



Photo: David Smith

## Seabirds

# 'Iwa or Great Frigatebird *Fregata minor*

### SPECIES STATUS:

State recognized as Indigenous  
NatureServe Heritage Rank G4 -  
Apparently secure

North American Waterbird Conservation Plan - Moderate concern  
Regional Seabird Conservation Plan - USFWS 2005

**SPECIES INFORMATION:** The 'iwa or great frigatebird is a large, graceful seabird (Family: Fregatidae) related to boobies and tropicbirds, with a pantropical distribution. Five 'iwa (great frigatebird) subspecies are recognized, and one (*F. m. palmerstoni*) breeds in Hawai'i. Individuals have slim bodies, a long deeply forked tail, a long hooked bill, and almost useless legs and feet. Adult males are almost entirely black, with varying amounts of a dark green sheen on head and neck; during courtship males inflate large, red gular pouch. Adult females are larger than males, and are black with a white breast patch and a gray throat; both sexes may have a buff bar on the upper surface of wings. Flight is characterized by long periods of soaring. An adept aerial flier, the species obtains some of its food by harassing other seabirds until they regurgitate their prey. Although 'iwa (great frigatebird) captures most of its own prey, this behavior inspired both its Hawaiian and English names: 'iwa means "thief" and "frigate" refers to the fast ships used by pirates. Often feeds far from land alone or in pairs, but will join mixed species feeding flocks, especially 'ewa'ewa or sooty terns (*Sterna fuscata*) and 'ua'u kani or wedge-tailed shearwaters (*Puffinus pacificus*), feeding over schools of predatory fishes. 'Iwa (great frigatebird) take prey on the wing, seizing it by dipping bill into water or from the air. In Hawai'i, diet primarily consists of flyingfish and squid. Nests in colonies, often with other species, ranging from ten to thousands of pairs, and constructs platform nests in low bushes. Unlike many seabirds, pairs usually switch partners every breeding season, likely because females often only nest every two to four years. Both parents incubate single egg, and brood and feed chick. Post-fledging feeding is provided by female for up to 18 months. Birds first breed at eight to ten years of age, and the oldest known individual was 37 years old.

**DISTRIBUTION:** 'Iwa (great frigatebird) breed throughout the NWHI. Large numbers roost on offshore islets of the MHI, but breeding has not been documented. Outside of Hawai'i, 'iwa (great frigatebird) nest on islands mainly in the tropical Atlantic, Indian, and Pacific oceans. Outside the breeding season, adults remain relatively close to breeding colonies, but young and nonbreeders disperse throughout tropical oceans.

**ABUNDANCE:** In Hawai'i, population is estimated at 10,000 breeding pairs with the largest breeding colonies occurring on Nihoa (3,500 - 4,500 pairs) and Laysan (2,000 - 2,500 pairs). Smaller colonies in NWHI include French Frigate Shoals (350 - 375 pairs), Necker (700 - 900 pairs), Lisianski (750 - 850 pairs), Pearl and Hermes Atoll (300 - 400 pairs), and Kure Atoll (200 -

250 pairs). Worldwide population is estimated at 500,000 – 1,000,000 individuals. Numbers at roost locations in MHI include Moku Manu (0 - 1 pairs), Ka'ula (250 – 350 pairs), and Lehua (5 - 10 pairs).

**LOCATION AND CONDITION OF KEY HABITAT: Terrestrial:** 'Iwa (great frigatebird) breed and roost on small remote islands, typically within regions with tradewinds. Builds nests in the tops of various species of bushes and trees, including beach naupaka (*Scaevola sericea*), beach heliotrope (*Tournefortia argentea*), pisonia trees (*Pisonia grandis*), and mangrove trees (*Brugiera* spp., *Rhizophora* spp.) **Marine:** Pelagic.

#### **THREATS:**

- Introduced predators. Like all seabirds, adults and nests susceptible to predation by rats (*Rattus* spp.) and feral cats (*Felis silvestris*). All sites in NWHI are free of rats and cats.
- Habitat degradation. Introduced herbivores, insects, and plants can degrade native vegetation used for nesting. Rabbits (*Oryctolagus cuniculus*) denuded vegetation on Laysan, Lisianski, and Lehua islands greatly reducing nesting habitat; with the eradication of rabbits, Laysan and Lisianski have since recovered and support large colonies.
- Overfishing. Because 'iwa (great frigatebird) rely on predatory fish to drive prey to the surface, overfishing may eventually affect Hawaiian populations.

**CONSERVATION ACTIONS:** The following management goals are important to Pacific seabird conservation: maintain, protect, and enhance habitat; eradicate or control non-natives; minimize bycatch and other negative effects of fishing; improve the effectiveness of oil spill response efforts; identify contaminants and hazardous substances; and minimize the effects of powerlines, towers, wind turbines and lights (USFWS 2005). The goal of these management actions is not only to protect seabird populations and their breeding colonies, but also to re-establish former breeding colonies thereby reducing the risk of extinction. In addition to these efforts, future management specific to Hawaiian populations of 'iwa (great frigatebird) should include the following:

- Eradication and control of introduced predators at current and potential breeding colonies.
- Continue protection and management of wildlife sanctuaries and refuges.

**MONITORING:** Continue surveys of population and distribution in known and likely habitats.

**RESEARCH PRIORITIES:** Most research priorities for seabirds are related to determining the most appropriate methods for achieving the above goals. Research priorities specific to 'iwa (great frigatebird) should include the following:

- Surveys of colonies to determine current population status.
- Model interactions and importance of predatory fish, seabirds, and their prey to determine the long-term effects of overfishing on 'iwa (great frigatebird) populations.

#### **References:**

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