

EXTRALIMITAL BREEDING OF THE BUFFLEHEAD IN CALIFORNIA

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The Bufflehead (*Bucephala albeola*) is a common winter visitor throughout California, occurring mostly along the coast in ocean bays and estuaries. In the interior it winters in small numbers on lakes and ponds. Small numbers of nonbreeding individuals also summer along the coast, and even fewer still summer on inland lakes and ponds (Zeiner et al. 1990).

A small population of the Bufflehead breeds in northeastern California in Modoc, Shasta, Lassen, Tehama, Butte, and Plumas counties (Figure 1) (Zeiner et al. 1990, D. Airola pers. comm.). Prior to 1996, there were no confirmed breeding records for the Bufflehead in California south of its limited range in those counties. During the 1980s, Airola (pers. comm.) queried all wildlife biologists working in the Sierra Nevada about nesting Buffleheads outside of this range; none had been observed.

Here I report three instances of successful breeding by the Bufflehead 250 to 650 km south of the species' known breeding range during summer 1996. Juvenile birds from downy to three-quarters size were found in diverse habitats in Tuolumne, Inyo, and Los Angeles counties (Figure 1).

TUOLUMNE COUNTY

On 4 and 5 June 1996, U.S. Fish and Wildlife Service staff observed an adult female Bufflehead with two downy chicks at Catfish Lake, Tuolumne County (K. Corey pers. comm.). The small lake (approximately 2 ha) is at 1800 m elevation, approximately 0.4 km north of Pinecrest Lake in the Stanislaus National Forest. It is surrounded by Sierran mixed conifer forest (Mayer and Laudenslayer 1988) dominated by Jeffrey Pine (*Pinus jeffreyi*) and Douglas-fir (*Pseudotsuga menziesii*) that grow to the edge of the lake. Catfish Lake is shallow and supports emergent vegetation such as horsetails (*Equisetum* sp.).

Pileated Woodpeckers (*Dryocopus pileatus*) nested at the edge of Catfish Lake in 1996, and a few old woodpecker holes were in the area. Northern Flickers (*Colaptes auratus*), whose cavities Buffleheads prefer for nesting, were not observed at Catfish Lake in 1996 are fairly common in the vicinity. Pileated Woodpecker cavities are also likely suitable sites for nesting Buffleheads. A brief search for the Bufflehead's nesting cavity at Catfish Lake was unsuccessful. Several Mallards (*Anas platyrhynchos*) were also present and possibly breeding.

Catfish Lake is approximately 250 km south of the nearest previously known Bufflehead nesting location near Lake Almanor in Plumas County. No follow-up visits to determine the fate of the young Buffleheads were made. This constitutes the first known breeding record of the Bufflehead in Tuolumne County.

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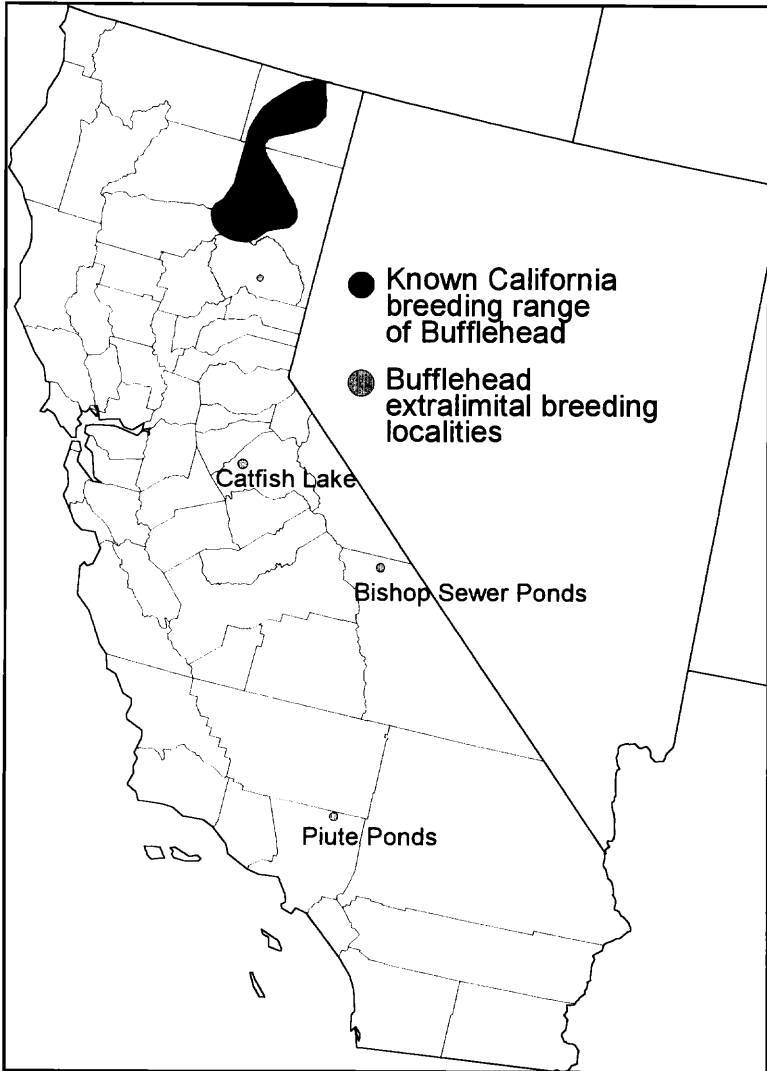


Figure 1. Extralimital breeding locations (light circles) and known breeding range (dark area) of the Bufflehead in California.

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INYO COUNTY

Normally, wintering Buffleheads depart Inyo County in late April, although stragglers may remain until the second week of May (T. and J. Heindel pers. comm.). On 30 May 1996, however, Tom and Jo Heindel observed one juvenile Bufflehead with an adult female at the Bishop sewer ponds. It was still partly downy and about two-thirds the size of the adult female. It could not fly, and its primary feathers appeared to be very short as it flapped its wings and ran across the water. These birds were still present on 3 June, when the Heindels found a second juvenile Bufflehead following a different adult female, plus an adult male. These two juvenile Buffleheads, with separate adults, were noticeably different in size and were on separate parts of the pond. On 24 June, they found only the juvenile birds, and on 8 July, when the Heindels last visited the ponds, the young Buffleheads were still present and appeared to be doing well. The departure date for the juvenile birds was not determined and no attempt was made to find the nest site.

This presumed successful breeding of the Bufflehead constitutes a first record for Inyo County (T. and J. Heindel pers. comm.). The Heindels photographed one of the juveniles with its presumed mother on 30 May. They retain the photograph in their files, available to researchers (P. O. Box 400, Big Pine, CA 93513).

The ponds, located 1.6 km east of Highway 395 east of Bishop at 1200 m elevation, are a series of diked impoundments used for secondary sewage treatment by the city of Bishop. They are surrounded by mixed stands of mature cottonwoods (*Populus fremontii*) and willows (*Salix* spp.). Northern Flickers nest commonly in this portion of Inyo County (T. Heindel pers. comm.), suggesting the availability of preferred nesting cavities for Buffleheads. Other ducks breeding in these ponds include the Mallard, Wood Duck (*Aix sponsa*), Gadwall (*Anas strepera*), Cinnamon Teal (*Anas cyanoptera*), Northern Pintail (*Anas acuta*), Redhead (*Aythya americana*), and Ruddy Duck (*Oxyura jamaicensis*) (T. Heindel pers. comm.).

LOS ANGELES COUNTY

I observed a male Bufflehead at Piute Ponds on 9 June 1996. Buffleheads have usually departed Los Angeles County by early May, but early summer records are not unprecedented (Garrett and Dunn 1981). On 7 July 1996 Bruce Broadbooks, Tom Wurster, and I observed two juvenile Buffleheads, three-quarters the size of an accompanying adult female. A male (probably the same individual observed on 9 June) remained about 100 m distant from the juveniles and female. On 14 July the juveniles were with both adults and noticeably larger than when they were first discovered on 7 July, being nearly the same size as the adult female. The adults were clearly disturbed by our presence and attempted to hide the young birds in the sparse vegetation on the opposite side of the pond. The juveniles made several attempts to fly away from us but their wings were not yet sufficiently developed to allow them to take flight. Their body feathers appeared to be slightly browner than the female's. The male, in eclipse plumage, showed considerably more white in the head and was larger than the others. On 21 July, three

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Buffleheads of the same size were present, but the juveniles could not be distinguished from the female. This is the first presumed confirmation of Buffleheads breeding in Los Angeles County.

The Piute Ponds, located at the southwestern corner of Edwards Air Force Base in the Antelope Valley, are a series of diked ponds filled with secondary sewage effluent discharged from the nearby Lancaster sewage treatment plant. The ponds are located in flat desert terrain where trees are limited to naturalized and artificial plantings of tamarisk (*Tamarix* sp.) and scattered cottonwoods. They are surrounded by desert scrub with remnants of a Joshua Tree (*Yucca brevifolia*) forest. The ponds are shallow and support abundant emergent edge growth including bulrush (*Scirpus* sp.) and cattails (*Typha* sp.). They provide habitat for large numbers of herons, wintering ducks, migrating shorebirds, and resident passerines. The Mallard, Gadwall, Cinnamon Teal, Redhead, and Ruddy Duck are common breeders at Piute Ponds.

On 21 July 1996 Kimball Garrett and I searched around the ponds but could not locate the nest site. We searched a land spit that was isolated as an island when water levels were higher in June but could not locate a nest site. We also searched numerous Joshua Trees with some possible cavities large enough for Buffleheads that were adjacent to the ponds, but they showed no evidence of nesting use by Buffleheads. The nesting cavity could easily have been overlooked because we did not search all of the Joshua Trees in the area. Northern Flickers are not known to nest in the area. Ladder-backed Woodpeckers (*Picoides scalaris*) frequently nest in Joshua Trees in the region but their cavities are too small for Buffleheads. Planted cottonwoods in the vicinity of where the young were found did not appear to have suitable nest cavities.

DISCUSSION

Nonbreeding or very late migrant adult Buffleheads were also found at various other sites in California during late spring and summer 1996, including one female or eclipse male, 29 May at Furnace Creek Ranch, Inyo County (J. Morlan pers. comm.); one female, 30 May on a small pond 6.4 km south of Indian Creek Reservoir in Alpine County (S. Laymon pers. comm.); one male, 8 June at the Perris Valley Water Reclamation Facility, Riverside County (R. Hamilton pers. comm.); and one male 11 May–2 July at the mouth of Cayucos Creek, Santa Barbara County (T. Edell pers. comm.). These sites were not checked later in the year to determine if breeding Buffleheads were present but should be surveyed for breeding birds in the future. Typically, a few nonbreeding Buffleheads are seen outside of their breeding range in California during most years.

Buffleheads have previously been reported using atypical sites and habitats in locations far from their normal breeding range. For example, broods of Buffleheads have been observed in South Dakota far from any trees with possible nesting cavities and in open prairie lands in Saskatchewan (Erskine 1972). In these locations it is unknown where the Buffleheads may find nesting cavities.

Female Buffleheads usually return to their natal and breeding areas, so the exceptional California sites found in 1996 should be checked for the birds'

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return in subsequent seasons. Buffleheads may adapt to man-made environments. They accept nest boxes, which could be placed at locations where nonbreeding birds summer. Artificial but otherwise suitable ponds may offer potential for the Bufflehead's breeding range to be extended purposefully.

There are no published breeding records of Buffleheads in California outside their normal limited range in the extreme northeastern part of the state prior to the 1996 breeding season. It is not known what factors may have led to the extralimital breeding of Buffleheads in California in 1996, but the species has shown adaptability to abnormal sites outside of its normal range. Conditions at the new sites were not unusual. Sewage ponds offer a new habitat with superabundant invertebrate food, possibly stimulating Buffleheads to nest at new sites if nest cavities and other conditions are suitable.

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