

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: ABNKD06071

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Falco peregrinus anatum*
COMMON NAME: American Peregrine Falcon
SYNONYMS: *Falco anatum*
FAMILY: Falconiformes: Falconidae

AUTHOR, PLACE OF PUBLICATION: *Falco anatum* Bonaparte, Geogr. and Comp. List, 1838, p. 4. New Name for *Falco peregrinus* Wilson, Amer. Orn., vol. 9, 1814, p. 120, pl. 76. *Falco peregrinus* Tunstall, Orn. Brit., 1771, p. 1. (Ex Pennant, Brit. Zool., vol. 1, p. 136 = Northamptonshire, England). (AOU 1957).

TYPE LOCALITY: Egg Harbor, New Jersey.

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: Approximately 38 species in genus; at least 18 subspecies worldwide. Most North American peregrines are of three subspecies: *F.p. tundrius*, *F.p. anatum*, and *F.p. pealei*. *F.p. anatum* only subspecies known to breed in Arizona.

DESCRIPTION: **Adult:** The plumage of adult peregrines is variable in both color and pattern. Most birds have a dark blue-gray dorsum, and light breast with variably dark barring. Distinctive dark "helmet" covers head to nape of neck, down side of face in dark malar stripes. **Juvenile:** Dark brownish dorsum and "helmet," light underparts are heavily streaked with brown. Males usually bluer on the back and tend to have less barring on the breast. Pointed wings are 99 cm (39 in) long in males and 117 cm (46 in) in females. Total length of males averages 36-41 cm (14-16 in) and weight of males averages 0.45-0.68 kg (1.0-1.5 lb). Females average 41-46 cm (16-18 in) in total length and weigh 0.72-0.95 kg (1.6-2.1 lb). Females are up to 33 percent longer than males. These birds have direct flapping flight and vertical "stoops" or plunges in pursuit of flying prey. Several calls are used, with the most common being a constant "kak kak kak" given to intruders near the eyrie or when the bird is irritated. During courtship, the nesting call is a whining wail that progresses into a prolonged "kaak kaak." This nesting call is used by females to solicit food from the males (Glinski 1998).

AIDS TO IDENTIFICATION: *F. mexicanus* has malar stripes, brown above and exhibits dark axillary patches, but does not have hooded appearance of *F. peregrinus*. *F. columbarius* does not have hooded appearance and is smaller than *F. peregrinus*.

ILLUSTRATIONS: Color plate (Glinski 1998)
Color plates (Scott 1988)
Color photo (Terres 1980)

TOTAL RANGE: The species *Falco peregrinus* is virtually cosmopolitan and is found on every continent except Antarctica. The subspecies *Falco peregrinus anatum* nests from central Alaska, central Yukon Territory, and northern Alberta and Saskatchewan, east to the Maritimes and south (excluding coastal areas north of the Columbia River in Washington and British Columbia) throughout western Canada and the United States to Baja California, Sonora, and the highlands of Central Mexico (FWS 1983). The wintering range of *F. p. anatum* includes North America to Central and South America, as far south as Chile (Brown and Amadon 1968). Birds of this subspecies that nest in subarctic areas generally winter in South America, while those that nest in lower latitudes exhibit variable migratory behavior, with some being nonmigratory (Yates et al. 1988).

RANGE WITHIN ARIZONA: Breeds in Arizona wherever sufficient prey is available near cliffs. Areas of spectacular cliffs such as the Mogollon Rim, Grand Canyon and Colorado Plateau contain most of Arizona's breeding peregrines.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Peregrine falcons generally mate for life. They will accept a new partner if the current mate dies. Migratory pairs may separate for winter, while resident pairs maintain pair-bonds (in Arizona, resident birds are not uncommon). Both resident and migratory birds go through courtship rituals every spring. Males court females with aerobatic flight displays and repeated calls. Courtship feeding is often used to strengthen the pair bond. Pairs stay together for many years. Females are usually dominant and often aggressive toward the male partner. Once pair-bonded, the male selects several nest sites, from which the female chooses. Nesting sites, called eyries, usually consist of a shallow depression scraped into a ledge on the side of a cliff. With greater frequency, these birds are becoming urban in which case ledges in the side of building are used. They may select a new nest site each along the same cliff face each year or if successful, the same nest site may be used for many years.

Some studies suggest that peregrine's live 4-5 years, others indicate 10-12. Birds are generally sexually mature at age two, although breeding has been documented at one year of age. Under normal conditions only one clutch of eggs is laid per year, although if the first clutch is lost before hatching or the chicks die in the first few days, another attempt may be made. Once mature, females usually lay every year until they die.

Studies have shown that mortality in the first year of life can be as high as 60-80%. Commonly, many are lost during initial flight attempts while others are lost during the first migration period. Generally, only one or two of every ten birds reaches maturity.

REPRODUCTION: In Arizona, Peregrine Falcons return to breeding areas from mid-February to mid-March. Egg laying occurs anytime from mid-March through mid-May. Egg laying may even occur in June at higher elevations, when first attempts at nesting fail. Usually 3-4 eggs are laid, but as few as 2 and as many as 6 eggs can be laid (Baicich and Harrison 1997). Incubation lasts approximately 32 days. Nestlings move around the nest at around 4 weeks, and fledge at 6 weeks (from May to August) (Glinski 1998). According to Tibbotts (1989), breeding activity typically begins in mid-March with 2-3 eggs typically being laid about April 1st. Hatching occurs around the first or second week of May with fledging about the third week of June (Tibbotts 1989). Captive breeding is relatively easy, Peregrine Fund has had good success with hacking captive bred birds into wild in other areas. No captive bred birds are known to have been released in Arizona.

FOOD HABITS: Feeds almost exclusively on birds, also preys upon bats. Usually ambushes prey from above by folding wings and diving, sometimes at speeds of up to 200mph (320km/h). Peregrine's do not grab the prey in mid air but rather the impact itself is usually deadly. The victim is then allowed to tumble and is either picked up again in mid air or retrieved from the ground. Average success rate in hunting seems to be in the 20-40% range.

HABITAT: Found in Arizona wherever sufficient prey is found near cliffs. Optimum peregrine habitat is generally considered to be steep, sheer cliffs overlooking woodlands, riparian areas or other habitats supporting avian prey species in abundance. As Arizona's population grows, peregrines seem to be breeding in less optimal habitat; either small broken cliffs in ponderosa pine forest or large, sheer cliffs in very xeric areas. The presence of an open expanse is critical (Glinski 1998).

ELEVATION: In Arizona these birds utilize areas from around 400 ft (122 m) along the lower Colorado River, to 9,000 ft (2743 m) along the Mogollon Rim.

PLANT COMMUNITY: Variable. In Arizona this species can be found in areas of Sonoran, Mohave, and Great Basin desertscrub up through areas of Rocky Mountain and Madrean Montane Conifer Forest.

POPULATION TRENDS: Decline in 1950's and 1960's of peregrines in Arizona and rest of U.S. due to DDT contamination has apparently been reversed. In addition to being found in greater numbers, Arizona's peregrines are being found in areas which would have formerly been considered marginal, suggesting that populations may have reached levels saturating the optimal habitat available, and new breeding pairs forced to breed in sub-optimal areas.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1999)
[LE USDI, FWS 1970]

STATE STATUS: WSC (AGFD, WSCA in prep)
[State Candidate AGFD, TNW 1988]

OTHER STATUS: Forest Service Sensitive delisted (USDA, FS
Region 3, 1999)
Group 4 (NNDFW, NESL 2001)
[Group 4 NNDFW, NESL 2000]
Full Species determined Threatened
(Secretaria de Medio Ambiente
2000)

MANAGEMENT FACTORS: Because they eat at the top of the food chain, peregrine's are subject accumulation of pesticides or other toxins contained in their prey. At high levels these chemicals can cause reproductive failure.

PROTECTIVE MEASURES TAKEN: 1994: populations are being monitored, closures at disturbed sites, pesticide contamination monitoring.

SUGGESTED PROJECTS: See Recovery Plan and 1993 Draft Addendum to the 1984 Recovery Plan. Also see Monitoring Plan in 1998 USDI, USFWS Proposed Rule to Remove the Peregrine Falcon in North America from the Endangered and Threatened Wildlife List.

LAND MANAGEMENT/OWNERSHIP: In Arizona this species can be found on many lands including National Park Service (Glen Canyon NRA, Grand Canyon NP, Saguaro NP, Chiricahua NP and Lake Mead NRA), U.S. Forest Service (Apache-Sitgreaves NF, Coconino NF, Coronado NF, Kaibab NF, Prescott NF and Tonto NF), Bureau of Land Management (Arizona Strip District, Phoenix District and Safford District), Bureau of Indian Affairs (Fort Apache Reservation, Hualapai Reservation, Havasupai Reservation, Navajo Nation and San Carlos Apache Reservation), U.S. Fish and Wildlife Service (Bill Williams NWR), The Nature Conservancy (Aravaipa Canyon Preserve), State Land Department, and private lands.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Rich Glinski - Retired, Arizona Game and Fish Department. Currently, consulting.
- Tim Tibbotts - National Park Service, Organ Pipe Cactus National Monument, Arizona

ADDITIONAL INFORMATION:

Revised: 1991-02-22 (DKW)
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