

The Current Status of the Double-crested Cormorant in Utah: a Plea for Protection*

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INTRODUCTION

During the course of research on the biology of the Double-crested Cormorant (*Phalacrocorax auritus auritus*) on Utah Lake from 1972 to 1974, I conducted a census of the cormorant breeding population in the state of Utah in 1973. I visited all of the known breeding colonies in the state and sent letters to refuge managers of other areas where new colonies might exist.

Literature was perused in order to obtain background information for meaningful comparisons against previously published population estimates. The few published references that exist concerning Utah's cormorants are little more than sight records or brief mention of nesting sites. The first reference to a breeding colony of cormorants in Utah was made by Stansbury (1852), who discovered them nesting on Egg Island in the Great Salt Lake on April 19, 1850. This colony was extensively studied by Palmer (1916), Sugden (1936) and Behle (1958) until 1947. Behle

(pers. comm.) stated that the Egg Island colony has since been abandoned owing to human disturbance (Fig. 1).

Another colony consisting of 75 pairs of birds was reported to exist on Dolphin Island, Great Salt Lake, by Treganza (Lewis 1929). This colony, sighted in 1919, has not been recorded as a nesting site since that time.

A colony of 40 nests, which had been destroyed by humans at the time of the visit, was reported in trees around Bass Pond Reservoir (Clear Lake) in Millard County (Pearson 1927)

A large colony was reported at Bear Lake by Treganza (Lewis 1929) in 1919 and estimated at four hundred birds. C. Lynn Hayward reported 118 nests there in June 1928 and 200 nests in May 1929 (Behle 1935). The colony was abandoned soon afterward, according to Hayward (pers. comm.), owing to low lake levels and human disturbance.

Cormorants are reported to have nested with Great Blue Herons (*Ardea herodias*) in trees along the Little Bear River, five miles west of Logan (Stanford 1937). This colony was visited in 1936 and 1937, although no mention is made as to numbers of birds or nests. Hayward visited there on May 13, 1938 (Bee and Hutchings 1942). Eggs were collected from cormorant nests at the colony in 1949 (Payton 1949), but apparently the area was deserted as a nesting site a few years later.

When piles of rocks were placed on islands constructed at Bear River National Wildlife Refuge, Box Elder County, cormorants were reported to have nested there for the first time in 1936 (Marshall 1937). However, Wetmore (1915) collected young from a cormorant nest at the

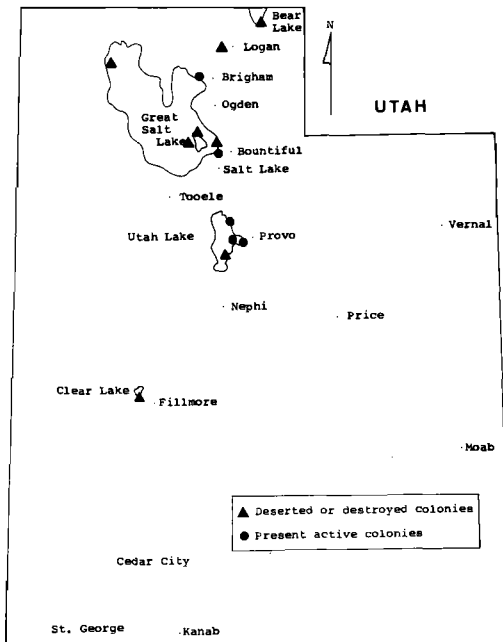


Fig 1 Location of the active and deserted or destroyed cormorant nesting colonies in Utah.

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mouth of Bear River in 1915. Behle (1958) concluded that the colony was in continuous usage through 1949.

Behle (1958) reported a pair of cormorants nesting for the first time in 1951 at Farmington Bay State Bird Refuge, Davis County, on an island in the south unit. However, Bee (1935) stated in his field notes that a few cormorants nested on an island in the Jordan River on land belonging to the Jordan Fur and Reclamation Company in 1935. Part of that land now belongs to the state refuge at Farmington Bay.

Another reference included a statement that a set of Double-crested Cormorant eggs was taken on May 10, 1901 by Harry Aldous (Woodbury *et al.* 1949), from White Rock, a small island located a few hundred yards northwest of Antelope Island, Great Salt Lake.

Behle (1958) did not mention Utah Lake as a nesting site and indeed it is mentioned only once in the literature as a "former" nesting site (Woodbury *et al.* 1949). However, I was able to find unpublished references that include a record of four cormorant eggs collected in Provo Bay in 1920 (Bee 1920). Cottam (1927) stated that the Double-crested Cormorant nested on Utah Lake. In 1937 John Hutchings of Lehi (Bee 1937) reported that several sets of Double-crested Cormorant eggs were collected on Rock Island in Utah Lake (Fig. 2). James Bee (1946) found six cormorant nests, each containing eggs, in a tree on the Geneva dike in May 1946 and stated that the birds had nested there for two or three years. Bee (1949) reported a trip to a large cormorant colony in Provo Bay, south of the Provo airport, that contained 150 pairs of nesting birds. According to Hayward (pers. comm.) this colony was reduced in numbers in the late 1950s because of the high water levels that killed some trees used for nesting. A smaller cormorant colony was reported in this same area in 1959 and through the early 1960s. This colony was again reduced in size due to the falling of rotting trees and increased boating action during the 1960s.

The purposes of this study, then, were to obtain information on the current status of the unreported colonies on Utah Lake; determine Utah's present cormorant population; and to gather information to determine the impact of the possible destruction of the nesting sites of the two colonies located in Provo Bay by the proposed plan of the Bureau of Reclamation to dike and drain the bay as part of the Central Utah Project.

STUDY AREA

There are three unreported nesting colonies of Double-crested Cormorants located on or near

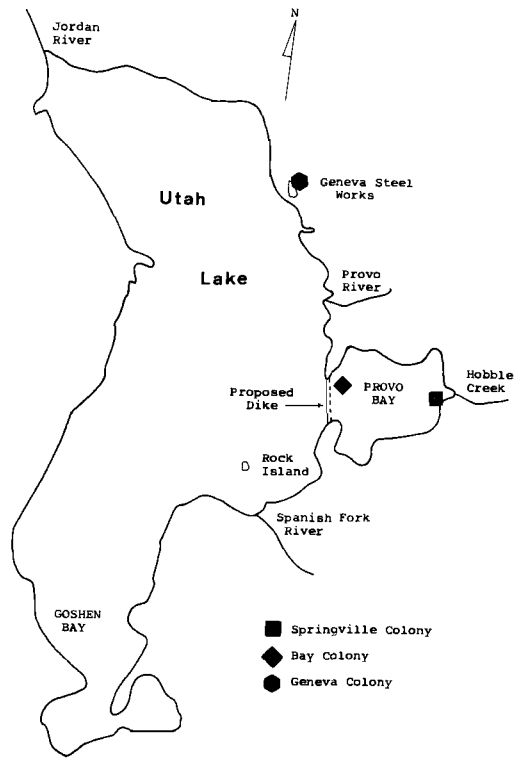


Fig. 2. Location of the three cormorant nesting sites on Utah Lake.

Utah Lake. Two of the colonies are located in Provo Bay (Fig. 2). These have been designated the Springville and the Bay colonies. The Springville colony is located 0.5 km due west of the mouth of Hobbie Creek in a group of cottonwood (*Populus fremonti*) trees that range from 10-15 m in height and stand in 1 m of water.

The Bay colony is located at the mouth of Provo Bay (Fig. 2), 2 km due south of the Provo airport. This site consists of a group of cottonwood and willow (*Salix amigdaloides*) trees growing in about 0.6 m of water.

The third colony is designated the Geneva colony (Fig. 2) and is located 11 km north of Provo Bay at the United States Steel Company's Geneva

Table 1. Numbers of active nests in the Utah Lake colonies over a five year period.

Year	Springville	Bay	Geneva	Totals
1970	Unknown	14	26	Unknown
1971	68	17	18	103
1972	48	12	31	91
1973	83	6	15	104
1974	96	7	0	103

plant. The cormorants nest in a cottonwood tree and three Siberian elm (*Ulmus pumila*) trees located at the distal end of the diversion dike located within the reservoir.

RESULTS AND DISCUSSION

Status of Utah Lake Colonies

Provo Bay has been a major nesting site for cormorants for over 50 years (Bee 1920), although it has received little attention in the literature. The population there has at times exceeded 300 nesting birds (Bee 1949). Smaller numbers of cormorants have nested in the Geneva colony but have probably done so continuously for almost 30 years (Bee 1946). Table 1 indicates that the total number of cormorants breeding in the Utah Lake area for the past five years has remained stable at around 100 nesting pairs, although the numbers utilizing each colony fluctuate.

A New Colony

On June 20, 1973 I visited the New State Gun Club located three miles west of Bountiful, Davis County, Utah. An unreported cormorant breeding colony was located in Russian Olive (*Elaeagnus angustifolia*) trees, along the south side of the Burton Canal. About 15 trees, averaging 8 m high, were scattered for 1 km along the canal. They contained 42 active nests with well developed young. I observed a total of 66 young still in the nest and 23 immature birds swimming in the canal. The trees with cormorant nests also contained a total of 61 Great Blue Heron nests with young. The caretaker of the property reported that the cormorants had nested there since 1962.

Utah's Cormorant Population

Behle (1958) reported a total of seven cormorant breeding colonies in Utah, but at that time, five of those had been deserted or destroyed. He made no mention of the colonies that were located on White Rock, Great Salt Lake and Rock Island, Utah Lake, or the existing Utah Lake colonies (Fig. 2). However, the former two sites were limited to a few birds and probably used only briefly.

The only other Utah cormorant colony still in use, other than the New State and Utah Lake colonies, is at Bear River Migratory Bird Refuge. The colony consists of two groups of birds nesting on two small island, one located in unit four and the other in unit five. Although there is no published reference to nesting since 1949 (Behle 1958), records kept by the refuge personnel indicate continuous usage through 1974.

Table 2. Summary of the populations of Utah's cormorant colonies and their current status.

Colony	Largest recorded no. nesting birds	Year	1973 status
Bear River	600	1947	94
New State	84	1973	84
Geneva	62	1972	30
Springville	166	1973	166
Bay	300	1949	12
Bass Pond	80	1927	destroyed
Bear Lake	400	1929	deserted
Logan	*80	1938	deserted
Dolphin Island	150	1919	deserted
Egg Island	500	1915	deserted
Farmington Bay	**2	1951	deserted
Rock Island	**8	1937	deserted
White Rock	**2	1901	deserted

*This estimate was made from a photograph of the nesting area taken by C.L. Hayward in 1938.

**These are the author's estimates based on the literature.

The population of Double-crested Cormorants in Utah has been steadily decreasing for the past fifty years. Behle (1935) reported a decrease in cormorant numbers on Egg Island from 500 birds in 1915, to 114 in 1935. He felt that the breeding cormorants in the region were threatened with extinction. Sugden (1936) noted an alarming decrease in the numbers of herons and cormorants nesting on the Great Salt Lake and made a plea for their protection.

Of the thirteen colonies that have existed at one time or another within the state, only five are still in use (Table 2). During the 1930s and 1940s the larger colonies may have easily supported a combined total population of well over 1000 birds. However, in 1973 the total known cormorant population of Utah consisted of only 386 birds nesting in five colonies (Table 3).

Effects of Diking Provo Bay

Two of the five remaining cormorant colonies in Utah are located on Provo Bay, Utah Lake (Fig. 2). In 1973 the Springville colony was the largest colony in the state and supported 43 per cent of the total remaining birds in Utah and combined with the small Bay colony comprised 178 birds or 46 per cent of the state's total cormorant population (Table 3). The proposal to dike and drain Provo Bay as part of the Central Utah Project (Fig. 2) would eliminate the nesting area of these birds.

It has been suggested that the displaced birds could locate elsewhere on Utah Lake. Owing to the unusual nesting requirements of these cormorants (undisturbed trees in shallow water) this is unlikely. There are only two probable sites for relocation directly on the lake. One is a small group of dead cottonwood trees on the southwest side of the lake which is currently utilized by Great Blue Herons. Cormorants have not nested there before, possibly because of a lack of nesting space. Another location is about 0.3 km west of Powell Slough in some low growing trees. Again, cormorants have never nested there, perhaps because the site is too accessible from the shore.

Some of the displaced birds could relocate at the Geneva colony, but the limited number of large trees could only provide nesting space for about 20 pairs, leaving the majority of the displaced cormorants still homeless. It is possible that the cormorants could establish a new colony, but since seven former colonies in the state have been deserted there must be a paucity of acceptable sites. It would then remain for the evicted birds to relocate at one of the two remaining colonies in the state. Yet again, there is not sufficient nesting space for all of them to move to the New State Gun Club area. The two island colonies at Bear River Refuge could not provide room for all the displaced birds, unless additional rocks for nesting sites were placed on the islands. But even if nesting space became available, it is not known whether these tree-nesting birds could adjust to a ground-nesting habitat (Hilden 1965).

Cormorants have been subjected to persecution for various reasons, in the United States and Canada for years. Entire colonies have been wiped out and their numbers reduced by the thousands (Smith 1911; Demille 1926; Lewis 1929; Stanford 1937; Buchheister 1944; McLeod and Bondar 1953). The diking and subsequent draining of Provo Bay will only compound an already critical situation for Utah's steadily declining Double-crested Cormorant population unless adequate measures are taken to protect their present nesting sites.

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