

# A Central Valley breeding record for Northern Saw-whet Owl

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The Northern Saw-whet Owl (*Aegolius acadicus*) is a forest species not expected to be seen in the open habitats of the San Joaquin Valley. Prior to 1996 there were no known records for this species on the San Luis National Wildlife Refuge (NWR), Merced County, an area of seasonal marshes that was heavily grazed before the refuge was established in 1967. Riparian restoration and reduced grazing have encouraged the return of trees and woody understory. At the time the San Luis NWR was established, the few scattered mature or senescent native trees still present on the floor of the Central Valley were generally concentrated along the banks of river courses, in small vestiges of what once were vast riparian forests. The Central Valley 200 years ago included 4 million acres of wetlands, according to unpublished information from the U. S. Fish and Wildlife Service's Regional Wetlands Coordinator for the Pacific Region. These wetlands within the San Joaquin Valley historically were a mixture of grassland and seasonal wetlands fed by several rivers swollen annually by spring snowmelt. Wide riparian forests extended from the Sierra Nevada down into the Central Valley along these many rivers. According to Bent (1938), "The normal habit of the saw-whet owl is to nest in deep woods or swamps." Clearing the "deep woods or swamps" of those extensive riparian forests for agriculture eliminated trees and the cavities that would be necessary for nesting by the Northern Saw-whet Owl, assuming the species ever nested in the Central Valley in the past. This note documents an unexpected occurrence of Northern Saw-whet Owl breeding in an artificial nest box located on San Luis NWR.

## SITE DESCRIPTION

The San Luis NWR was established in 1967 for migratory bird habitat. Seasonal marsh interspersed with scattered uplands for waterfowl has been the predominant habitat since that time. During the 1990s more land was acquired that was suitable to be restored to riparian habitat. Cattle grazing in the bottoms of the San Joaquin River prior to that time kept young trees from growing. Removal of the cattle from riparian areas allowed young trees to survive the sapling stage and the riparian habitat once again became more swamp-like. The increased understory includes young trees, shrubs, and forbs. Predominant species include Goodding's Black Willow (*Salix gooddingii*), Fremont Cottonwood (*Populus fremontii*), California Button Willow (*Cephalanthus occidentalis*), and Coyote Brush (*Baccharis pilularis*). An old oxbow of the San Joaquin River just south of where the San Luis NWR's public tour route goes onto the levee has some of the

thickest riparian habitat on the refuge. This oxbow is where nest box 43 was located in 1996. The 30 cm X 30 cm X 60 cm wooden box is of a type used by Wood Duck (*Aix sponsa*), Barn Owl (*Tyto alba*), Western Screech-owl (*Otus kennicottii*), honey bees (*Apis mellifera*), and other wildlife. The box was starting to deteriorate and the tree it was attached to had split and was leaning at 30 to 40 degrees less than vertical. The box was about 2.5 m up in the tree from the ground. There was still a foot of water in the oxbow when the photos were taken. The water was dropping quickly; the high water mark was about three feet higher and within two more weeks the receding water level would expose saturated mud.

## NESTING CHRONOLOGY

The San Luis NWR has about 100 nest boxes that are checked every few weeks during spring and summer. In March 1996 high water prevented many duck boxes on the refuge from being checked. Nest box monitoring was first attempted on 15 March 1996, but box 43 could not be accessed because of high water. When the box was checked a month later on 15 April, there were three owlets and three eggs in it. On 1 May box 43 had 3 owlets in it. That is the last time they were seen. On 15 May the box was empty.

Gary R. Zahm, in the company of Dennis Woolington and me, photographed the Northern Saw-whet owlets on or about 29 April, when the oldest was able to glide but not sustain flight (see front cover). When propped on a branch for a photograph it immediately took wing and glided a distance of 3 to 5 m. It obviously could not sustain powered flight so it was most likely still a day or two away from fledging. The smallest of the three was barely able to stand for more than a few seconds at a time. After photographing the owlets, they were replaced into the box. No adults were seen at that time. Bent (1938) reports an instance of young Northern Saw-whet Owls fledging at about 26 days of age. Bent gives the duration of incubation as 21-28 days. Using these time estimates, the probable chronology of this nesting attempt on the San Luis NWR in 1996 would be something like this with an error of plus or minus a couple of days:

13 March	First egg probably laid	1 May	Three owlets present
3 April	First egg possibly hatches	6 May	The third owlet possibly fledges
7 April	Third egg possibly hatches		
15 April	Nest discovered, it contains 3 owlets and 3 eggs	15 May	The box is empty and serviced
29 April	Three owlets present; no eggs present		

## LITERATURE CITED

Bent, A. C. 1938. Life Histories of North American Birds of Prey, Part Two. U. S. Natl. Mus. Bull. 170.