

## Water Birds

Photo of Nene

# Nene or Hawaiian Goose

*Branta sandvicensis*

### **SPECIES STATUS:**

Federally Listed as Endangered

State Listed as Endangered

State recognized as Indigenous

Hawai'i Natural Heritage Ranking G1-Critically Imperiled

IUCN Red List Ranking-Vulnerable

**SPECIES INFORMATION:** Of the five or so endemic goose species known to have existed in the Hawaiian Islands, the nene is the only species to survive today. Flocks are known to move seasonally, with an extended breeding season with eggs occurring all year round (except May, June, and July). The majority of the birds nest during the winter season between October and March, with the greatest number of first clutches produced between October and December. Nene are ground nesters with nests consisting of shallow scrape, moderately lined with plant materials and down. Nests are usually well-hidden in dense shade of shrub or other vegetation. They are browsing grazers, with the combination of their diet depending largely on the vegetative composition of their surrounding habitat. Considered opportunistic feeders. Majority of food items consist of leaves and seeds of grasses and sedges, leaves and flowers of various herbaceous composites, and various fruits of several species of shrubs. Nene are considered generalists and require a diverse suite of food availability that may include nonnative and native vegetation. More terrestrial than other water birds.

**DISTRIBUTION:** Historically found in all the main Hawaiian Islands, including Hawai'i, Maui, Ka-ho'olawe, La-na'i, Moloka'i and Kaua'i. Historical population abundance is limited by understanding of species composition of vegetation prior to the arrival of the Polynesians. Current distribution is on the islands of Hawai'i (144 at Hawai'i Volcanoes National Park and 205 scattered throughout the rest of the island, including Hakalau Forest NWF, Kahuku, Keauhou, Kipuka 'Ainahou, Pohakuloa, and Pu'uwa'awa'a), Maui (200-230 at Haleakala National Park, 95 on west Maui), and Kaua'i (620, some at Crater Hill), including a released group on Moloka'i of 66 birds.

Map of Nene distribution

**ABUNDANCE:** Estimated population for the state is 1,300-1,500 with all populations having been or currently supplemented by captive-bred birds.

**LOCATION AND CONDITION OF KEY HABITAT:** Historically found to frequent low land dry forest, shrubland, grassland and montane dry forest and shrubland; current habitat preferences are highly influenced by the location of release sites for captive-bred birds. On the island of Hawai'i, nene can be found from sea level to 7,900 feet (2,400 m), on Maui from sea level to as high as 7,700 feet (2,348 m), on Kaua'i where populations are found at low elevations ranging from sea level to 600 feet (183m) (with the exception of the Na Pali Coast where they are found at 1,650 feet or 503 m). Nest sites include various habitat types ranging from beach strand, shrubland, and grassland to lava rock and elevations from coastal lowlands to alpine areas and on Moloka'i from sea level to 900 feet (274 m). On Hawai'i and Maui, most nests are built under native vegetation such as pukiawe, 'a'ali'i, and 'ohi'a. On Kaua'i however, with its alien dominated nesting areas, nene use Christmasberry, lantana, and ironwood for their nests. Current community types utilized by nene include coastal dune vegetation and nonnative grasslands (e.g. golf courses, pastures, rural areas), sparsely vegetated low and high elevation lava flows, mid-elevation native and nonnative shrubland, early successional cinderfall, cinder deserts, native alpine grasslands, and shrublands, and open native and nonnative alpine shrubland-woodland community interfaces.

**THREATS:** Historical threats include habitat loss, hunting pressures, and alien mammal introductions. Current threats include predation (leading cause), nutritional deficiency due to habitat degradation, lack of lowland habitat, human-caused disturbance and mortality (e.g. hit by cars, disturbed by hikers, etc.) behavioral problems, and inbreeding depression.

**CONSERVATION ACTIONS:** The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. Past and current actions include captive propagation and release of populations, predator control, creation of a studbook, habitat enhancement, research and monitoring, private conservation efforts, and the formation of the Nene Recovery Action Group as well as public education. In addition to common state-wide and island conservation actions, specific actions include:

- Identify and protect year-round and seasonally-used nene nesting and rearing habitat as well as associated summer flocking habitat;
- Increase predator control and habitat enhancement efforts;
- Create standard monitoring protocols;
- Minimize human-nene conflicts through increasing public educational opportunities;
- Develop a state-wide, long-range management plan for populations in the islands.

**MONITORING:**

- Continue surveys of population and distribution in known and likely habitats, particularly nest sites;
- Efficiency of predator control techniques.

**RESEARCH PRIORITIES:**

- Studies on diet and nutrition, particularly as it relates to intake of nonnative/native vegetation and needs of goslings related to development and breeding females;

**DRAFT:** Hawaiian Goose, March 25, 2005

- Role of disease and resilience in limiting populations
- Pursue better predator control methods;
- Examine role of other factors in limiting populations;
- Determine carrying capacity of habitats.

**References:**

U.S. Fish and Wildlife Service. 2004. Draft Revised Recovery Plan for Hawaiian the Nene or Hawaiian Goose (*Branta sandvicensis*). U.S. Fish and Wildlife Service, Portland, OR. 148+xi pp.

IUCN Red List of Threatened Species. <http://www.redlist.org/search/details.php?species=3061>

Banko, Paul C., Jeffrey M. Black, and Winston E. Banko. 1999. Hawaiian Goose (*Branta sandvicensis*). In the Birds of North America, No. 434 (A. Poole and F. Gill, eds). The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, D.C.