

THE BREEDING BIRDS OF ALCATRAZ ISLAND: LIFE ON THE ROCK

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Grinnell and Wythe (1927) summarized the bird life of the San Francisco Bay region, paying particularly close attention to distribution and nesting sites. However, neither their report nor any other covering the area has mentioned the avifauna of one of the most prominent and well-known land features in the region: Alcatraz Island. The avifauna of Alcatraz is of interest because the island is only 1.6 km from a large city and a large number of people (an average of 2300 daily, R. Weideman pers. comm.) visit it year round.

Until recently, no ornithologist or natural historian had visited or at least had reported on any visits to the island. The only publications on the island's birds are by Binford (1980), Howell et al. (1983), and Howell (1983). Here I summarize my observations of the birds breeding on Alcatraz. The data are based on many casual observations between May and August 1981 and between April and July 1982. All Western Gull nests were mapped during this period and on 10 and 30 May 1983.

STUDY AREA

Alcatraz is an 8.6-ha sandstone island in San Francisco Bay and lies 4.1 km east of the Golden Gate Bridge and 1.6 km north of Fisherman's Wharf in the city of San Francisco (Figure 1). Oblong, the island runs northwest to southeast and measures roughly 550 by 200 m. The southwest edge consists primarily of sheer cliffs rising to a rather flat plateau approximately 13 m above water level at the island's northwest end and another plateau 18.5 m above water level at the southeast end. The northeast edge rises more slowly to a higher plateau 40 m above water level. The plateaus are covered with concrete, abandoned buildings, rubble of demolished buildings, bare dirt, and in some places grass or thick vegetation.

Floristically the island is disturbed. Originally it was solid "sandstone covered with a thin coating of guano" (U.S. Army 1879, cited in Thompson 1979) devoid of shrubs and trees. During the late 1800s dirt brought over from nearby Angel Island for gun battery emplacements probably contained seeds of various native shrubs and annuals including Dwarf Coyote Bush (*Baccharis pilularis*), California Poppy (*Eschscholzia californica*), and California Blackberry (*Rubus vitifolius*), which have since colonized Alcatraz. After the mid-1860s several ornamental plants were introduced. Those prevalent today include eucalyptus (*Eucalyptus* sp.), Monterey Cypress (*Cupressus macrocarpa*), Century Plant (*Agave americana*), Nasturtium (*Tropaeolum majus*), and fuchsia (*Fuchsia hybrida*). Since 1963 the plants have been left untended and are now growing virtually wild.

The island has been used heavily by man since 1853 when a lighthouse was erected. Since then it has been used as a fort, military prison, and, until 1963, as a United States Federal Penitentiary. Today the penitentiary is closed and the island is administered by the National Park Service as part of Golden

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Gate National Recreation Area, attracting an average of 2300 tourists daily. People are allowed to wander freely over certain portions of the island, but, only park personnel are currently permitted in the areas inhabited by most birds.

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Black-crowned Night Heron (*Nycticorax nycticorax*). Roosts and nests in eucalyptus and cypresses on the northeast side of island and in shrubs on northeast and southwest sides. Twenty-four nests located in 1981, 39 in 1982; some nests may have been overlooked amid thick foliage. In 1982 birds were first observed on 28 February (J. Barrons pers. comm.), and the first chick was heard calling from the tall cypresses northeast of the Cell House on 6 April. One presumably second-year bird (brown-tinged plumage) successfully nested in 1982. Ray Pierotti (pers. comm.) reports the population to be expanding.

Mallard (*Anas platyrhynchos*). One or two pairs bred each year. Females have been seen with chicks on most of the island, even inside buildings. One old nest with egg shell fragments was found under a small shrub immediately southwest of the Cell House.

Heermann's Gull (*Larus heermanni*). A pair attempted to nest each spring 1979 to 1981 but were unsuccessful (Howell et al. 1983). The nest was located under a Dwarf Coyote Bush on an exposed point near the incinerator. The species has attempted no nests since.

Western Gull (*Larus occidentalis*). Nests on exposed cliffs, building roofs, flat cement slabs with and without grass cover, within debris of felled buildings, on top of guard towers, and inside an old washing machine. Most avoid the northeast side of island where the majority of human activity is. In 1981 a minimum of 135 pairs bred; in 1982 censuses indicated 224 breeding pairs; in 1983 on two visits 126 active nests were located; however, the second visit was on 30 May, probably before all broods had been initiated (in 1982, only 74% of all nests had yet been located by 27 May). Ray Pierotti (pers. comm.) reported the population to contain over 350 breeding pairs in 1988.

Pigeon Guillemot (*Cephus columba*). Several times during the summer of 1981 I saw Pigeon Guillemots flying from cliffs along the southwest edge of the island. During a boat trip around the island on 7 July I saw two guillemots on the water. More thorough observations were made during 1982. On 22 May and 15 June I flushed a guillemot from the cliff west of the fallen remains of the apartments. On 15 June two adults, one with a fish in its bill, were in the water below. During the following 15 minutes the bird carrying the fish flew toward the cliff then turned away several times. Finally, it landed on a small rock ledge 2 m from the top of the cliff and about 13 m above the water and stuck its head into a crevice. It retracted its head a moment later, without the fish, and flew back to the water. I climbed down the cliff and found a crevice among three large rocks that were part of an old retaining wall. The roughly triangular entrance was approximately 10 cm across at the base by 18 cm high. At a depth of 20 cm the cavity made a turn to the right. I did not see or hear any chicks but found at the entrance a broken egg shell (similar to Pigeon Guillemot eggs in the collection at the California Academy of Sciences). During my inspection of the nest site there were three guillemots in the water

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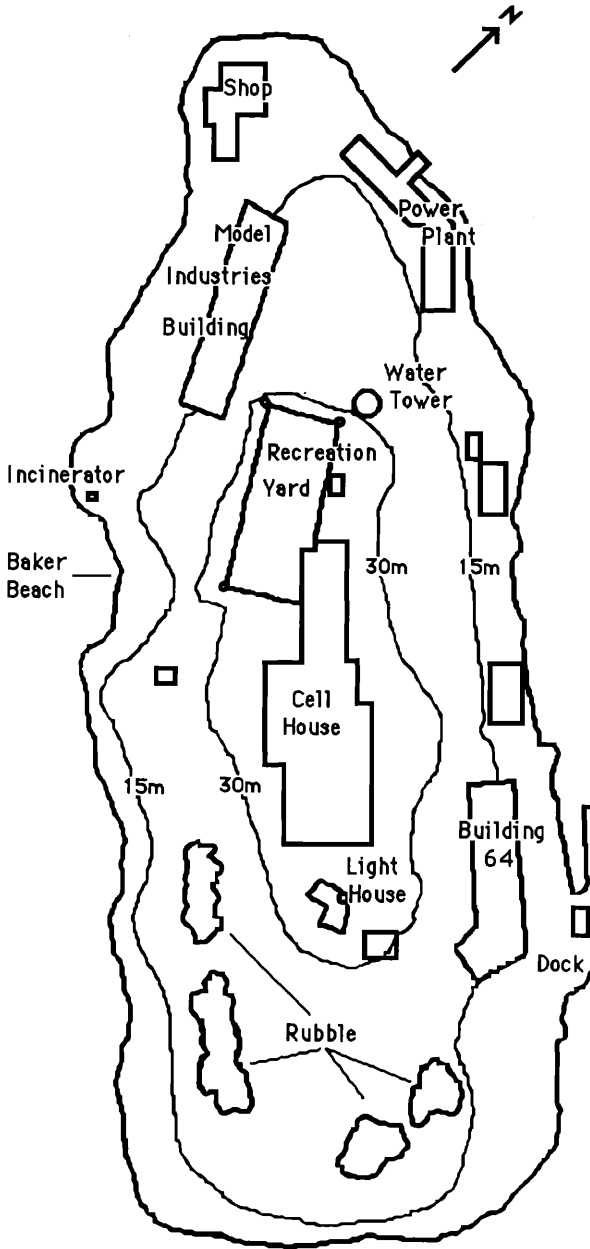


Figure 1. Alcatraz Island, showing all buildings mentioned in the text.

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below, one giving an alarm "scream" (Nelson 1985) and two with fish in their bills. On 25 June, Paul Jones (pers. comm.) saw one slate-black chick with dark legs far back in the crevice. He found the remains of two dead fish (one a midshipman, *Porichthys* sp.) on the ledge immediately outside the opening.

I found only this one nest on Alcatraz but saw 15 to 20 birds begging, calling, carrying fish, flying in "figure-eight" patterns, and sitting on the cliffs or in crevices and holes, suggesting that as many as ten more nests may have been present. Island-based observations on 18 June, 25 June, and 8 July 1982 revealed five possible nesting locations: south and west of the shop building, southeast end of Baker Beach, 75 m southeast of this last site, north of the incinerator, and immediately west of the incinerator.

On 13 July 1982, during a survey by boat, I saw several guillemots, three of which were begging, along the southwest cliffs. Three birds were seen sitting in small man-made holes bored in rock approximately 6 m above the water, two near the industries building and one 75 m southeast of Baker Beach. These, and a fourth unoccupied hole at the southeast corner of Baker Beach, had fair amounts of guano below them and may have been nesting holes. I saw a guillemot perform the "figure-eight" flight, then land by a crevice next to another bird southwest of and well below the verified nest. Six birds were seen sitting quietly on the cliff west of the incinerator. This is the first time guillemots have been known to nest within San Francisco Bay (see Sowls et al. 1980).

The lack of previous records of Pigeon Guillemots breeding in San Francisco Bay indicates that this is most likely a newly formed colony. Two factors may have contributed to the colony's establishment. The National Park Service currently restricts public access to certain parts of the island, leaving the nesting birds relatively undisturbed by people. An increase in population size at other colonies may have increased competition for nesting sites, prompting some birds to pioneer new colonies. In support of this, population size at the South Farallon Islands colony did increase in the late seventies and early eighties (D. F. DeSante pers. comm.). Furthermore, DeSante and Ainley (1980) suggested that the Farallon guillemot population reached saturation in the late seventies. Pigeon Guillemots were still visiting Alcatraz daily during the 1983 through 1988 breeding seasons (R. Pierotti and J. Howell pers. comm.).

Song Sparrow (*Melospiza melodia*). I found approximately six singing males in heavily vegetated areas throughout island but saw no nests or young.

White-crowned Sparrow (*Zonotrichia leucophrys*). I found one nest with young on 14 June 1981. Approximately 14 singing males are distributed throughout the island. If the birds occupy the entire island and territories are contiguous, the average territory size is 0.6 ha. Luis Baptista (pers. comm.) has recorded songs from 12 individuals. He noted that their song-type is distinct from that of neighboring islands and may have been derived from the Marin dialect.

In addition, the following species nesting on the nearby mainland remained through the breeding season on Alcatraz, though I did not see them nesting there. Courtship behavior was observed often among the four to six Rock Doves (*Columba livia*) present. One or two Mourning Doves (*Zenaida macroura*) were frequently observed in and around the tall trees northeast of the Cell House. Two to three Anna's Hummingbirds (*Calypte anna*) and Allen's

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Hummingbirds (*Selasphorus sasin*) were most often seen in heavily vegetated areas along the northeast side of island. One Black Phoebe (*Sayornis nigricans*) was usually on the dock southwest of Building 64 or near the Model Industries Building. A pair of Barn Swallows (*Hirundo rustica*) was seen often in 1981 near the dock and around Building 64, where they may have nested (S. Paris pers. comm.). Approximately 12 European Starlings (*Sturnus vulgaris*) were usually seen in a flock over the entire island. One pair of Pine Siskins (*Carduelis pinus*) was active in 1982 in the trees east of the Cell House. Two House Finch (*Carpodacus mexicanus*) flocks, each of 8 to 10 individuals, were seen in the area around the water tower and west of the Cell House.

DISCUSSION

In all, five species were known with certainty to have successfully bred on Alcatraz Island (Black-crowned Night Heron, Mallard, Western Gull, Pigeon Guillemot, White-crowned Sparrow). Another species has made an unsuccessful attempt to breed (Heerman's Gull). A seventh species (Song Sparrow) most likely breeds on the island but nests have yet to be found. Nine other species have remained through the breeding season but have not been seen nesting (Rock Dove, Mourning Dove, Anna's Hummingbird, Allen's Hummingbird, Black Phoebe, Barn Swallow, European Starling, Pine Siskin, and House Finch). Additionally, R. Pierotti and C. Christensen (pers. comm.) believe that a pair of Common Ravens (*Corvus corax*) probably nested on the south end of the island in 1988.

The breeding birds of the South Farallon Islands have been discussed by DeSante and Ainley (1980). Of the twelve seabird species that breed on the Farallones, only two (Western Gull and Pigeon Guillemot) nest on Alcatraz. Remarkably, the two islands share no known species of breeding landbirds. Of the all the species nesting on the Farallones, the House Sparrow is the most curious for not nesting on Alcatraz. I have no explanation for this phenomenon.

Of the 101 species which have been seen on or near Alcatraz (pers. obs.; S. Abbors, I. Bletz, M. Flippo, S. Paris, pers. comm.) a maximum of 16 may have attempted to breed during 1981 and 1982. My results can be used as a baseline for tracking future trends in population sizes and will facilitate the correlation of these trends with environmental events (e.g., pollutants and weather patterns such as El Niño). The bird populations on Alcatraz Island may also provide research opportunities. The National Park Service has protected most of the breeding areas but is now considering plans to open most of the island to visitors (J. Howell and R. Weideman pers. comm.). The White-crowned Sparrow population is isolated enough that it has its own song dialect (or subdialect) and small enough that the entire population could be studied easily. There are no mammal predators, an uncontrollable factor on the mainland and many other islands. The other islands in San Francisco Bay provide the opportunity for comparative studies.

Finally, Alcatraz is a valuable natural resource. It has the third largest coastal colony of Western Gulls in central California (Sowls et al. 1980), the only colony of Pigeon Guillemots in San Francisco Bay, and a breeding population of Black-crowned Night Herons. I hope that a better understanding of

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the birds on Alcatraz Island and their interactions with other local populations will help to eliminate activities and future developments that would be hazardous to them.

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The following article is the fourth in a series on California rarities edited by Morlan and Roberson. It is based on materials submitted to the California Bird Records Committee (CBRC). The description and circumstances were drawn from the accounts of the observer and have been reviewed by him. Roberson prepared the distributional summary; Morlan prepared the identification summary. In this way we hope much important information accumulated in CBRC files will become widely available.



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White-collared Swift

Sketch by Tim Manolis

FIRST RECORD OF THE WHITE-COLLARED SWIFT IN CALIFORNIA

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At midmorning on 21 May 1982, Erickson and his birding companions Lynn C. Berner, Gary S. Lester, Gary J. Strachan, and Richard S. Tryon were near the spruce grove at Point St. George, Del Norte County, extreme northwestern California, when a swift caught their attention. Erickson's first impression was of Black Swift *Cypseloides niger*, but Strachan noted white on its neck; soon the whole group focused on the bird. It was a large swift with tattered primaries that fed with a flock of swallows, including Barn *Hirundo rustica*, Cliff *H. pyrrhonota*, Tree *Tachycineta bicolor*, and Violet-green *T. thalassina* swallows, over the grassy headland northeast of the spruce grove. The morning fog was breaking up and lighting conditions were good. The observers watched the bird with binoculars and a 20× telescope, as it approached them sometimes to within 15 m, for 20 to 40 minutes. The swift fed from a height of 100 m to within 8 m of the ground. The following description is paraphrased from Erickson's field notes:

A swift of typical shape (slim body with extremely long wings and apparently no "wrists") with a tiny bill and a slightly forked tail of moderate length. It absolutely dwarfed every swallow in association, even at great distances. It was substantially longer than a Cliff Swallow seen in direct comparison. Gary Lester felt the wingspan was double that of a Barn Swallow; I thought it was maybe not quite twice as much. The plumage was entirely blackish except for a conspicuous complete white collar, narrowest and cleanest across the nape but broader and less distinct and descending posteriorly somewhat across the breast. This collar, especially on the nape, was visible