

## HAWAIIAN CROW

*Corvus hawaiiensis*

Other: 'Alala

monotypic

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

The Hawaiian Crow is endemic to the island of Hawai'i in the *Southeastern Hawaiian Islands* (AOU 1998), where it was extirpated from the wild by the summer of 2002 (USFWS 2003a, Banko 2009). It is one of 3-5 species of *Corvus* known from the subfossil record of O'ahu, Moloka'i, Maui, and Hawai'i (Olson and James 1982b, James 1987, James and Olson 1991, Banko et al. 2002, Fleisher and McIntosh 2002). The number of colonizations and the derivation of Hawaiian corvids remains undetermined (James and Olson 1991, Banko et al. 2002), with an Australasian origin being thought by earlier naturalists (e.g., Bryan 1940) and suggested by osteological evidence (James and Olson 1991) but a closer relationship to the Holarctic [Common Raven](#) (*C. corax*) being suggested by molecular evidence (Fleisher and McIntosh 2001) and other factors (Mayr 1945, Banko 2009); the arrival of a Common Raven to Kure Atoll in Feb 2014 may support this. See W. Banko and Banko (1980) for historical accounts of Hawaiian Crow, and Berger (1972, 1981), Banko et al. (2002), and Banko (2009) for information on the biology, natural history, and conservation of this species. Banko (1979) summarizes information for 72 specimens of Hawaiian Crow known at that time.

Hawaiian Crows were first noted by Europeans on *Hawai'i I* during the late 1700s (King 1779, Ellis 1782, Cook and King 1784 and *in Beaglehole* 1967:630, Menzies 1794; see Medway 1981), often referring to them simply as "ravens", but they were not collected or described to science until the U.S. Expedition visited the island in Nov 1840 (Peale 1848). Peale's specimens were lost in the wreck of the *Peacock* at the mouth of the Columbia River, but he later based his description on specimens collected in the 1830s and sent (via J. Townsend) to Philadelphia by the missionary Cochran Forbes (ANSP 2830-2831; [HRBP](#) 5911 of specimens). A specimen reportedly collected in Hawaii during Cook's third voyage was described by Latham (1781-1785) as the "Tropic Crow" and referred to by Gmelin (1789) as *Corvus tropicus*. This was considered the initial description of Hawaiian Crow by some early naturalists and later taxonomists (see [Synonymies](#)), but the specimen has been lost and Latham's report appears to refer to a smaller bird with white in the plumage, most likely collected elsewhere during this voyage (Cassin 1858, Rothschild 1900, Stejneger 1900), and perhaps a drongo (Stresemann 1950, Medway 1981, *E* 44:1-2).

King (1779) reported that the "ravens" found on Hawai'i were "very scarce" and mentioned a couple of tame birds in Kealakekua that the locals would not sell and apparently revered with "adoration" (they were quite tame and the Hawaiian name for it, 'Alala, refers to the cry of a baby). Peale (1848) further noted that they were found in "small societies" in the interior, seldom visiting the coast, and Dole (1869, 1879) considered it "by no means abundant". It was regarded as fairly common to common in the late 1800s (Perkins 1893, 1903; Wilson and Evans 1899; Henshaw 1902a; Munro 1944), but was noted to be declining as early as 1896 (Perkins 1903). The known historic range was confined to mesic forests along mid-elevation (200-2,400 m) slopes of Hualalai and Mauna Loa, from Pu'uuanahulu to Hawai'i Volcanoes NP (W. Banko and

Banko 1980, Banko et al. 2002, Banko 2009). Its absence from the immediate coasts (Peale 1848) and slopes of Mauna Kea seemed puzzling to early ornithologists (e.g., Henshaw 1902a, Perkins 1903).

W. Banko and Banko (1980), Scott et al. (1986), and Banko (2009) summarize steady declines in Hawaiian Crow populations from the 1800s to the 1970s, apparently due to loss of suitable habitat and shooting by ranchers, who learned to attract them by vocalization (Munro 1944, Baldwin 1969b, Tomich 1971, Scott et al. 1986, Giffin et al. 1987, Duckworth et al. 1992, Banko et al. 2002, VanderWerf 2013a); reduction of food resources, predation of chicks by mongooses and [Hawaiian Hawks](#), and avian malaria have also been implicated (*E* 30:41-45; Banko 1976, Temple 1980, Giffin 1983b, Jenkins et al. 1989, Banko et al. 2002, VanderWerf 2013a). By 1937 numbers were "greatly reduced" from historical levels (Munro 1944), and the last record in Hawaii Volcanoes NP was for 1940 (Dunmire 1961). By 1978 during the [HFBS](#), the entire population was estimated at 76 birds, primarily in two disjunct populations on the upper slopes of Hualalai and Kona (USFWS 1982b, 1984b; Scott and Kepler 1985; Scott et al. 1986). During the ensuing 8 years the population dropped to <22 birds (HAS 1981-1986, Scott et al. 1986), apparently due to illegal shooting to avoid the implementation of conservation activities, especially on the slopes of Hualalai (Scott and Kepler 1985, Scott et al. 1985, Giffin et al. 1987). Despite extensive propagation efforts (summarized by Duckworth et al. 1992, Kuehler et al. 2001, Banko et al. 2002, Banko 2009; see also Walters 2006; *E* 48:114, 52:35, 53:25, 53:43, 53:56, 53:67, 55:4, 56:60) the population in the wild had diminished to 10-12 birds in 1989-1992 (HAS 1989-1992, Banko 2009), when the last successful breeding attempts were observed, and to 2 senescent birds in 2002, last observed in June of that year (see Banko 2009 for a summary of this period, as well as *E* 49:54, 58:51; *HE* 1[10]:1-5). Based on Poisson analyses of persistence probabilities, Elphick et al. (2009) estimated that the Hawaiian Crow would have gone extinct in 2006-2015 had they not been removed from the wild, with upper limits of 2013-2048.

Propagation efforts for Hawaiian Crow were initiated in the early 1970s and continued through the mid 2010s (Banko 2009, VanderWerf 2013a, BLI 2016). Early attempts met with little success, 3 fledglings produced by a captive pair in 1981 (Pyle 1981) being the only production recorded through the 1980s, but success increased during the 1990s with improved propagation facilities (Banko 2009, Lieberman and Kuehler 2009). A total of 27 young propagated birds from captivity were released during 1993-1999 but 21 of these birds had perished by 1999 and the remaining six were recaptured for safety and re-added to the captive flock (Conrow 1999, Banko et al. 2002, USFWS 2003a, Faike 2006, Banko 2009). The captive population, split between facilities on Maui and Hawai'i I, was expanding during the 2000-mid 2010s, totaling 41 birds in 2003 (*E* 63:43-44, USFWS 2003a), 53 birds in 2006, 60 birds in 2009, and over 100 birds in 2016, although the population may be suffering from inbreeding (Faike 2006). During the 2000s and early 2010s habitat management for return of Hawaiian Crows to the wild was undertaken (Banko 2009, VanderWerf 2013a; *E* 76:17-18) and in Nov 2016 five birds were released in the Pu'u Maka'ala Natural Area Reserve on the e. slopes of Mauna Loa. The area had been made predator free through fencing in preparation for the release. Further releases were planned in forests reserves in the Kulani-Keahou region and Ka'u District.

There are very few substantiated reports of Hawaiian Crow away from their known historical distribution (*cf.* Henshaw 1902a, W. Banko and Banko 1980). They were occasionally reported outside of the known range including near the coast in Hawaii Volcanoes NP and in Hilo in the 1960s and 1970s, primarily in Sep-Nov (W. Banko and Banko 1980), but none of these reports were fully documented. Other unsubstantiated reports include one near Kahalui, Maui 26 Oct 1970, observed between sightings in the Kohala Mts at the n. tip of Hawai'i in Sep and Nov 1970, suggesting that a single wandering individual crossed Hawai'i and visited Maui that fall (W. Banko and Banko 1980). Birds described as Corvids and reported as Hawaiian Crows were observed near the coast at South Point, Hawai'i, 8 Feb 1994, at Hana, Maui 28-29 Dec 1984, and near Kealia Pond NWR, Maui 4 Feb 2010, at times when there were fewer than 25 individuals remaining in the wild. These reports almost certainly refer to other species, perhaps escapes from captivity.

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

#### [Literature cited](#)

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