



Northern Aplomado Falcon

(*Falco femoralis septentrionalis*)

Aplomado falcons (*Falco femoralis*) inhabit desert grasslands and savannas of Latin America, and formerly inhabited desert grasslands and coastal prairies of Texas, New Mexico, and southeastern Arizona. The falcon ranges through most of South America, from Tierra del Fuego to Ecuador and Venezuela, and from near sea level to above 13,000 feet in the Andes, and is also found throughout Mesoamerica. The original description of the northern Aplomado falcon (*F. f. septentrionalis*) was based on specimens collected in 1887 at Fort Huachuca, AZ.

In the U.S., they were found along yucca-covered sand ridges in coastal prairies, riparian woodlands in open grasslands, and in desert grasslands with scattered mesquite and yucca.

The causes for decline of this subspecies have included widespread shrub encroachment resulting from control of range fires, intense overgrazing, and agricultural development in grassland habitats used by the falcon. By the 1870s, the railroad had connected the grasslands of southern New Mexico with the markets of the East, altering the economics of cattle production. Intensive cattle grazing caused massive erosion. Woody plants such as creosote bush and mesquite invaded the open grasslands.

Pesticide exposure was likely a significant cause of the subspecies' extirpation from the U.S.; the initiation of widespread DDT use after World War II coincided with the falcon's disappearance. Collection of falcons and eggs may have also been detrimental to the subspecies in some localities.

Biology

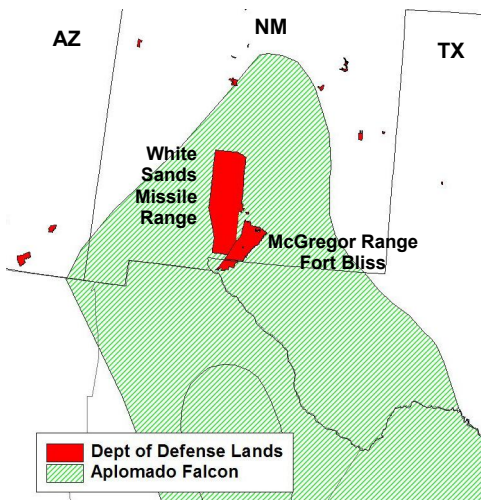
Aplomado falcons are a medium-sized falcon, approximately 14 to 18 inches in length with a wingspan of 31 to 40 inches. Sexes are similar in appearance, but females tend to be larger than males.



northern Aplomado falcon
Photo: Chris Eberly, DoD PIF

Adults have a steel-gray dorsal plumage ("aplomado" is Spanish for "gray" or "lead colored"), with a dark belly band or "cummerbund" separating a white to buffy upper breast and a cinnamon to rufous belly. Distinguishing adult field marks include bold face markings with a white streak over the eye and a long, narrow banded tail. The long wings and white trailing edge are easily distinguished while the Aplomado falcon is in flight. Adult females often retain dark streaks on the breast. Juveniles are similar to adults, except for browner upper parts and dark streaking on a buff-colored breast.

Mated falcon pairs remain together year-round and hunt cooperatively. Nesting typically occurs in birds greater than one year old. Aplomados do not build their own nests, but take over old or even freshly constructed nests of other raptors or corvids such as red-tailed hawk, Swainson's hawk, and Chihuahuan raven. Nesting occurs from March to June. The average clutch size is 2.6 to 2.8 eggs and brood size from 1.6 to 2.4. Fledgling success in Mexico was shown to be 0.53 to 0.94. Incubation lasts 31 to 33 days, and both sexes participate in incubation. Young birds leave the nest about 4 to 5 weeks after hatching.



Historic range of Aplomado Falcon in NM and west TX (NatureServe, 2003) and Department of Defense lands. Map: Chris Eberly, DoD PIF

Once considered common in its range within the U.S., populations declined rapidly after the 1930s. By the late 1950s, the northern Aplomado falcon was considered extirpated in the U.S. and was designated an endangered species in 1986.

Falcon habitat consists of open terrain with scattered trees or shrubs. In Mexico, they inhabit palm and oak savannas, open tropical deciduous woodlands, seasonally flooded coastal savannas and marshlands, desert grasslands, and upland pine parklands.



Falcon habitat, White Sands Missile Range in background. Photo: Chris Eberly, DoD PIF

Legal Status and Recovery

The northern Aplomado falcon is designated as endangered in Arizona, New Mexico, Texas, Mexico, and Guatemala. On July 26, 2006, a final rule on the establishment of a nonessential experimental population (NEP) in Arizona and New Mexico under section 10(j) of the Endangered Species Act was published in the Federal Register. This designation authorizes unintentional or incidental take of the falcon pursuant to otherwise legal actions, but still prohibits intentional take.

The objective of the 1990 Aplomado Falcon Recovery Plan is to ensure that the falcon is no longer threatened by habitat loss, pesticide contamination, or human persecution. Criterion to reclassify the falcon from endangered to threatened status was tentatively identified as a minimum self-sustaining population of 60 pairs in the U.S.

Currently, long-term drought, shrub encroachment in areas of Chihuahuan Desert grasslands, and the increased presence of the great horned owl, which preys upon the falcon, may be limiting recovery of this subspecies. Substantial recolonization of U.S. habitats by naturally occurring falcons in Chihuahua, Mexico, would likely take decades, if it occurred at all, because the reproductive rate of falcons in Chihuahua has typically been low. However, falcons appear to be relatively tolerant of human presence and are frequently found nesting in association with well-managed livestock grazing operations in Mexico and Texas. It appears that falcons would be able to coexist with current land-use practices in New Mexico on a broad scale.

The Recovery Plan recommends that an attempt should be made to establish



northern Aplomado falcon
Photo: Chris Eberly, DoD PIF



Aplomado falcon hack tower.
Photo: Chris Eberly, DoD PIF

populations in the U.S. The intense overgrazing that resulted in shrub encroachment in Chihuahuan Desert grasslands in New Mexico and Arizona has moderated, and there has been widespread implementation of improved range management techniques. In addition, the use of DDT was banned in Mexico in 2000.

Reintroduction

More than 1,142 captive-bred falcons have been released in Texas. The Peregrine Fund conducted a pilot release project in south Texas from 1985 to 1989, and increased reintroduction efforts in 1993. Reintroduced falcons have successfully fledged more than 244 young since 1995. Predation by great horned owls, raccoons, and coyotes is significant, affecting more than half of all nesting attempts. Nesting productivity increased by approximately 40 percent in 2003 and 2004, when falcons were provided artificial nesting structures with barred sides arranged so that falcons can enter the nest while predators cannot.

The Peregrine Fund began releasing falcons in the trans-Pecos region of west Texas in 2002. All of the releases in Texas have occurred on private property under Safe Harbor Agreement permits, currently with an enrollment of more than 1.8 million acres. Safe Harbor Agreements can only be developed for private landowners. Most of the historical range is Chihuahuan Desert grassland, of which public lands make up approximately 50 percent. More than two million acres of suitable habitat for falcon restoration exist in New Mexico, which could support up to 200 pairs of falcons. Much of this suitable habitat occurs around Jornada del Muerto (includes White Sands Missile Range and the Armendaris Ranch) and Otero Mesa on Fort Bliss-McGregor Range.

The Military's Role in Recovery

The military has been a staunch supporter of the NEP designation for the Aplomado falcon because it enables the military to support conservation efforts without compromising the military mission. The U.S. Fish and Wildlife Service (FWS), The Peregrine Fund, Turner Endangered Species Fund, the state of New Mexico, Bureau of Land Management (BLM), Department of Defense, and other cooperators will jointly manage the reintroduction effort. The goal of the reintroduction effort is to reestablish a self-sustaining population in suitable habitat of the Chihuahuan Desert grasslands in the U.S. with the ultimate goal of removing the species from the endangered species list. Falcons are predicted to persist as a self-sustaining population or as subpopulations in the largest, unfragmented portions of their historic range.

Reintroductions began in July 2007 on lands managed by BLM, the state of New Mexico, and White Sands Missile Range (WSMR). Under the NEP designation, critical habitat cannot be designated for the falcon and WSMR is only required to "confer" with the FWS if a proposed action is likely to jeopardize the continued existence of the species, which is unlikely. The use of the NEP preserves the military mission and should be the fastest way to both successfully establish a falcon population in New Mexico and Arizona and aid in recovery and eventual delisting of the falcon. This effort promises to serve as a prime example of cooperative conservation among federal and state agencies to recover a species without impact to each agency's mission.

Program Contacts:

Conservation Team Leader, Office of the Deputy Under Secretary of Defense (Installations and Environment)
703-604-0524

<http://www.denix.osd.mil/conservation>

Program Manager, Department of Defense Partners in Flight Program
540-349-9662
<http://www.dodpif.org>

Chief, Division of Partnerships and Outreach, Endangered Species Program, U.S. Fish and Wildlife Service
703-358-2390

<http://www.fws.gov/endangered>

July 2007