

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

Animal Abstract

Element Code: ABNKC01010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Pandion haliaetus*

COMMON NAME: Osprey

SYNONYMS: *Falco haliaetus*

FAMILY: Pandionidae

AUTHOR, PLACE OF PUBLICATION: Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 91.

TYPE LOCALITY:

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: Osprey only species in Pandionidae. *Pandion haliaetus carolinensis* is the only race in North America.

DESCRIPTION: Large diurnal raptor with long narrow wings. Length 22.0-25.0 in (56.0-64.0 cm); width 58.0-72.0 in (147.0-183.0 cm), wingspan 58-72in (147-183cm). Weight: males 2 lbs. 10 oz to 3 lbs. 8.5 oz; females, 2 lbs. 12 oz to 4 lbs. 3.5 oz (larger than males). Dark brown above, males usually all white below with prominent dark eye stripe on white head. Sexes nearly alike in plumage, females having necklace of dark streaks. Immature similar to adult, but back has scaly appearance due to light edges on feathers, and tail has a white terminal band. Long, narrow wings bent back at the wrist in flight; gull-like. Wings arched near body when soaring. Flight speed timed in migration in western United States 25-27 mph.

AIDS TO IDENTIFICATION: Conspicuous dark eye stripe is distinctive. In flight, crooked wing shape and dark wrist patches are also distinctive. "Snowy white underparts and the long wings bent in the middle (wrist joint), with a black mark at the bend, are unmistakable" (Monson and Phillips 1981). "Our only raptor that hovers over the water and plunges into it feet-first for fish" (Peterson 1990).

ILLUSTRATIONS:

Color drawings (Scott 1987:201)

Color drawing (Peterson 1990:189)

Color drawings (National Geographic, 1999: p. 103)

Color drawings (Sibley, 2000: p. 128)

TOTAL RANGE: Worldwide distribution. *P.h. carolinensis* breeds from Alaska to Newfoundland in boreal zones, along Pacific and Atlantic coasts, and in Rocky Mountains. Winters mostly in Central and South America.

RANGE WITHIN ARIZONA: Breeds primarily in White Mountains, and along Mogollon Rim. Rarely in summer on Mogollon Plateau, and along Colorado River and upper Salt and Verde River. May occur almost anywhere in migration. In the lower Colorado River valley, "an uncommon transient from mid-August through mid-October and from early March to early May. This is one of the few primarily transient raptors, usually migrating singly" (Rosenberg et al. 1990). Winters sparingly along Colorado River, occasionally in Salt and Gila Valleys, formerly at Roosevelt Lake. In southeastern Arizona, uncommon spring and fall transient, usually seen at ponds or reservoirs (Davis and Russell 1990).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: All one-year-olds remain south on the wintering ground during their second summer. Two-year-olds return north but do not breed. Breeding begins in third year at the earliest. "Migrations are in April and September (Monson and Phillips 1988). "Average lifespan after fledging about 1.8 years. Less than 1 in 3 lives to sexual maturity, those that do reach maturity live 4 or 5 years, exceptionally to age 10 or more" (Johnson 1989). Common call is loud whistled *kyew kyew kyew kyew kyew* (Scott 1987).

REPRODUCTION: Birds breed between 3 and 4 years of age. Breeding activity from April through September. Pairs in courtship perform swift pursuit flights, with rapid turns and quick swoops. Nests near fresh or salt water. Colonial or single nesting in standing trees on platforms of sticks, or on sheds, poles, docks, and special platforms. Nest is perennial becoming quite large with additions year by year. Occupancy may be for decades. Clutch size 2-4 eggs, usually 3, white to pinkish-brown in color and marked with greenish-brown. Mating is monogamous. Female does most of the incubation, lasting 32-43 days. Female fed entirely by male from pair formation to egg laying. Young hatch synchronously, immobile, downy with eyes open at hatching. Male delivers food to female at nest with female then feeding young. Young fledge in 44-59 days.

FOOD HABITS: Almost exclusively fish. (brood of three requires six pounds of fish daily, Ehrlich 1988). Also snakes, frogs, storm-petrels, sandpipers and ducks.

HABITAT: In Arizona, nests in coniferous trees, alongside or near rivers and lakes in the White Mountains and across the Mogollon Plateau (usually within 6-7 miles). A few occur year round at lower elevations along the Salt and Gila Rivers, but no desert nest sites have yet been documented. Nests are usually about 10-60 feet up. Nests consist of sticks lined with some soft material such as bark or moss and usually are located in an open area offering the birds clear access when landing. "Very rare bird in Arizona, where fish are scarce" (Monson and Phillips 1988). No observations of breeding recorded from Tonto National Forest; however could occur there.

ELEVATION: For Arizona, they range from 800 – 8,300 ft (244-2530 m), though they usually occur around 6,000 - 7,800 ft. (1,830 - 2,379 m).

PLANT COMMUNITY: Rocky Mountain subalpine and montane coniferous forests and desert riparian habitat .

POPULATION TRENDS: U.S. populations crashed 1950s to 1970s due to DDT exposure and encroachment into breeding grounds. Coastal populations recovering since DDT ban. Trends in Arizona not well known. Only about twenty nest sites known in the Southwest, all within Arizona.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: WSC (AGFD, WSCA in prep)
[State Threatened AGFD, TNW 1988]
OTHER STATUS: Not BLM Sensitive (USDI, BLM AZ 2010)
[Bureau of Land Management Sensitive (USDI, BLM AZ 2008)]
None (USDA, FS region 3 2000)
[Forest Service Sensitive (USDA, FS Region 3 1988)]

MANAGEMENT FACTORS: Threatened by loss of nesting habitat and foraging perch sites. Ospreys require large snags and broken top trees in mature forest by bodies of water with fish. Also threatened by recreational use of nesting habitat, shooting, and pesticide poisoning on wintering grounds. Ospreys are good indicators of environmental pesticide contamination.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Artificial nest sites can be used successfully by osprey. One study showed 62.9 % success with artificial platforms versus 45.9% with natural sites.

LAND MANAGEMENT/OWNERSHIP: BIA – Fort Apache Reservation; USFS – Apache-Sitgreaves, Coconino, Coronado, and Kaibab National Forests; AGFD Black River Lands; Private. Possibly on National Park Service, Department of Defense, BIA - Tohono O'odham Nation, State Land Department, and regional parks land.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

Ospreys are excellent indicators of pesticide levels in environment.

Revised: 1992-01-23 (JGH)
 1995-03-28 (DBI)
 1997-10-07 (SMS)
 2002-11-14 (RHB)

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