

Raptors

Pueo

Asio flammeus sandwichensis

SPECIES STATUS:

State listed as Endangered on O'ahu
State recognized as endemic at subspecies level
Hawaii Natural Heritage Ranking G5,T2—species secure,
subspecies imperiled

SPECIES INFORMATION: The pueo, or Hawaiian short-eared owl, is an endemic subspecies of the North-American short-eared owl, *Asio flammeus*, which is thought to have colonized the Hawaiian islands sometime after Polynesians arrived. Unlike most owls, pueo are active during daylight hours, and so are commonly seen soaring over open areas. Short-eared owl diets elsewhere consist primarily of small mammals; in Hawai'i, they are also known to take insects, and birds. Little is known about the breeding biology of pueo, but nests have been found throughout the year. In North America, short-eared owls are seasonally monogamous. Sky dancing displays are part of courtship. Nest bowls are scraped out on the ground by females, who also incubate and brood. Males feed females and defend nest. Chicks hatch asynchronously and are fed by female. They disperse from the nest on foot before they are able to fly. Short-eared owls may nest colonially.

DISTRIBUTION: Pueo are resident from sea level to 2450 meters (8000') on the main Hawaiian islands. They are known in both wet and dry forests, but are most common in open grasslands. They do not exist in the fossil record, which indicates a post-Polynesian colonization by this species.

ABUNDANCE: Unknown. Because of relatively few detections, the Hawai'i Forest Bird Survey did not estimate pueo population size. Pueo were considered widespread at the end of the 19th century, and are thought to be declining.

LOCATION AND CONDITION OF KEY HABITAT: Pueo habitat occupy a variety of habitats, but they are most common in grasslands, shrublands and montane parklands. Pueo are ground nesters. As such, nests are vulnerable to predation by mongoose and feral cats. Because this species occurs across such a broad range of native and severely human-altered habitat, the condition of its key habitat can only be described as varied. Known habitat ranges from urban to areas actively managed for conservation.

THREATS: Pueo are subject to similar threats as other Hawaiian birds, but their presence in lowland exotic and rangeland habitats makes these difficult to quantify. Of particular concern are the following:

- Disease may affect pueo. Because their range includes low-elevation habitat where malaria is prevalent, pueo are thought to be immune. However, deceased birds on Kaua'i have led to the description of "sick owl syndrome", which may be related to pesticide poisoning or food shortages;
- Predation of eggs and young by alien mammals inhibits pueo reproductive success;
- Habitat loss due to development, particularly on O'ahu, likely affects pueo;
- Contaminants or toxins may pose a threat to pueo;
- Human interaction relating to vehicular collisions may pose a potential threat to the overall population of pueo. Deaths resulting in vehicular collisions have been observed on both Lanai and the island of Hawai'i.

CONSERVATION ACTIONS: No specific conservation actions target pueo, though they may benefit from actions taken on behalf of native forest birds. They may also have benefited from actions taken to protect and enhance game bird populations as their highest densities occur in open rangeland where game bird species are also common. Specific actions needed include:

- Determination of population trends, especially on islands where "sick owl syndrome" appears to be affecting the species;
- Public outreach and education;
- O'ahu specific actions...?

MONITORING:

- Regular island-wide population surveys will be necessary to understand population trends.

RESEARCH PRIORITIES:

- Analysis of population trends and changes in habitat occupancy;
- Assessment of "sick owl syndrome" cause and effects on populations;
- Assessment of vehicular collisions and the level of threat it poses to the overall population.

References:

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