A second wild breeding population of the Aleutian Canada Goose

Discovery of another relict breeding population of this endangered race increases hopes for recovery

Edgar P. Bailey and John L. Trapp

THE MYSTICAL, FOG-SHROUDED Aleutian Islands have lured adventurers and naturalists to their shores since the initial exploration of Vitus Bering and George Steller in 1741. Wetmore (1936, 1937), a member of one of the earliest ornithological expeditions to the islands in 1911, was the first to make the general public aware of the immense seabird colonies and their unique inhabitants. Another unique, though much less conspicuous, member of the Aleutian Islands avifauna is the Aleutian Canada Goose (*Branta canadensis leucopareia*). This subspecies, first recognized by Brandt in 1836 (Marquardt and Pribil 1962) and accepted as a distinct race by Delacour (1954), is well adapted for surviving in the harsh, maritime climate of the Aleutians. However, like most other insular birds it is ill equipped for coping with mammalian predators introduced by man.

Introductions of Arctic Foxes (*Alopex lagopus*) and Red Foxes (*Vulpes fulva*) for fur farming enterprises, which began about 1836 and reached a peak in the early 1900s, resulted in widespread extirpation of breeding geese in the Aleutian Islands by the late 1930s (Jones and Byrd 1979). The only known breeding site in recent years has been Buldir Island, located near the western end of the archipelago, where foxes were not introduced (Jones 1963, Byrd and Woolington 1983).

GOOSE SIGHTINGS

WHILE CONDUCTING SEABIRD surveys during June and July 1982 we sighted Aleutian Canada Geese at two localities in the Islands of Four Mountains group, located about 1600 km southwest of Anchorage. On June 12, we spotted three geese flying about 1 km off the south end of Amukta Island (52°30′N, 171°16′W) and 12 birds were observed flying in the same area on the following day. Although we couldn't confirm that they were Aleutians, the presence of any other subspecies this far west was highly unlikely. The date seemed late for spring migration. Might these birds be breeding on Amukta? We are not aware of any previous sightings of Canada Geese at Amutka.

We circumnavigated Amukta, an active volcano, by inflatable boat, landed at three locations, and hiked across most of the southern portion of the island. We found Arctic Foxes, but no sign of geese. We then set our compass for Chagulak Island, 6 km to the northeast of Amukta, and barely visible in the gloomy overcast.

According to government records, Chagulak Island was leased in 1916 for fur farming. However, we knew that the island supports a minimum of 600,000 breeding seabirds, including one of the world's largest colonies of Northern Fulmars (*Fulmarus glacialis*) (Sowls *et al.* 1978)—good circumstantial evidence that foxes, if introduced at all, had never become established on this island. If Aleutian Canada Geese were breeding anywhere in the Islands of Four Mountains, Chagulak was the likely place. We therefore proceeded to Chagulak with great anticipation.

Chagulak Island (52°34′N, 171°08′W) is a rugged volcanic island that rises steeply to an elevation of 1154 meters. Its rugged slopes, mainly a series of knife-edged ridges capped by numerous pinnacles, terminate generally in rocky cliffs at or near the shore. The island is roughly circular, having a maximum diameter of about 3.2 km and a planar surface area of about 842 hectares. Except for its smaller size and steeper, more rugged terrain, Chagulak is topographically very similar to Buldir Island. Plant communities also appear to be similar. Like Buldir (Byrd 1984), Chagulak's sea slopes are covered by tall plants, including a grass-umbellifer community composed mainly of Beach Rye (*Elymus arenarius*) and several umbellifers, and upper plateaus covered by dwarf Arctic Willow (*Salix arctica*), moss, and other low plants.

Our first landing was on the west side on June 14. During our brief stay ashore we failed to note Aleutian Canada Geese or their sign among the swarming myriads of Northern Fulmars, Glaucous-winged Gulls (*Larus glaucescens*), Black-legged Kittiwakes (*Rissa tridactyla*), murres (*Uria* spp.), auklets (*Aethia* spp.), and puffins (*Fratercula* spp.) The next day we explored an extensive area on the northeast side from sea level to 310 m elevation but again found no signs of geese. Our hopes were starting to fade

On the afternoon of June 15, we landed on the south side and cautiously made our way up a steep, vegetated slope. Here we encountered fresh goose droppings at about 155 m elevation. Droppings became more abundant at 215 m and we found evidence of extensive grazing on Fescue Grass (*Festuca rubra*), Spring Beauty (*Claytonia sibirica*), and sedges

(*Carex* sp.). Suddenly, we heard Canada Geese calling somewhere in the dense fog As we stood there in suspense, two adult Canada Geese emerged from the fog and landed nearby.

Both birds had a broad ring of white feathering at the base of their necks, which is a useful feature for distinguishing Aleutian Canada Geese from other subspecies (U.S. Fish and Wildlife Service 1982). Although they behaved as if they were on territory, we were unable to locate a nest or brood.

On June 16, 62 adult birds in a loose flock were feeding and loafing at about 310 m elevation in an upland tundra association (similar to flock feeding areas at Buldir—Byrd and Woolington 1983, Trapp *pers. obs.*) on the southwest side of the island. Flocking behavior at this time of year suggested most of the birds were non-breeders. Fog, wind, and rain prevented further observation of geese at that time.

We did not return to Chagulak until July 10, when fair weather again allowed us to land. Although we knew that Aleutian Canada Geese were present, we wanted to confirm our suspicions that they nested there. We went ashore on the north side of the island and proceeded up a steep, grassy slope. At an elevation of about 280 m we observed four adult birds sitting in a rocky slide area. The birds were separated in groups of two, as if paired, but gave no indication of defending a territory. A fifth adult was seen sitting several hundred meters further down the slide and behaved like a male guarding a nest.

Shortly thereafter, at the same elevation in a boulder-strewn area with Bluejoint (*Calamagrostis canadensis*) and Beach Rye, we encountered a pair of adults that behaved as if they had a nest with eggs or a brood of young nearby. Only when approached very closely did they flush. Upon flushing they circled, or flew back and forth over the area, calling repeatedly; they always returned and landed near where they were first encountered. This behavior is characteristic of pairs with young (G.V. Byrd, *pers. comm.*). At 180 m elevation, and less than 300 m from where the territorial pair was observed, a female was flushed from a nest containing four eggs. One cold egg was outside the nest. The nest was situated at the base of a large boulder and was surrounded by Beach Rye about 0 5 m tall, interspersed with Bluejoint and umbellifers. The site was on a 35° slope and had a northeast aspect. The plant community was similar to the Bluejoint-umbellifer favored for nesting at Buldir (Byrd and Woolington 1983). Rapidly deteriorating weather precluded any searching for nests or young elsewhere on the island.

On May 17, 1983, Bailey and three other biologists returned to Amutka Island to eradicate foxes. Our hope is that geese on nearby Chagulak will begin nesting on Amutka following the removal of foxes. During the five weeks Bailey spent on Amutka he saw geese flying around the island on several occasions. On June 13, he travelled to Chagulak and remained on the island for five days. He saw approximately 30 geese on the island, fewer than in 1982. In 1983, he managed to climb the southeast arm of the island for the first time; two evidently territorial pairs were encountered in this rugged area. The most significant observation in 1983 was the sighting of three banded geese, including one with a red plastic band on its right tarsus. Red tarsal bands have been used only on Aleutian Canada Geese trapped on their wintering grounds in northern California.

DISCUSSION

CHAGULAK ISLAND LIES well within the historical breeding range of the Aleutian Canada Goose, and presumably foxes were never released on it. That the presence of this population went unnoticed for so many years is easily explained, for the forbidding topography of the island and prevailing weather conditions are enough to discourage most thoughts of exploration. Just getting on the island is a difficult chore that can be accomplished on only a few days each year.

Biologists have landed on the island only on three other occasions. In 1937, Olaus J. Murie went ashore briefly, but his account (*unpub. ms.*) suggests he did not reach the higher elevations of the island where we found geese. However, while Murie was ashore, the captain of the M/V *Brown Bear* reported seeing a "small goose" swimming in the water near shore (Murie 1959). Three summers later Gabrielson (1940) spent a few hours ashore but reported no geese. In July 1963, Vernon D. Berns landed with Robert D. Jones, Jr. He explored a small portion of the southeast side of the island on foot, but found no geese (Berns and Jones, *pers. comm.*). In June 1973, Bailey and others circumnavigated the island in clear weather and saw no geese.

None of the 87 or more geese spotted at Chagulak and Amukta islands in 1982 had plastic neck collars or tarsal bands Therefore, the birds were not likely to have been pioneering individuals from the expanding Buldir Island population, or to have originated from the hundreds of captive-reared geese released in the western Aleutians during the past decade (U.S. Fish and Wildlife Service 1982) We postulate that the birds breeding on Chagulak Island represent a relicit population of Aleutian Canada Geese that has been overlooked because of the extremely precipitous terrain of this remote island. The sighting of a color-banded goose at Chagulak in 1983 suggests that birds from that population may winter in the same area in California as birds from Buldir Island.

Based on little more than subjective impressions, we estimate that Chagulak supports less than 50 nesting pairs of Aleutian Canada Geese. In arriving at the above figures we assumed that ¼ to ½ of the island is suitable for nesting geese and that densities were similar to those recorded at Buldir Island in the mid-1970s (Byrd and Woolington 1983). The total population of Aleutian Canada Geese on the island could be as many as 200 birds.

Of the many strategies implemented in an effort to restore Aleutian Canada Geese to a non-endangered status (Byrd and Springer 1976, Springer *et al.* 1978, U.S. Fish and Wildlife Service 1982), the most successful to date has been hunting closures imposed on the wintering grounds in California and Oregon. As a result of these closures the population has increased more than fourfold, from about 790 birds in 1975 to 3500 birds in 1982 (P.F. Springer, *in litt.*). The response of the birds to these protective measures is encouraging, but one obstacle prevents the full recovery of the subspecies: the lack of suitable fox-free nesting islands Although a fox-removal program has been conducted in the Aleutian Islands since 1949, foxes have been eliminated from only four islands. We believed that all foxes were eliminated on Amutka in 1983; biologists returned in 1984 and verified this. Also, they reported small flocks of geese already grazing on Amutka. We recommend that greater emphasis be placed on fox-removal efforts, thus providing additional suitable nesting habitat for pioneering geese.

SUMMARY

ALEUTIAN CANADA GEESE WERE FOUND nesting on Chagulak Island in the east-central Aleutian Islands, 900 km east of the only previously known breeding location. The total population was estimated at under 200 birds, and the authors speculate that the island may support up to 50 nesting pairs. This population provides another source of wild birds for natural expansion of range following eradication of foxes from selected nearby islands, and enhances the likelihood of the successful restoration of this endangered race of the Canada Goose.

ACKNOWLEDGMENTS

WE ARE PARTICULARLY INDEBTED to Nina H. Faust and David McCargo, volunteer assistants who participated in all aspects of the 1982 surveys including the goose searches. Fredric Deines and Don Dragoo accompanied us on our visit to Chagulak on July 16 and were very helpful in locating the nest. Deines, McCargo, and Chris Ambroz assisted in the search for geese on Chagulak in 1983. Finally, we thank Michael Amaral, G. Vernon Byrd, Dirk V. Derksen, Robert D. Jones, Jr., Paul F. Springer, Elaine B. Rhode, Daniel E. Timm, and C. Fred Zeillemaker for critically reviewing the manuscript. Tessie Chilton, Patricia Heglund, and Nancy Verrecchio typed several versions of the manuscript.

LITERATURE CITED

BYRD, G.V. 1984. Vascular vegetation of Buldir Island, Aleutian Islands, Alaska, compared to another Aleutian Island. *Arctic* 37: in press.

—— and P.F. SPRINGER. 1976. Recovery program for the endangered Aleutian Canada Goose. *Cal-Neva Wildl. Trans.* 1976: 65-73.

—— and D.W. WOOLINGTON. 1983. Ecology of Aleutian Canada Geese at Buldir Island, Alaska. U.S. Fish and Wildlife Service Spec. Sci. Rep.—Wildl. 253.

DELACOUR, J. 1954. The waterfowl of the world. Vol. 1. Country Life, Ltd., London. 284 pp.

GABRIELSON, I.N. 1940. America's greatest bird concentrations. *Bird-Lore* 42:497-506.

JONES, R.D., JR. 1963. Buldir Island, site of a remnant breeding population of Aleutian Canada Geese. *Wildfowl Trust Ann. Rept.* 14: 80-84.

—— and G.V. BYRD. 1979. Interrelations between seabirds and introduced mammals. *Wildl. Res. Rept.* 11: 221-226.

MARQUARDT, R.E. and C.E. PRIBIL. 1962. The *Anser leucopareius* of Brandt. *Proc. Okla. Acad. Sci.* 42: 274-279.

MURIE, O.J. 1959. Fauna of the Aleutian Islands and Alaska Peninsula. *North American Fauna* 61: 1-364.

SOWLS, A.L., S.A. HATCH, and C.J. LENSINK. 1978. Catalog of Alaskan seabird colonies. FWS/OBS-78/78.

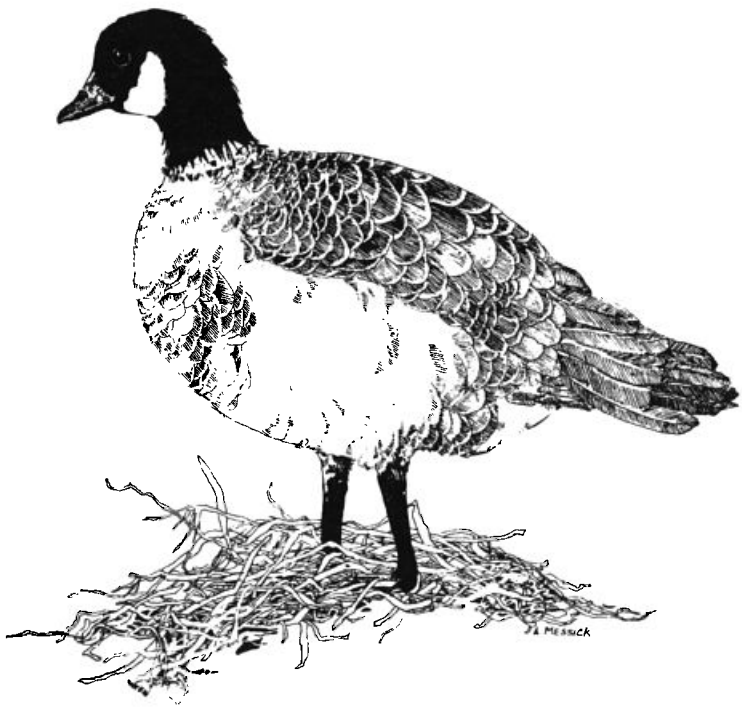
SPRINGER, P.F., G.V. BYRD, and D.W. WOOLINGTON. 1978. Reestablishing Aleutian Canada Geese. Pp. 331-338 *in* S.A. Temple (ed.), Endangered birds: management techniques for preserving threatened species. Univ. of Wisconsin Press, Madison.

WETMORE, A. 1936. Birds of the northern seas. *Nat. Geog. Mag.* 69: 95-122.

——. 1937. Birds of the northern seas. Pp. 323-345 *in* The Book of Birds. Vol. I. Nat. Geog. Soc.

U.S. FISH AND WILDLIFE SERVICE. 1982. Aleutian Canada Goose Recovery Plan. Prepared by Aleutian Canada Goose Recovery Team. 42 pp.

—U.S. Fish & Wildlife Service, Alaska Maritime Nat'l. Wildlife Ref., 202 W. Pioneer Ave., Homer, AK 99603 (Bailey), *U.S. Fish & Wildlife Service, Marine Bird Manage. Proj., 1011 E. Tudor Rd., Anchorage, AK 99503* (Trapp).



Aleutian Canada Goose. Drawing by Lyla R. Messick.