

United States Department of the Interior

U.S. Fish and Wildlife Service

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In Reply Refer To:

November 29, 2007

AESO/SE
22410-FE-2007-0405

W. J. Critchfield, AAE
Lead Airport Certification Safety Inspector
Federal Aviation Administration
P.O. Box 92007
Los Angeles, California 90009

RE: Phoenix Sky Harbor International Airport Critical Zone - Emergency

Dear Mr. Critchfield:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (Act) (16 U.S.C. 1531-1544), as amended. Your request was dated August 1, 2007, and received by us on August 6, 2007. At issue are impacts that may result from the proposal to ensure the 10,000-foot (ft) Critical Zone at Sky Harbor International Airport in Phoenix, Maricopa County, Arizona, remained free of wildlife during the summer of 2007. The proposal may affect the California brown pelican (*Pelecanus occidentalis californicus*).

This biological opinion (BO) is based on information provided in your consultation request, telephone conversations, electronic mail communications, and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on California brown pelican, aircraft safety, hazing and its effects, or on other subjects considered in this BO. A complete administrative record of this consultation is on file at this office.

Consultation History

July 31, 2007: Steve Fairaizl, Airport Wildlife Consultants (AWC) called our office to report a California brown pelican at Sky Harbor airport that could create a hazard to aircraft. There were some discussions of trapping the bird between our staff and AWC, but the conclusion was that hazing the bird would be more efficient.

August 1, 2007: FWS received a request from the Federal Aviation Administration (FAA) for emergency consultation due to aircraft safety concerns. Emergency consultation was initiated.

September 17, 2007: FWS requested additional project information from the City of Phoenix Aviation Department at Sky Harbor International Airport and the FAA.

September 19, 2007: FWS received correspondence from AWC providing additional project information.

October 5, 2007: Draft biological opinion sent to FAA.

November 5, 2007: Received letter dated October 31, 2007, from the FAA indicating their review did not discern any errors and further clarification of the opinion is not necessary. FAA also requested our assistance in developing a long-term strategy for addressing brown pelicans in the action area.

EMERGENCY BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to ensure that the 10,000-foot Critical Zone at Sky Harbor International Airport is free from wildlife species, including the California brown pelican, which may create a hazard to aircraft safety. FAA, in consultation with appropriate entities monitors the occurrence of potential hazards. If wildlife species persist in the 10,000-foot Critical Zone, FAA has committed to coordinate with FWS, Arizona Game and Fish Department (AGFD), and other appropriate agencies for further actions.

On the morning of July 31, 2007, Mr. Fairaizl observed one California brown pelican feeding in the wetland created by the outfall of the Tempe Drain into the Salt River on the east side of the I-10 bridge. Sky Harbor had just begun a construction project to realign the low-flow channel in the Salt River adjacent to the airport. This area is located adjacent to the runway approach and departure corridors. City of Phoenix Aviation Department at Sky Harbor International Airport and the FAA are gravely concerned about the imminent threat this bird poses to human health and safety associated with aircraft.

The action area for this project is the Critical Zone as defined by FAA regulations Part 139.337, which is 10,000 feet off both ends of the runways. This area includes the Tempe and Phoenix reaches of the Rio Salado Project constructed in the Salt River Bed from Seventh Street to Tempe Town Lake.

Below is detailed list of AWC efforts to haze a California brown pelican near the west end of the airport runway.

- August 3: Human harassment of pelican conducted twice during the day.
- August 6: With three assistants, pyrotechnic first used, two rounds fired.
- August 7: With one assistant, used pyrotechnics, three rounds fired.
- August 8: With one assistant, used pyrotechnics, two rounds fired.
- August 9: Human harassment conducted three times during the day.

- August 10: Human harassment conducted twice during the day.
- August 13: Human harassment conducted four times during the day.
- August 14: Pyrotechnics used, four rounds fired.
- August 15: Pelican not present until late afternoon, human harassment conducted once during the day.
- August 16: Pelican present in early morning only, human harassment conducted once during the day.
- August 17: Pyrotechnics used in afternoon, four rounds fired.
- August 20: Pelican not present, beaver dam breached, wetland drained.
- August 21: Construction on realignment of low-flow channel started and completed, pelican not sighted.

During harassment activities conducted by AWC, the pelican would fly to the west downstream of the I-10 bridge and use one of the wetlands created by the Rio Salado project. As an alternative, the pelican would fly south over the river bank and alight on the south bank of a lake for the remainder of the day. The lake is privately owned and Sky Harbor personnel do not have access for control or survey activities. When the bird roosted on the south bank, it would return to the Tempe Drain in two-to four hours resulting in additional harassment from staff. These harassment activities resulted in the pelican leaving the Critical Zone and being absent from the area adjacent to the airport throughout the vast majority of each day.

All hazing activities ended when construction activities reached the I-10 bridge on August 20, 2007. At that time, the beaver dam in the low-flow channel was breached. The beaver dam was responsible for water overflowing the east bank of the low-flow channel, creating the wetland used by the pelican. When the dam was breached, the wetland dried up, the fish died, and the pelican did not return to the area.

STATUS OF THE SPECIES

The brown pelican (*Pelecanus occidentalis*) was federally listed throughout its range in the United States as endangered in 1970 (35 FR 16047). The California brown pelican recovery plan describes the biology, reasons for decline, and the actions needed for recovery of brown pelicans along the Pacific coast (U.S. Fish and Wildlife Service 1983). In 1985, brown pelican populations on the Atlantic Coast of the United States (including all of Florida and Alabama), had recovered to the point where the eastern subspecies could be delisted. On May 24, 2006, the FWS issued a 90-day finding that a petition to delist the California brown pelican contained substantial information indicating that delisting may be warranted (71 FR 29908). FWS elected to initiate a five-year review simultaneously with the 12-month status review. These reviews are ongoing. While the California breeding populations have recovered since DDT use has stopped, persistent residues in the coastal environment continue to cause chronic reproductive problems.

The brown pelican is a large marine bird weighing up to 8 pounds that is recognized by its large bill, a prominent, unfeathered throat pouch, and a wingspread up to 7 feet (Sykes 1983). Adults in non-breeding plumage have a white head and neck. During the breeding season, the hindneck and nape are dark brown. The body and wings are grayish brown, and the

primaries and secondaries are dark brown. The bill is gray, and the throat pouch is black. Immature brown pelicans are mostly brown with a dark neck and head and white belly (Sykes 1983). The California brown pelican (*P. o. californicus*) can be distinguished from the eastern brown pelican (*P. o. carolinensis*) by its a larger size and darker hindneck while in breeding plumage (Wetmore 1945) and a bright red gular pouch during courtship and egg-laying period. They are rather clumsy on land and fly with their necks folded, heads resting on their backs, using slow, powerful wingbeats.

Adult brown pelicans are primarily fish eaters and require up to 4 pounds of fish per day. Their diet consists mainly of northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinopus sagax*), and other surface-schooling fish (Anderson et al. 1980, 1982, Anderson and Gress 1984). To catch fish, they dive steeply into the water from as high as 60 to 70 feet above, where they may submerge completely or only partly, depending on the height of the dive, and surface with a beak full of fish. On the California coast and in the Sea of Cortez, brown pelicans are rarely found away from salt water and do not normally venture more than 20 miles out to sea.

Brown pelicans are generally social and gregarious and congregate in large flocks for much of the year. Brown pelicans nest in colonies on small coastal islands that are free of mammalian predators and human disturbance and are associated with an adequate and consistent food supply.

Brown pelicans disperse between breeding seasons to as far north as British Columbia, Canada, and south to Mexico and possibly to Central America. Post-breeding dispersal patterns depend largely on oceanographic conditions, which in turn influence food availability (Anderson and Anderson 1976).

Adult brown pelicans are efficient predators. Many individuals spend a considerable portion of the day on land and all congregate at night roosts during the dark hours (Jaques and Anderson 1987). Pelican concentrations shift in response to prey distributions. The dispersion of suitable roost sites influences bioenergetic considerations, not only for shelter, thermoregulation, and plumage maintenance, but for efficient travel time to food resources (Jaques and Anderson 1987). Communal roosts may also provide increased protection from potential predators, act as centers for social facilitation of food finding, and other functions yet to be identified.

In Arizona, adult and juvenile brown pelicans are seen annually along the Colorado River, often in association with the wildlife refuges found in that area. Monson and Phillips (1981) report up to 25 juveniles annually from open waters on the Gila and Colorado rivers. Stragglers reach most of the State but only rarely in the northeast part of Arizona. Juvenile brown pelicans are observed commonly at water bodies along the Gila River drainage, such as at Tempe Town Lake, where five different juveniles were seen in 2003 (Michael Coffeen, FWS, pers. comm., 2003). Other juvenile brown pelicans have been seen at other smaller water bodies such as the Gila Bend Air Force Facility sewer ponds. These sightings are typically reported because of the potential hazards to aircraft that the birds represent. Witzeman et al. (1997) classifies the brown pelican in Maricopa County as an uncommon summer and fall visitor with a few remaining into winter on lower elevation lakes and ponds. Movement of brown pelicans into the Sonoran Desert (Phoenix, Tucson) continue to be

strongly related to storms and prevailing winds during the post breeding juvenile dispersal period (Anderson et al. 1977).

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

A. Status of the species within the action area

The action area includes several waterbodies within and adjacent to the Salt River that attract large birds like the brown pelican. A California brown pelican was observed during routine bird monitoring surveys on July 31, 2007, at a wetland created by the Tempe Drain under the I-10 bridge. This wetland contained a high density of tilapia on which the pelican was feeding. AWC has been conducting weekly bird monitoring surveys since July 1, 2007, and this has been the only pelican sighted within 10,000 feet of the runway. Another brown pelican was sighted in a wetland under State routes 101 and 202 interchange and the McClintock Street bridge. This second bird was nearly 5 miles from the east end of the runway and remained in this wetland daily until approximately September 7, 2007, at which time the monitoring survey did not detect the bird, and the pelican has not been observed since that date. No critical habitat for the species occurs in the action area.

B. Factors affecting species' environment within the action area

The action area is greatly influenced by urban development, water development, Sky Harbor Airport, and other anthropogenic activities. The cities of Phoenix and Tempe, in cooperation with the U.S. Army Corps of Engineers, have been developing a habitat restoration project in this portion of the Salt River since the late 1990s. FWS has provided recommendations to the Army Corps of Engineers to improve this restoration project under the Fish and Wildlife Coordination Act. FWS is currently coordinating with the cities of Phoenix and Tempe to develop Safe Harbor agreements that include the action area for this project.

California brown pelicans have been subjected to hazing activities in the action area before. In 2003, U.S. Department of Agriculture and Wildlife Services initiated coordination with FWS regarding pelicans in the action area. These communications revealed that pelicans were exhibiting nesting behavior, and Wildlife Services personnel had manually dismantled sticks and other debris that pelicans were building. On July 18, 2006, a pelican was spotted on one of Sky Harbor Airport's runways. The pelican was deemed a hazard and killed. The dead pelican was turned over to Wildlife Services.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

The physiological response of the pelican to noise disturbance can include increased heart rate (tachycardia) and alteration of metabolism and hormone balance. Coupled with behavioral response, such as flying short distances, this can result in energy loss, bodily injury, decrease in food intake, habitat avoidance, and reproductive loss. Loud noises can also result in hearing impairment which in turn can decrease viability, reproductive success, or avoidance of predators. It is impossible to demonstrate whether or not the pelican experienced any these effects from the employment of pyrotechnics and/or human harassment. Given that the single individual pelican was present in the action area, and it continued to return to the area as long as fish were available, it is not likely that the individual experienced any severe effects.

In response to the loss of the wetland and fishery, the pelican likely shifted its habitat use to other areas along the Salt River, leaving the Sky Harbor Airport Critical Zone. Other nearby areas include Tempe Town Lake or the wetland under the Loop 101 and Loop 202 overpasses.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The majority of the action area is privately owned. Since it is within the Critical Zone for aircraft safety, it is not likely to have structures built in the area. Other habitat will likely continue to provide an aquatic community that will attract fish-eating birds and other wildlife. Some public recreation may occur but the area generally has limited access.

CONCLUSION

After reviewing the current status of the California brown pelican, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the action, as proposed, did not likely jeopardize the continued existence of the species. Critical habitat for this species has not been designated. This conclusion is based on the following:

- The action area is very small and is only used by a small number of opportunistic pelicans.
- FAA's monitoring program will evaluate if additional wildlife issues develop.

The conclusions of this biological opinion are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

If incidental take is anticipated during the emergency response, the FWS can advise the action agency during the informal consultation phase of ways to minimize take. In some circumstances, the actual or estimated take occurring from the agency's emergency response actions can be determined, and should be documented in the biological opinion for future inclusion in the species' environmental baseline. The incidental take statement in an emergency consultation does not include reasonable and prudent measures or terms and conditions to minimize take, unless the agency has an ongoing action related to the emergency. Rather, an emergency consultation incidental take statement documents the recommendations given to minimize take during informal consultation, the success of the agency in carrying out these recommendations, and the ultimate effects on the species of concern through take.

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900 within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

AMOUNT OR EXTENT OF TAKE

The FWS anticipates one California brown pelican was taken as a result of this proposed action. The incidental take was in the form of harassment.

The FWS will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

EFFECT OF THE TAKE

In this biological opinion, the FWS determined that this level of anticipated take is not likely to result in jeopardy to the California brown pelican.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that your agency participate in a long-term plan to ensure the area around the Critical Zone is not available to brown pelicans and other large birds that may create a safety hazard.
2. We recommend that your agency, permittee, or consultant immediately seek the necessary permits to remove large birds from the Critical Zone.

In order for the FWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the FWS requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in your request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The FWS appreciates the FAA's efforts to identify and minimize effects to listed species from this project. For further information please contact Mike Martinez (x224) or Debra Bills (x239). Please refer to the consultation number, 22410-FE-2007-0405 in future correspondence concerning this project.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc: Branch Chief, Arizona Game and Fish Department, Phoenix, AZ
Steve Fairaizal, Airport Wildlife Consultants, Phoenix, AZ
Tony Garcia, Federal Aviation Administration, Los Angeles, CA

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LITERATURE CITED

- Anderson, D.W. 1983. Seabirds: distribution and assemblages in the Gulf of California. Chap. 9, in: T. Case and M. L. Cody, eds., *Island biogeography in the Sea of Cortez*. University of California Press, Berkeley, California.
- Anderson, D.W., and I.T. Anderson. 1976. Distribution and status of brown pelicans in the California current. *American Birds* 30(1):3-12.
- Anderson, D.W., L.R. Deweese, and D.V. Tiller. 1977. Passive Dispersal of California Brown Pelicans. Vol. 48 No. 3. *Bird-Banding*.
- Anderson, D.W. and F. Gress. 1984. Brown Pelicans and the anchovy fishery off southern California. pp. 128-135 *In: Marine birds: their feeding ecology and commercial fisheries relationship*. D.N. Nettleship, G.A. Sanger and P.F. Springer, eds. Canadian Wildlife Services, Ottawa, Canada.
- Anderson, D.W., F. Gress, and K.F. Mais. 1982. Brown Pelicans: influence of food supply on reproduction. *Oikos* 39:23-31.
- Anderson, D.W., F. Gress, K.F. Mais, and P.R. Kelly. 1980. Brown pelicans as anchovy stock indicators and their relationships to commercial fishing. *Calif. Coop. Oceanic Fish. Invest. Rep.* 21:54-61.
- Jaques, D.L., D.W. Anderson. 1987. Conservation implications of habitat use and behavior of wintering brown pelicans (*Pelecanus occidentalis californicus*). University of California. Davis, California.
- Monson, G. and A.R. Phillips. 1981. *Annotated Checklist of the Birds of Arizona*. The U of A Press, Tucson, Arizona.
- Sykes, P.W, Jr. 1983. "Brown pelican" in *The Audubon Society master guide to birding*. J. Farrand, Jr., ed. Alfred A. Knopf, New York.
- U.S. Fish and Wildlife Service. 1983. *California brown pelican recovery plan*. U.S. Fish and Wildlife Service, Portland, Oregon. 179 pp.
- Wetmore, A. 1945. A review of the forms of the Brown Pelican. *Auk* 62: 577-586.
- Witzeman, J.L., S.R. Demaree, E.L. Radke. 1997. *Birds of Phoenix and Maricopa County, Arizona*. Maricopa Audubon Society, Phoenix, Arizona.