

HAWAIIAN GOOSE

HAWAIIAN NAME: Nēnē

SCIENTIFIC NAME: *Branta sandvicensis*

POPULATION STATUS: Endangered

DESCRIPTION: Hawai‘i’s state bird. Medium-sized goose. Overall length is approximately 25 inches. Black head, bill, tail feathers, legs, and webbed feet. Cheek patch and neck buff-colored; neck deeply furrowed. Gray/brown body; heavily barred above and lightly barred below with white rump. Sexes have similar plumage. Males slightly larger and heavier than females. Adults produce soft mewling or mooing sounds, loud cackling calls (when alarmed), and typical goose-like trumpeting sounds. Differs from Canada Goose; neck is not solid black. Webbed feet evolved for walking on lava, receded from toes.



Adult Nēnē
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TAXONOMY: The only surviving endemic goose species of six described from the Hawaiian Islands. In subfamily Anserinae, tribe Anserini with other true geese. Using genetic information, scientists theorize that nēnē and the Canada goose diverged from a common North American ancestor less than three million years ago. Recent treatment places nēnē in the genus *Branta* (composed of 5 species) rather than the monotypic genus *Nesochen*.

CURRENT DISTRIBUTION: Reintroduced populations occur on the islands of Hawai‘i, Kaua‘i, Maui, and most recently on Moloka‘i. Found in variety of habitats including sparsely vegetated, high-elevation lava flows; volcanic deserts; native alpine grasslands and shrublands; open native and non-native alpine shrubland/woodland interfaces, and non-native grasslands (e.g., pastures, rural areas). Some nēnē are also found on golf courses.

Distribution of populations largely determined by locations of release sites for captive-bred nēnē. On the island of Hawai‘i, nēnē populations are at several locations between sea level and 7900 feet. Kaua‘i populations are found at low elevations—sea level to 600 feet—with one population found between Kipu Kai and the Westin Kauai Lagoons and the other population ranging from Kapa‘a to Kilauea. On Maui, populations are on Haleakalā between 5500-8000 feet and on the West Maui Mountains between 3000-4000 feet.

CURRENT POPULATION SIZE AND TRENDS: Statewide population over 1300: 200 on Hawai‘i, 700 on Kaua‘i, 450 on Maui (250-300 Haleakalā National Park), and 74 on Moloka‘i. Populations are increasing on Kaua‘i and Moloka‘i. Hawai‘i and Maui populations are static (not increasing nor decreasing). See *Limiting Factors* for reasons why populations are not increasing.

FORMER STATUS AND DISTRIBUTION: Probably once occurred on all main Hawaiian Islands but no fossil evidence yet found on O‘ahu and Ni‘ihau. Past population size unknown. At the time of European contact, populations were only known with certainty on the island of Hawai‘i. Population declined after 1800 as birds were extirpated in lowland habitats. Decline accelerated between 1850 to 1900. Between 1900 and 1944 range and number further reduced to upland habitats in more remote areas. Numbers reduced to about 30 birds by the 1952. Captive propagation programs began in 1949. Captive-bred nēnē have been released at various locations throughout the State since 1960.

If a Maui population existed at the time of western contact, it was extirpated prior to 1890. Haleakalā National Park was chosen as the reintroduction site on Maui. Approximately 500 birds were released at the Park through a captive propagation program, which began in 1962 and ended in the late 1970s.

The two populations on Kaua'i resulted from accidental and intentional releases. W.H. Shipman Ranch provided Kipu Kai Ranch on the southeast side of the island with several nēnē in the late 1960s. In 1982, twelve captive nēnē at Kipu Kai Ranch escaped during Hurricane 'Iwa and successfully bred in the wild. Captive-bred birds have also been released at Kilauea Point National Wildlife Refuge since 1991 and have successfully bred as well.

FEEDING HABITS: Diet includes over 30 species of native and introduced plants. Browse/graze primarily on leaves and seeds of grasses and sedges, leaves and flowers of composites, and various fruits. Feed in altered non-native and remaining remnant native ecosystems.

NESTING HABITS: Extended breeding season from October through March. Mates are together for life. Nests are built on the ground using variety of habitat types and elevations. Nests are bowl-shaped in shallow scrape lined with vegetation and down, usually hidden under shrubs. Females lay 2-5 eggs per nest. Re-nesting may occur if eggs are abandoned or destroyed prior to hatch. The female incubates the eggs while the male guards the nest. Incubation is about 30 days.

YOUNG BIRDS: Goslings are raised by both parents. Fledging occurs at 10-12 weeks after hatch. Adults molt following breeding season; they are flightless for 4-6 weeks, generally gaining flight feathers at same time as their offspring.



REASONS FOR POPULATION DECLINE: Habitat loss and the impacts of introduced mammals were the major reasons for decline during the early part of this century. Dogs, cats, mongooses, rats, and pigs prey on nēnē. Feral cattle, goats, pigs and sheep also adversely alter nēnē habitat. Hunting originally brought populations down but is now illegal. Poor hatching success also responsible for population decline.

LIMITING FACTORS: Limiting factors include predation by introduced mammals (mongooses, feral cats, and dogs) on eggs, goslings, and occasionally adults; habitat availability; habitat loss; insufficient nutritional resources for breeding females and for goslings; human-caused mortality; and potentially, genetic homogeneity.

CURRENT MANAGEMENT: Predator control in known nesting areas on Maui. Maintenance of fences to prevent damage by goats, pigs, and dogs. Population monitoring. Captive propagation and release programs. Search for additional release sites to establish new populations. Encourage and support research on limiting factors and management techniques. Public education and information programs.

PUBLIC INVOLVEMENT: Cooperation with non-profit groups to promote nēnē awareness. The Adopt-A-Nēnē Program is run cooperatively with the Friends of Haleakalā National Park, Inc. Proceeds benefit nēnē across the State.