

## COMMON GALLINULE

## *Gallinula galeata*

Other: 'Alae'ula, Koki mudhen, Hawaiian Moorhen, Hawaiian Gallinule, Common Moorhen

*G.g. sandvichensis*

### **native resident, endemic subspecies, endangered**

The Common Gallinule of the Americas and Common Moorhen (*G. chloropus*) of Eurasia were considered the same species until split in by the AOU (2011). The "Hawaiian Gallinule" (formerly "Hawaiian Moorhen") is considered a weakly differentiated subspecies, *G.g. sandvichensis*, of Common Gallinule (*cf.* Streets 1877a, 1877b; Stejneger 1887a, Rothschild 1900, but see Clements et al. 2016; [Synonymies](#)). This widespread and successful species-pair is found at tropical and temperate latitudes throughout the world (Dement'ev and Gladkov 1952, Cramp and Simmons 1980, AOU 1998, Taylor 1998, Bannor and Kiviat 2002, Wiles 2005). In the Pacific, Common Moorhens are found along the Asian coast from s. Siberia to the Philippines and Common Gallinules along the North American coast from n. California to n. Chile, with insular populations of this species-pair occurring on the Ryukyu, Bonin, Volcano, w. Micronesia, Clipperton, and Galapagos Is. It is possible that *sandvichensis* colonized Hawaii from the Americas only after the settlement of Polynesians, who brought taro (*Colocasia esculenta*) during the first millennium, increasing habitat preferred by gallinules. The Hawaiian name, 'Alae 'ula, means "burnt forehead" (*cf.* Munro 1944), and the gallinule was considered the keeper of fire in Hawaiian mythology (Dibben-Young 2009).

In the *Southeastern Hawaiian Islands* the Hawaiian Gallinule was found during the mid 2010s only on Kaua'i and O'ahu, although it formerly occurred throughout most of the Southeastern Islands, early ornithologists recording gallinules in suitable habitat throughout all islands except Kaho'olawe and Lana'i (e.g., Finsch 1880, Wilson and Evans 1899). Reasons for the gallinule's disappearance from Ni'ihau, Molok'ai, Maui, and Hawai'i are unknown, but may relate to a combination of hunting pressures, sparse and deteriorating breeding habitat, and predation from non-native mammals. Assessments during the 1970s-2000s put the total population at 750 birds (Shallenberger 1977a; USFWS 1985, 2005, 2011; Banko 1987b), although numbers show wide inter-annual fluctuation (see [Christmas Bird Count data](#)), and are difficult to use for population estimates. Statewide, [DOFAW Waterbird Surveys](#) show peaks in 1986 (290), 1996 (410), and 2005 (430). It was listed by the USFWS as a Federally Endangered Subspecies in March 1967, with predation on chicks by introduced bullfrogs (*E* 55:37), and perhaps mammalian predation during molting (Desrochers et al. 2008), presenting primary threats. They currently breed on Kaua'i and O'ahu year-round, peaking in Mar-Aug, and with a lull in activity in Dec-Jan (Berger 1972, 1981; Shallenberger 1977a, Byrd and Zeillemaker 1981b, USFWS 2011, VanderWerf 2013a).

On *Ni'ihau*, Ida E. Knudsen von Holt (1953), the collector Valdemar Knudsen's daughter, reported that Hawaiian Gallinules were numerous among inland wetlands during the 1870s. They apparently died out shortly thereafter, as G. Munro considered it almost unknown there (*E* 1:[2]:4, 59:20), Fisher (1951) does not include it in his summary of island birds, and Banko (1987b) reported no solid evidence that it ever occurred there. The Hawaiian Gallinule is perhaps most populous on *Kaua'i*. Numbers there appear to fluctuate widely, with reduced counts in the 1940-1950s (Schwartz and Schwartz 1949, Dibben-Young 2015), recent peaks during the late 1970s-early 1980s

around Lihue ([Graph](#)), and a fluctuating but gradually increasing population around Kapa'a ([Graph](#)). Longer-term time-series analyses by Reed et al. (2007, 2011) indicated that moorhens increased on Kaua'i between 1957 and 2007, but more slowly during the last ten years of this period. High counts for a single locale on Kaua'i are all at Hanalei NWR and include 65-72 in 1976-1977 (*E* 37:64; 38:6, 57), >200 during 1995-1996, 50-125 in 1997, 180 in Apr 2011, and 60 in Jan 2015. [DOFAW Waterbird Surveys](#) also show a broad island-wide increase from 40-50 birds in the early 1980s, to a peak of 345 in Aug 1996, a decline to 60 in 2002, and an increase to over 200 in the mid-2000s. Fluctuations are perhaps due, in part, to outbreaks of diseases such as avian cholera.

On *O'ahu*, Dixon (1789), Freycinet (1819), Bloxam (1827a, 1827b) and Meyen (1832) all noted "mud-hens" or gallinules. Since these early observations they have typically been described as uncommon throughout wetlands of the island, with most counts < 10 individuals. As on Kaua'i, occasional higher counts in single locales were noted; e.g., 97-108 along the N Shore in 1981-1983 (most at a lotus farm near Hale'iwa), 75 at Waipi'o 12 Aug 1985, and ~100 at the Ki'i Unit of JCNWR in fall 1991; during the early to mid 2010s single-locale high counts were lower, including 38 at the Kii Unit of JCNWR in Apr 2011 and 30 at Hamakua Marsh in Aug 2015. High counts on both Kaua'i and O'ahu are correlated with years of increased rainfall (Engilis and Pratt 1993), and seasonal movements are suspected (Banko 1987b). [DOFAW Waterbird Surveys](#) on O'ahu show long-term island-wide cycles, from a high of 230 in Aug 1986 to a low of 55 in 1995-1996 (concurrent with a large peak on Kaua'i) to a high of 230 again in Aug 2006. Time-series analyses by Reed et al. (2007) indicated that moorhens declined on O'ahu between 1957 and 2004, although increases have been observed on both the Honolulu ([Graph](#)) and Waipi'o ([Graph](#)) [Christmas Bird Counts](#).

Gallinules were formerly common on *Moloka'i* (Rothschild 1900, Shauinsland 1906, Bryan 1908; *E* 5:84, 24:46; see Dibben-Young 2009 for a summary), primarily in wetlands along the s. coast; reports from Halawa Valley in 1958 (*E* 18:68) appear to be the last of ancestral stock. In 1960-1969 HDFG released 31 moorhens on Moloka'i in hopes of revitalizing the population (Dibben-Young 2009, 2016), but 9 at Kalua'apuhi Pond 3 Sep 1969 (*E* 30:65) and a few other observations through 1973 appear to be the last evidence of these propagation attempts (Shallenberger 1977a, Banko 1987b, Dibben-Young 2009). In 1983 the USFWS again attempted reintroduction, of 6 birds at Kakahaia NWR (USFWS 1999, 2005, 2011); two of these were still present in January 1984 and one through 5 Feb 1986, but none have subsequently been recorded on Moloka'i (*E* 70:59; Dibben-Young 2016). On *Hawai'i I*, W. Ellis sketched one during Cook's visit to Kealakekua in 1779 (Wilson 1977) and several specimens were collected during the 1850s (BPBM). By the turn of the 19th century, however, numbers were beginning to dwindle both here (Henshaw 1902a) and on *Maui* (McGregor 1902), affected by draining of wetlands and severe hunting pressure. There are few reliable reports after about 1910 on either island, although Bryan (1958) indicated that they "probably" still existed on these islands and Schwartz and Schwartz (1949) mentioned continued occurrence on Maui. Attempted re-establishment of populations through small releases on Hawai'i (1938 and 1959) and Maui (1956-1959) were unsuccessful (Breese 1980, Banko 1987b, Dibben-Young 2009). Subsequently, there is one substantiated report of a well-described gallinule (presumably Hawaiian Gallinule) at Kukio Bay, Hawai'i, 21 Feb 2014. There are also unsubstantiated reports of single birds from Kanae Peninsula, Maui, in the early 1970s (Shallenberger 1977a), from Opaepula Pond, Hawai'i 8 Aug 1982, from [DOFAW Waterbird Surveys](#) on Maui in Jan 1987, Jan 1997, and Aug 2001 (2-3 individuals each),

and from Kanaha Pond, Maui, 17 Nov 2014. Banko (1979) summarizes 61 specimens known at the time, including 2-3 each from Moloka'i, Maui, and Hawai'i.

There is one report of *Gallinula* in the *Northwestern Hawaiian Islands*: an individual turned up on Midway 12-18 August 1988 where it became oiled and presumably perished. Photographs were taken but these, along with the potential to ascertain the origin and species of this individual, have been lost.

#### [Acronyms and Abbreviations](#)

#### [Literature cited](#)

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