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Migratory Birds

Kōlea or Pacific Golden-Plover

Pluvialis fulva

SPECIES STATUS:

State recognized as Indigenous
U.S. Shorebird Conservation Plan - High concern

SPECIES INFORMATION: The kōlea or Pacific golden-plover is a moderately small yellow-and-buff mottled shorebird (Family: Charadriidae) which winters in the Main Hawaiian Islands (MHI) and breeds in Siberia and westernmost Alaska. Most adults arrive in Hawai'i in August, while juveniles arrive in October; spring departures begin in late April. Kōlea feed primarily on terrestrial insects such as cockroaches, moths, caterpillars, and earwigs, all of which they locate by sight. During the breeding season, they are also known to eat berries, leaves, and seeds. Kōlea show high site fidelity to wintering grounds and will chase intruders from their territories while foraging. Hawai'i is thought to support a large proportion of the world's wintering kōlea population.

DISTRIBUTION: Kōlea winter across the tropical Pacific, in upland and coastal areas from Hawai'i to Japan. In Hawai'i, kōlea are more common in NWHI year-round, but between August and May are also commonly seen on all of the MHI.

ABUNDANCE: Reliable estimates of the global kōlea population have not been made. One estimate of the east Asian population was 90,000, while the population of the MHI has been estimated at 74,000 individuals. In the late 1960s, the O'ahu population was estimated at about 15,000. From 1986 to 2004, the average number of kōlea in Hawai'i State waterbird surveys has been about 950 ± 170 (SE) individuals across MHI. Estimated wintering densities range from 0.22 to 44.7 birds per hectare in wild habitats such as forest trails and coastal mudflats. Densities in developed habitats in Hawai'i have been estimated as 1.4 birds per hectare on golf courses and 5.2 birds per hectare on lawns.

LOCATION AND CONDITION OF KEY HABITAT: The winter range of kōlea is extremely varied, including crop fields, pastures, coastal salt marshes, mudflats, beaches, mangroves, grassy areas at airports, cemeteries, athletic fields, parks, residential lawns, golf courses, roadsides, and clearings in heavily wooded areas. In Hawai'i, birds also use open stands of ironwood (*Casuarina* spp.) and small urban lawns and gardens in areas such as downtown Honolulu. Military bases and airports often provide important wintering grounds. Where suitable habitats (pastures, etc.) occur on mountain slopes, kōlea range to at least 2,500 meters (8,125 feet) elevation. Extensive land-clearing in Hawai'i, dating back to the Polynesian colonization, has probably improved wintering conditions by creating open habitat with plentiful insects.

THREATS: Hunting was a significant threat until 1941 when it was prohibited, and populations are thought to have rebounded since then. Effects of pesticide exposure on wintering grounds and along migratory routes are unknown, but on golf courses in Hawai'i, kōlea come into contact with herbicides and pesticides that may be harmful. Aircraft strikes at Lihū'e (Kaua'i) and Kahului (Maui) airports occur occasionally in the fall, apparently as naive juvenile birds attempt to establish foraging territories on airport grounds.

CONSERVATION ACTIONS: To protect the ability of wintering kōlea to survive while in Hawai'i and to return in good condition to breeding grounds in Alaska, current statewide and island-specific conservation actions should include:

- Protection of current habitat.

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

RESEARCH PRIORITIES: Kōlea studies remain fragmentary, probably because the species is neither endemic nor endangered. Research priorities should include the following:

- Increased study of all aspects of ecology and behavior of kōlea in Hawai'i, and comparative research on unstudied populations elsewhere.
- Evaluation of conditions on winter range habitats as related to expanding human activities (e.g., agriculture, reclamation, urbanization, pollution).
- Increased effort to make accurate population estimates, along with systematic monitoring wherever possible to facilitate the recognition of trends and potential problems.

References:

Johnson OW, Connors PG. 1996. Pacific golden-plover (*Pluvialis fulva*). In *The Birds of North America*, No. 201-202 (Poole A, Gill F, editors). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.