totaled approximately 80,000 annually. The Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (USFWS) worked together to curb and eventually stamp out the illegal activity,

but it took nearly 40 years. At Gray Lodge, staff maintained vigilant protective patrols.

But illegal market hunting had not been the only threat that waterfowl faced in the Central Valley. Though 3 to 4 million waterfowl frequented the area annually during the 1930s to 1950s, increasing agricultural activity placed pressure on available land. Rice production grew to more than 350,000 acres, and as ducks fed on the grain, conflict developed with the farmers. Negotiations resulted in the proposal that the state and federal government grow crops to draw the birds away from the rice harvest. At the time, Gray Lodge was the only state refuge, and it had very little arable land. There were three federal areas, Sacramento, Colusa, and Sutter National Wildlife Refuges, but Gray Lodge needed to provide more than it was able to. Discussions led to the suggestion of creating additional federal refuges and increasing Gray Lodge's size. Only Gray Lodge actually increased in size at that time, after facing staunch opposition from more than 60 percent of the rice growers at that time. The rice growers had thought that improving the refuge's habitat and growing crops would only increase and hold more waterfowl in the Central Valley, causing even more crop depredation. Others were concerned that growth of the refuges would mean absorption of potential private rice growing acreage.

As the debate for increasing the size of Gray Lodge continued, support for purchasing properties came from the sportsmen who looked to Gray Lodge as an important opportunity for unattached, non-duck club hunters. State refuges provide sanctuary, but state wildlife areas provide public access to fishing and hunting opportunities. Colusa National Wildlife Refuge offered the first public hunting in 1950, under management of the DFG, and Gray Lodge followed in 1953 with pheasant and waterfowl opportunities.

Over time and after many public hearings, 12 contiguous parcels were proposed to be added to Gray Lodge. One neighbor, Claus Hulen, was not only a neighbor and real estate agent, but also owner of one of the largest parcels. He promoted the plan and signed up 10 of the 12 landowners on the sale agreement. From 1952 to 1955 acquisition of these parcels proceeded, via the Wildlife Conservation Board in coordination with the State Lands Commission. This first enlargement totaled 4,160 acres.



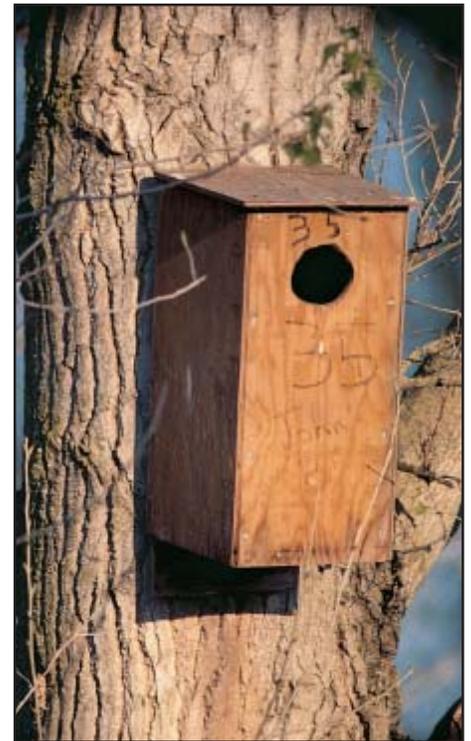
Photos © John B. Cowan

**Ducks feeding on millet. Habitat enhancement has alleviated crop depredation while assisting population increases.**

Development of the area required construction of roads, parking lots, a check station, restroom facilities and the placement of gravel around the public use areas. In addition, implementation of one of the main features of the plan also came with the construction of a major drainage ditch six miles long from the newly purchased far east side to the far west side. The ditch captured all purchased and deep-well pumped water from the east and central areas for re-use on the west side and those ponds along the way.

By the late 1950s, Gray Lodge produced nearly 2,000 acres of crops each year including millet, rice, milo, wheat, barley and small patches of safflower, sunflower and sudan. Though crop raising accounted for 35 percent of the conservation budget, it significantly reduced the severity of the rice depredation problems. To encourage the use of the crops on Gray Lodge by waterfowl, rice growers used varieties with shorter growing season, drained field ponds earlier, and developed faster, more efficient harvesters and other techniques. Efforts to grow crops at Tule Lake National Wildlife Reserve also drew birds and delayed their arrival in the Sacramento Valley. By the late 1970s, the worst depredation problems had been resolved and carbide zonguns were used to scare away any remaining problem birds.

In 1970, Gray Lodge grew with the addition of 760 acres from Brady Ranch and by 920 acres in 1975 with the acquisition of Cassady Ranch. All purchases were made from willing



**Duck boxes have helped the wood duck populations increase by providing nesting cavities.**

sellers. Hunter capacity at Gray Lodge grew to 400 hunters. Annual hunter totals averaged 16,000 to 18,000 during the 1960s and 1970s. Waterfowl hunters through license sales, taxes on firearms and ammunition, state and federal duck stamps, and area use fees provided major funding for marshland habitat preservation in California. Increases in demand for hunting opportunities consequently benefitted habitat preservation.



Photos © John B. Cowan

**Not all species at Gray Lodge have been increased. Badgers were last recorded at Gray Lodge in 1958.**



**Doves do not build the sturdiest nests. Dove cones have helped many pairs successfully nest.**

To meet demand, open farmland added to the refuges needed to be restored to wetland wildlife habitat. From 1939 until I retired in 1980, most major developments at Gray Lodge had been completed including 54 miles of roads consisting of everything from a two-way paved public use road to year-round operational and access roads. Approximately 48 miles of major drain and supply ditches which included eight water supply ditches flowed in and

among 26 miles of field levees where, during fall and winter months, nearly 6,000 acres could be ponded. More than 400 water control supply and drain structures controlled pond and water field levels. With over 100 separate operational fields within the 8,400-acre area, Gray Lodge became one of the nation's most intensely managed wildlife areas.

After World War II, Gray Lodge worked its way into the surplus equipment program which meant DFG could obtain tractors, dozers, scrapers, motor graders, trucks, fork-lifts and other equipment which greatly enhanced staff's ability to develop and restore marshland habitat. Estimates on the amount saved by using staff time and surplus equipment totaled nearly \$1.5 million.

But digging the ditches and building the levees alone would not have meant as much to Gray Lodge as how they were dug and built. Making the ditches a little wider and deeper than needed for just conveying water made the channels habitat as well.

Larger ditches with gradual slopes provide year-round habitat for fish, frogs, crayfish and unlimited invertebrates. These species form the food base for many marshland species such as egrets, herons, bitterns, grebes, otters, and raccoons, just to name a few. Grebes and gallinules prefer ditches with tules along the edges for nesting habitat. At the same time, ditches that hold water levels three to four feet deep retard the growth of tules and cattails which minimizes maintenance.

Ditches also serve as access waterways for beavers, otters and muskrats. The first sighting of beaver at Gray Lodge occurred in 1969 and the population has grown to over 100. River otter were rarely seen on Gray Lodge until the 1940s and 1950s. Their numbers, along with muskrats which are a staple of river otter diet, have increased.

But the greatest increase has been in the waterfowl numbers. Most amazing has been the Ross' snow geese. In 1947, the Ross goose population numbered around 8,000 for the North American Continent. From the 1940s to 1960s, Gray Lodge served as "home base" for wintering contingents of these birds. Their numbers started increasing in the 1960s, and now they number as many as 200,000. Gray Lodge may not have been the reason for the increase, but today high numbers of Ross' snow geese continue to be attracted to the area.

Some species have not benefitted as well. The badger, once a thriving species in the Central Valley, has experienced a decline in numbers. The last record of a badger at Gray Lodge was 1951 though a pair did exist on an adjacent ranch until 1958. Since then, no reports of badger have been made.

When I left Gray Lodge, efforts were under way to add more habitat to the system of wildlife areas. Since 1980, much progress has been made to increase the amount of habitat available for wetland species.

The Schohr Ranch, the McGowan Ranch, and several parts of the Llano Seco Ranch near Chico have been acquired and developed along with a portion of Oroville AfterBay and Bean Land sanctuary in the Butte Sink. In addition, efforts continue to acquire riparian lands along the Sacramento River to establish both the Sacramento River National Wildlife Refuge and the Sacramento River Wildlife Area.

By maintaining habitat like that at Gray Lodge, the DFG continues its mission to conserve, protect and enhance California's wildlife for future generations.

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