# FIRST NESTS OF HEERMANN'S GULL IN THE UNITED STATES

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The primary breeding colonies of Heermann's Gull (*Larus heermanni*) are on islands in the Gulf of California, Mexico. Only two colonies are known from the Pacific side of the Baja California peninsula. One was on Isla San Roque (27°09'N; Grinnell 1928), where Huey (1927) found 35 pairs beginning to lay on 20 April 1927. The second colony, previously the northwesternmost for the species, was discovered on Isla Benito del Centro of the San Benito Islands (28°20'N) on 25 May 1971, when Jehl (1976) found 25 adults and nine nests containing one to five eggs each. Later surveys disclosed 15 adults and two active nests with one small chick each on 21 June 1974 (Jehl 1976) and at least 30 adults, eight scrapes and eight nests containing eggs and/or small chicks on 9 June 1975 (Boswall 1978).

In this paper we describe the first nesting attempts by Heermann's Gull in the United States. The species nested at two locations in California: on Alcatraz Island in 1979, 1980 and 1981, and at Shell Beach in 1980. Brief accounts were published by Binford (1980) and by Laymon and Shuford (1980) for Alcatraz and by Sowls et al. (1980) for Shell Beach.

## ALCATRAZ ISLAND

Alcatraz Island (37°49'N) is part of the Golden Gate National Recreation Area (GGNRA) and is located in San Francisco Bay, San Francisco County, about 1.6 km north of the city of San Francisco and 1250 km north of the San Benito Islands. Formerly used as a penitentiary, it is now staffed throughout the year by personnel of the Golden Gate National Recreation Area, who conduct tours for the public.

The 4.8 ha island forms a 540 m long rough oval running northwest-southeast. The nests were located on the southwest side of the northwest half, just south of the industrial shop, about 3 m from a 1.8 m-tall incinerator, and about 13 m above and about 5 m away from the edge of San Francisco Bay (Figure 1). They were situated under the canopy on the north side of a Coyote Bush (*Baccharis pilularis* var. *consanguinea*) which measured 1.68 m tall and 2.74 m in diameter.

*Summer 1979.* In summer, 1979, Bob Connell (pers. comm.), a security guard on Alcatraz, saw two adult Heermann's Gulls and a nest containing

three eggs under the Coyote Bush but did not report his discovery. He saw no chicks but noted that only one egg remained after the season. As confirmation of this nesting, on 17 June 1980 Binford and Howell found an old scrape 30 cm from the edge of the 1980 nest. The two immature Heermann's seen by Laclergue at the site in early summer 1980 might have been from the 1979 nesting (but see Discussion).

*Summer 1980.* In 1980 summering Heermann's Gulls were first detected on 15 June by Paris. She and Laclergue notified Howell, who visited the site the next day and discovered one adult on a nest containing three eggs. On 17 June, Binford and Howell found two adult Heermann's Gulls, one sitting on the nest and the other standing on the incinerator about 3 m away. As the observers approached cautiously, the incubating bird walked off the nest. Twice the observers stopped, and twice the bird returned to the nest; this behavior suggested close nest attentiveness. The three warm eggs (Figure 2) compared favorably with specimens borrowed from the California Academy of Sciences. A fourth egg, cold and abandoned, lay 75 cm from the center of the nest. Binford collected and prepared this egg (CAS egg collection 9501). It was uncracked and apparently fresh; a sticky substance and several feathers adhering to the surface washed off with difficulty. The egg measured 59.75 × 44.21 mm and in color and pattern was typical of Heermann's Gull eggs.

For the next 6 weeks Binford, Howell, Laclergue and Paris checked the nest intermittently. On 23 June Binford and Howell found one adult incubating and a second roosting with Western Gulls (*Larus occidentalis*) some distance away. The incubating bird hovered in the vicinity as the observers approached but then disappeared. Howell collected one of the three eggs on 8 July (specimen in GGNRA collection); it lay near the nest, broken longitudinally and empty. On 22, 23, and 24 July the adults were still incubating the remaining two eggs. The next day the adults perched on the incinerator but were not seen on the nest. Neither adult was present on 26 July. Both eggs were in the nest on 28 July but one was cold and the other (collected, GGNRA) was cracked longitudinally. The nest was last checked on 4 August, when Howell found the conical tip of the last egg, broken and empty, 75 cm from the nest.

The nest consisted of a ring-shaped mound of debris and soft dry earth (Figure 2). The former included numerous twigs 2-5 cm long, about five white breast feathers probably from Western Gulls, several small bones, four bits of cigarette package tinfoil, a piece of weathered rag, and many pieces of dried leaves of the Coyote Bush. The nest was unlined. The dimensions of the nest ring were as follows: outer diameter, 360 mm; inner diameter, 190 mm; width, 85 mm; depth at center of nest (to top of ring), 40 mm. In the mornings the nest was shaded from direct sunlight by the higher parts of the island, and in the afternoon it received about 50% sunlight through the bush canopy. The nearest nest of the Western Gull, which breeds commonly on the island, was 23 m northeast of the Heermann's nest and contained one egg.

*Spring-Summer 1981.* On 27 January 1981 Howell began observing activities in the vicinity of the 1980 Alcatraz nest. The following is a synopsis of his observations for the 24 days he visited the area. *27 January:* three adults and three immatures present. *17 February:* one adult and two immatures present; no evidence of nesting under *Baccharis* bush. *18 March:* one adult,

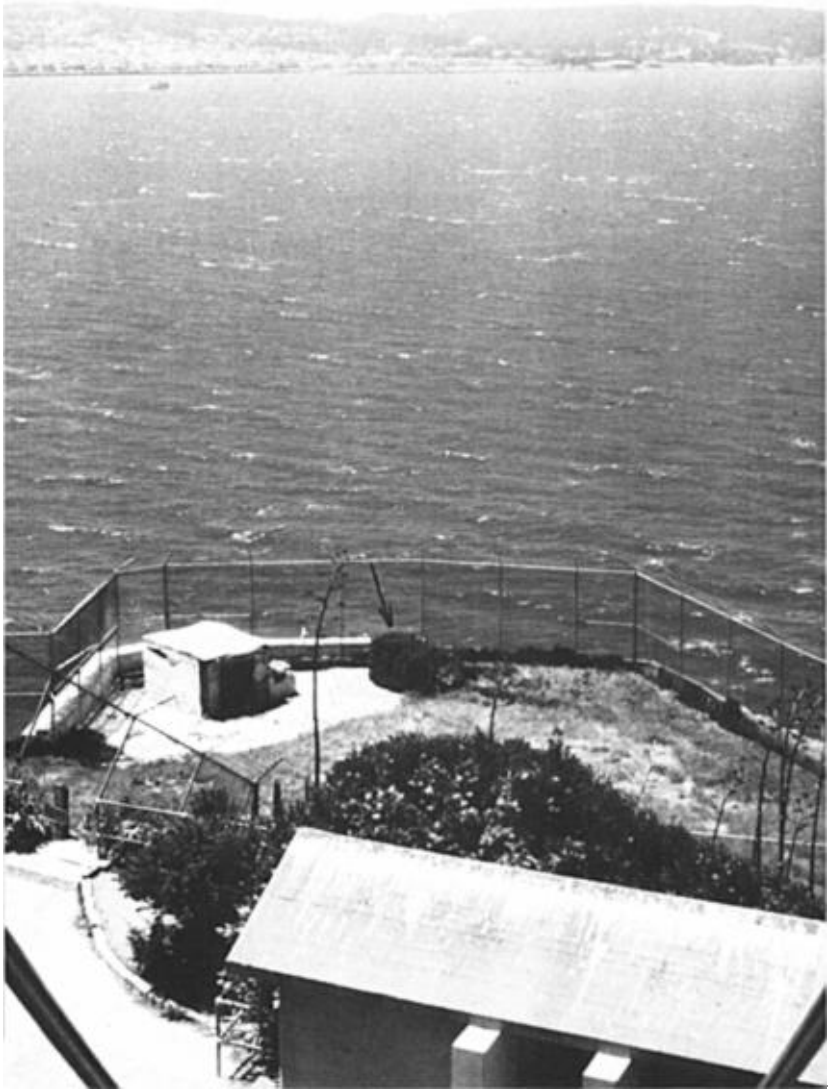

Figure 1. Incinerator compound on Alcatraz Island, looking southwest toward San Francisco, California, 23 June 1980. Heermann's Gull nest was under canopy of Coyote Bush indicated by arrow in lower center of photo.

*Photo by Judd A. Howell*

two immatures. *31 March:* two adults. *6-28 April:* two-three adults and one-two immatures; no scrape found. 4 May: two adults, one of which walked under Coyote Bush (no eggs seen). *6 May:* two adults under Coyote Bush, one sitting next to 1980 nest scrape, other at edge of bush; two eggs in scrape near 1980 nest; tours rerouted to avoid incinerator area, even though they seemed not to disturb nesting birds. *13 May:* parents twice exchanged places on nest; parent standing near bush called and lunged at a Western Gull that walked past, causing it to fly; non-incubating adult placed one twig next to incubating bird; latter bird later gathered nest material within reach and placed it onto nest ring. *19 May:* Connell noted four eggs in the nest; Howell saw one adult on nest. *27 May-15 June:* two adults present; incubating adults added feathers to nest; parents exchanged incubation duties; still four eggs in nest; accumulation of feathers indicated one bird molting primaries and body feathers (Figure 3). *15-18 June:* Third adult (migrant?) noted in area. *23 June:* adult left nest upon being approached; 30 nonbreeding (migrant) Heermann's Gulls flew by; Howell collected one cracked egg out of the nest, and took following notes: outer diameter of nest ring, 380 × 330 mm; depth of cup, about 40 mm; nest composed of leaves, sticks, feathers, and bits of glass; intact egg collected measured 42 × 57 mm; partly decomposed contents of intact egg indicated infertility or early arrested development. *1 July:* one adult standing outside nesting area; one other flying and calling some distance away; both eggs cracked, one 15 cm and the other 150 cm away from nest; numerous Heermann's Gulls at edge of bay.

Figure 2. Heermann's Gull nest with three eggs, 23 June 1980, Alcatraz Island, California. *Photo by Judd A. Howell*

## SHELL BEACH

The town of Shell Beach (35°09'N) is located on the coast of San Luis Obispo County just northwest of Pismo Beach and about 900 km (569 mi) northwest of the San Benito Islands. Just offshore from town are numerous rocks, some of which support breeding American Black Oystercatchers (*Haematopus bachmani*), Western Gulls and Pigeon Guillemots (*Cepphus columba*).

On 26 May 1980, while conducting hourly counts on seabirds, DeGange discovered two nests of Heermann's Gull on one of these rocks (Figure 4). The nest rock, 80 m from shore and 350 m SE of South Point (U.S. Geological Survey, Pismo Beach, California, Quadrangle), rises about 6.5 m above the high tide mark and is about 5.3 m in diameter at mid-height. The north nest was situated near the top, while the south nest was about 0.5 m lower. Both nests were near the east end of the rock. Because none of the observers could land on the rock, the details of nest site, construction, and exact contents could not be ascertained; all observations were made from the mainland 112 m away.

On the day of his first visit, DeGange noted five breeding-plumaged Heermann's Gulls, two of which were sitting on the nests. Some of the other Heermann's occasionally chased Western Gulls and Rock Doves (*Columba livia*). At nightfall, the two sitting Heermann's and one additional adult were still present.

Figure 3. Pair of adult Heermann's Gulls at nest site, 4 June 1981, Alcatraz Island, California. Parent on the left is incubating. *Photo by Judd A. Howell*

On 27 May DeGange returned with Margaret Stewart. With the aid of a spotting scope they were able to see some nest vegetation under the two sitting birds. The nests were about 2 m apart and about 5 m from a Western Gull nest on which a bird was incubating. The north Heermann's nest contained at least one egg; the south nest was hidden by the terrain, but was assumed to contain eggs judging from the behavior of the parents. At no time did DeGange note any aggression between the two nesting pairs of Heermann's.

The following is a summary of DeGange's field notes written from 0830 to 0940 on 27 May. *0830:* two adult Heermann's Gulls, in addition to the incubating birds, standing on rock when observers arrived. *0845:* two standing birds chased another adult Heermann's off rock and returned; bird sitting on north nest stood up, stared down into nest, and resettled; one standing Heermann's chased an American Black Oystercatcher off rock. *0900:* bird sitting on south nest exchanged places with one of two standing birds; the replaced bird picked up and dropped several pieces of vegetation. *0910:* two other adult Heermann's flew in; one walked over to Western Gull nest, stood over incubating bird, and made a series of head up vocalizations; breeding Heermann's chased away the other intruder Heermann's. *0915:* one of standing adults exchanged places with bird sitting on north nest; latter bird picked up three small pieces of vegetation near nest but each time dropped it and chased one of the intruder Heermann's; same parent later chased Rock Dove away from vicinity of nest and at 0935 took some nest material to north nest.

Arthur L. Sowls (pers. comm.), U.S. Fish and Wildlife Service, made the following observations. In the evening of 10 June, three Heermann's Gulls were on the rock, two on the nests. The next morning one bird was on the north nest, and occasionally a second bird would arrive on the rock. The Western Gull nest contained at least two small chicks.

Don Parham (pers. comm.) of the Morro Bay Audubon Society visited the site one day in June and saw no sign of nesting Heermann's Gulls. DeGange returned on 16 July and found no nesting Heermann's Gulls; he saw many migrant Heermann's in the course of an all-day count.

## DISCUSSION

The bulk of evidence indicates that all three nesting attempts on Alcatraz were unsuccessful. It is tempting to speculate that the full-sized immatures that frequented the site in 1980 and 1981 came from the nests, but more likely they were simply Baja birds that migrated north the previous summer and were induced to overwinter by the presence of adults.

We doubt that climate caused the nest failures. Alcatraz does have a much colder climate than do the islands of Baja, San Francisco having lower average air temperatures, more frequently overcast skies (high fog), and colder winds. Further, these conditions probably were accentuated by the position of the nests, which were exposed to the prevailing cold west winds, shaded by the island in the mornings, and partially shaded by the bush in the afternoons. Nevertheless, the parents incubated the eggs continuously during periods of observation, and it seems likely that their attentiveness was adequate to shield the eggs from the environment.

That disturbance from tour groups passing 36 m away could have contributed to the failure of the Alcatraz nests seems unlikely. On numerous occasions in 1981 Howell noted that passing tours, as well as low-flying aircraft, failed to dislocate the incubating parent or cause more than momentary reaction on the part of the nonincubating adult. When the parent was dislocated it returned to the nest in a matter of minutes. Also, the tours were rerouted to avoid the nesting area on 6 May 1981, before the last two eggs were laid. Neither did the presence of the researchers seem to greatly disturb the birds.

While the abandoned egg found on Alcatraz on 17 June 1980 might have owed its undeveloped embryo to lack of incubation, such could not have been the case for the intact egg removed from the nest on 23 June 1981, which had been incubated for over 5 weeks and was shown to be undeveloped. Thus the evidence suggests that infertility was the most likely cause of the Alcatraz nest failures.

The fate of the two Shell Beach nests is unknown, although Sowls et al. (1980) probably were correct in stating that the attempts were unsuccessful. It should be noted, however, that the 5 weeks between 10 June, when Sowls saw adults on both nests, and 16 July, when DeGange made the next extensive observations, might have been enough time for the eggs to hatch and the young to mature to flying stage.

Figure 4. Two Heermann's Gull nests on sea stack, 27 May 1980, Shell Beach, California. Arrows indicate nest location with parents.

*Photo by A. R. DeGange*

Heerman's Gull is rare in California during the spring when the species is breeding farther south (McCaskie et al. 1979). The first northward movements into the southern and central parts of the state normally take place in early to mid-July. In some years, however, appreciable numbers arrive in early June, as was the case at Pacific Grove, Monterey County, in 1971, when 46 birds were seen on 10 June (DeSante and LeValley 1971), and in 1973, when 100+ were present on 4 June (Remsen and Gaines 1973). The California birds begin egg laying by early May, well before the earliest influxes of birds from the south. Hence chronological as well as biological factors argue against the California breeding birds' being migrants from the south.

Jehl (1976) pointed out that Heermann's Gulls on the San Benitos nest a month or two later than the populations in the Gulf of California and suggested that the environmental conditions required for successful breeding may not be achieved along the outer coast until late spring and early summer. The same may be said for the Shell Beach and Alcatraz birds, which have breeding seasons similar to those on Isla San Roque and the San Benitos.

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## LITERATURE CITED

Binford, L.C. 1980. Heermann's Gull invades Alcatraz. Point Reyes Bird Observatory Newsl. 51:3.

Boswall, J. 1978. The birds of the San Benito Islands, Lower California, Mexico. Bristol Ornithology 11:23-32.

DeSante, D. & R. LeValley. 1971. The nesting season. Middle Pacific coast region. Am. Birds 25:899-904.

Grinnell, J. 1928. A distributional summation of the ornithology of Lower California. Univ. California Publ. Zool. 32:1-300.

Huey, L.M. 1927. Northernmost breeding station of the Heermann Gull on the Pacific Ocean, and other notes from San Roque Island, Lower California. Condor 29:205-206.

Jehl, J.R., Jr. 1976. The northwesternmost colony of Heermann's Gull. West. Birds 7:25-26.

Laymon, S.A. & W.D. Shuford. 1980. The nesting season. Middle Pacific coast region. Am. Birds 34:925-929.

McCaskie, G., P. DeBenedictis, R. Erickson & J. Morlan. 1979. Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Society, Berkeley, CA. 84 pp.

Remsen, V. & D.A. Gaines. 1973. The nesting season. Middle Pacific coast region. Am. Birds 27:911-917.

Sowls, A.L., A.R. DeGange, J.W. Nelson & G.S. Lester. 1980. Catalog of California seabird colonies. U.S. Dep. Int., Fish and Wildl. Serv., Biol. Serv. Program, FWS/OBS 37/80. 371 pp.

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