

2-21-00-F-027

BIOLOGICAL OPINION SUMMARY
Blue Point Developed Recreation Site

Date of opinion: June 25, 2000

Action agency: USDA, Forest Service, Tonto National Forest, Mesa Ranger District, Arizona

Project: Blue Point Developed Recreation Site

Location: Pinal County, Arizona

Listed species affected: Bald eagle (*Haliaeetus leucocephalus*), threatened. Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorus*), endangered, with critical habitat.

Biological opinion: It is the Service's biological opinion that the Blue Point developed recreation site, as described, is not likely to jeopardize the existence of the bald eagle. It is the Service's biological opinion that the Blue Point developed recreation site, as described, is not likely to destroy or adversely modify critical habitat for the CFPO.

Incidental take statement:

Anticipated take: Exceeding this level may require reinitiation of formal consultation. The Service anticipates one pair of bald eagles and associated eggs and/or young, annually, could be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment of foraging bald eagles during spring and summer months.

Reasonable and prudent measures: Implementation of these measures through the terms and conditions is mandatory. Seven reasonable and prudent measures for the bald eagle include an annual bald eagle breeding season closure, public education, fencing and signing, assistance to Arizona Game and Fish Department bald eagle management, monitoring and reporting, and advocacy of the Bald Eagle Agreement, Assessment and Strategy.

Terms and conditions: Terms and conditions implement reasonable and prudent measures and are mandatory requirements. Seven Terms and Conditions include specifics and details on seasonal closures, limiting numbers of users, signs and their location, public education, monitoring and reporting requirements, and assistance with bald eagle management needs.

Conservation recommendations: Implementation of conservation recommendations is discretionary. Four conservation recommendations for the bald eagle are provided.

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In Reply Refer To:

AESO/SE
2-21-00-F-027

June 25, 2000

Mr. Arthur Wirtz, District Ranger
Mesa Ranger District
Tonto National Forest
26 North McDonald
Mesa, Arizona 85201

Dear Mr. Wirtz:

This document transmits the U.S. Fish and Wildlife Service's biological opinion based on our review of the activities proposed by the Mesa Ranger District, Tonto National Forest, regarding the proposed developed recreation site at Blue Point, located on the lower Salt River in Maricopa County, Arizona, and its effects on the endangered cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)(CFPO) and its designated critical habitat and the threatened bald eagle (*Haliaeetus leucocephalus*), in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The Forest Service's May 21, 1999, biological assessment (BA) was received by the Service on May 24, 1999. Since that time, discussions among Arthur Wirtz, Pete Libby and Lisa Bizios (Forest Service) and Greg Beatty, Thetis Gamberg, Mike Wrigley and Tom Gatz (Service) resulted in modifications to the original project proposal to minimize effects to listed species, and thus, changes in the Forest Service original effect determinations.

The BA originally listed three federally listed species and/or their habitat that occur in the project area; the endangered CFPO and its critical habitat, the threatened bald eagle, and the delisted American peregrine falcon (*Falco peregrinus anatum*).

The American peregrine falcon was removed from the Federal list of Endangered and Threatened Wildlife on August 25, 1999 (USFWS 1999a). Federal agencies are no longer required to consult with the Service under section 7 of the Endangered Species Act (Act) in the event activities they authorize, fund or carry out affect peregrine falcons. However, removal of the protection of the Act will not affect the protection afforded all peregrine falcons under the Migratory Bird Treaty Act. The Act also requires monitoring of the species for at least five years after delisting. This monitoring will consist, at a minimum, of annual occupancy surveys for assessing productivity, determining contaminant concentrations, and monitoring levels of take of peregrine falcons for falconry purposes (USFWS 199b). The Service is currently developing a monitoring plan which will be available in the near future.

Because the proposed project is in designated CFPO critical habitat and constituent elements are being removed, the FS determined the proposed project is likely to adversely affect the CFPO. Because the project is located at the state's most productive bald eagle foraging site, the FS determined the proposed project was likely to adversely affect the bald eagle.

This biological opinion is based on information provided in the May 29, 1999, BA, telephone conversations and electronic communications between the Forest Service (Arthur Wirtz, Pete Libby, Lisa Bizios), the Service (Thetis Gamberg, Greg Beatty, Mike Wrigley, Tom Gatz), and personnel from the Arizona Game and Fish Department (AGFD), site investigations, and other sources of information. References cited in this biological opinion are not a complete list of all available literature on the species of concern, developed recreation sites, associated actions, management and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at our Phoenix office.

Consultation History

A Forest Service letter dated April 26, 1999, outlined discussions between the Forest Service (Lisa Bizios) and the Service (Tom Gatz) regarding proposed critical habitat for the CFPO (finalized in the Federal Register on July 12, 1999).

A Forest Service letter and BA dated May 21, 1999, was received by the Service on May 24, 1999. Pete Libby and Lisa Bizios (Forest Service) met with Greg Beatty (Service) on July 15, 1999, at the proposed project site and discussed CFPO and bald eagle concerns. Details are contained in Appendix A of this document.

Additional information was transmitted to the Service from the Forest Service via facsimile (fax) and electronic mail (email) regarding the estimated number of trees greater than six inches diameter breast height (dbh) to be removed and the projected total capacity of people/users allowed at any one time at the Blue Point site (1,715 people).

A meeting on May 31, 2000, between Arthur Wirtz, Pete Libby, and Lisa Bizios (Forest Service) and Tom Gatz, Greg Beatty, and Thetis Gamberg (Service) resulted in final modifications to the proposed project. This was followed up by the Forest Service letter dated June 9, 2000, and received by the Service on June 13, 2000.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed project area is located at and nearby the Blue Point Bridge (Road 204) over the Lower Salt River in T3N, R8E, Section 31, and T2N, R8E, Sections 5 and 6, and totals approximately 163 acres. The May 1999, biological assessment (BA) contains the original maps and site layout of the project. The project was modified some weeks later by the Forest Service to minimize effects to listed species, and the revised map and pertinent correspondence is on file in our Phoenix office (see enclosed May 15, 2000 amendment from FS to Service). Additional changes include additional tree planting and ensuring tree survival.

The Blue Point Developed Recreation Site will be managed under the Forest Service Fee Demonstration Program; monies collected for site use will be used for site maintenance and upgrades. This proposed project is part of the Tonto National Forest Plan, under the Lower Salt River Recreation Plan. This plan was established to protect the natural resources of the Lower Salt River, and better serve the water-based users of the public that currently overwhelm and degrade the resources at this and many other areas on the river.

Four quadrants are formed by the conjunction of the Bush Highway and the Blue Point Bridge. They are Blue Point West (northwest), Blue Point Beach (northeast), Pebble Beach (southeast), and Council Bluff Vista Point (southwest). This proposed project will develop three of the four quadrants; Council Bluff Vista Point “will not be developed at this time.” (Page 3, Design Narrative, BA). Year round use will occur at this site. Emphasis will be on river-oriented activities during the summer and picnicking and self-contained recreational vehicle (RV) camping during the winter (Page 6, Design Narrative, BA).

These quadrants will contain ingress/egress roadways and curbed, paved and painted parking areas with recreational facilities in each quadrant. Parking along the ingress/egress roadways will not be permitted. Parking on the highway (Bush Highway) will not be permitted. Total legal parking spaces will accommodate 520 vehicles. Legal parking will be enforced.

Facilities being planned include roadways and curbing, vault toilets, trash collection and control, parking, ramadas, picnic tables, grills, shaded bus stops, a fee station, administration and support, and host units with holding tanks, and solar-powered security lighting. Room is included for addition of food and sundries concessionaires and administrative vehicle access for service.

Page 3 of the Design Narrative of the BA details the various facility types (picnic tables, ramadas, toilets, etc.) and their locations in each quadrant. Location and layout of the three quadrant areas has been changed to lessen effects to listed species, but the basic needs for each area remains as originally designed. The Design Narrative of the BA (pages 1 through 8) details accessibility needs, support and administrative facilities, architectural theme, and other details. See map dated 3/9/00, revised, for layout and design.

The Forest Service modified the project layout to minimize effects of large [six inch diameter breast height (dbh) and greater] tree removal. Large trees occur in a wash that runs across the project area in the northeast quadrant, although the canopy in the wash is relatively sparse. Because the proposed action will remove approximately 95 mesquite and palo verde trees that measure six inches dbh or greater throughout the project area, the Forest Service will plant a ratio of three trees for every one tree removed, augment the canopy in the wash, and commit to the tree's survival.

The FS will manage human recreational activities at the project site to minimize trash and vehicle access to the river's edge, and will eliminate the creation and proliferation of unlawful roadways in the area. These measures will help minimize the effects of critical habitat loss and concentrated, continual human recreational activities at this site.

There will be only two points for vehicle beach access; one at Blue Point West and one at Pebble Beach. The Forest Service has closed and maintained (fenced and gated) unauthorized and non-

system roads that unregulated use has created on both sides of the river and bridge. Access at this site to the river by pedestrians and vehicles will be limited and those limits will be enforced. When capacity is reached, people will have the choice of waiting for openings or going elsewhere. The proposed project will appreciably reduce the total number of site users from currently unregulated levels, eliminate unofficial or illegal roads, and regulate day use, overnight camping, sanitation and trash.

Projected numbers for visitors to the Blue Point site were arrived at by the Forest Service figuring 3.5 people per car, multiplied by 520 parking spaces, to arrive at a conservative estimate of 1,715 people at one time that could be accommodated at this facility. Past use patterns have been documented to show winter use on weekdays to be low, with some use on nice weekends. As the weather heats up, weekday and weekend user numbers quickly increase. The past use in this area has been unregulated; as many as 40,000 tubers can be on the river on hot summer weekends (Hunt, *et al.* 1992).

Management of this site by the Forest Service includes a seasonal closure for the Blue Point West picnic area during the bald eagle breeding season, annually. The breeding season is from January 1 through May 31, annually. The proposed closure would be from February 1 through May 15, annually.

This project does not address potential or possible future connections or roads between the Foxtail and the Blue Point sites. Any future actions will require ESA compliance at time of inception.

STATUS OF THE SPECIES

CFPO

The Service listed the Arizona population of the CFPO on March 10, 1997, effective on April 9, 1997 (USFWS 1997). The past and present destruction, modification, or curtailment of habitat is the primary reason for the decrease in population levels of the CFPO. On December 30, 1998, we proposed approximately 290,000 ha (725,500 ac) of critical habitat in southern and central Arizona (USFWS 1998). We published the final rule (USFWS 1999c) on July 12, 1999 which designated approximately 296,240 ha (731,712 ac) of riverine, riparian, and upland habitat in Pima, Cochise, Pinal, and Maricopa counties in Arizona.

Areas designated as critical habitat included recent owl locations and important areas for genetic and demographic interchange within the geographical area occupied by the species that are essential to the conservation of the species and requires special management considerations. These areas, containing the primary constituent elements, or the capacity to develop these habitat components are essential for the primary biological needs of this species and include foraging, nesting, rearing of young, roosting, sheltering, and dispersal. Actions that may destroy or adversely modify critical habitat are actions that destroy or alter the primary constituent elements to the extent that the value of critical habitat for both survival and recovery of the species is appreciably diminished. These activities include, but are not limited to removing vegetation, water diversions or impoundments, ground water pumping, and recreational activities that appreciably degrade habitat.

The CFPO, in the Order *Strigiformes*, Family *Strigidae*, is one of four subspecies of ferruginous pygmy-owl. CFPOs are known to occur from lowland central Arizona south through western Mexico to the States of Colima and Michoacan, and from southern Texas south through the Mexican States of Tamaulipas and Nuevo Leon. CFPOs are small birds, averaging 17 cm (6.75 in) in length. The average weight of a male is 62 g (2.2 oz), while females average 73 g (2.6 oz). CFPOs are reddish-brown overall, with a cream-colored belly streaked with reddish-brown. Their crown is lightly streaked, and they have paired black-and-white “eye” spots on the back of their head and neck. They have no ear tufts and their eye color is yellow. Their tail is reddish-brown with darker bars, and is relatively long for an owl.

The CFPO is crepuscular/diurnal, with a peak activity period for foraging and other activities at dawn and dusk. During the breeding season, they can often be heard calling throughout the day, but most activity is reported between one hour before sunrise to two hours after sunrise, and late afternoon/early evening from two hours before sunset to one hour after sunset (Collins and Corman 1995).

CFPOs are known to use a variety of habitat types such as riparian woodlands, mesquite bosques, and Sonoran desertscrub communities as well as in nonnative habitat within these communities. These unifying characteristics include the presence of vegetation in a fairly dense thicket or woodland, the presence of trees or cacti large enough to support cavity nesting, and elevations below 1,616 m (4,000 ft).

CFPOs nest in natural cavities or those made by other species, particularly by Gila woodpeckers (*Melanerpes uropygialis*), and rely on suitable cavities to be present for roosting and nesting. CFPOs nest in a cavity in a tree or large columnar cactus. Although recent nest sites have primarily been located in saguaro cavities, in 1999, two nests were also located in cavities of other tree species (one in an ash and the other in an eucalyptus [*Eucalyptus* spp.]) (S. Richardson, AGFD unpubl. data). These cavities may be naturally formed (e.g., knotholes) or excavated by woodpeckers, and nest lining material may or may not be present.

Saguaro cavities are also used for roosting, perching, and caching food (Smith 1996). The mid- and lower-stories of canopy are often comprised of a variety of mesquite, palo verde, ironwood, acacia, graythorn (*Zizyphus obtusifolia*), bursage, cholla (*Opuntia* spp.), prickly pear (*Opuntia* spp.), and annual and perennial grass species. As in riparian habitat, larger trees provide perches for foraging and protection from predators. Adequate vegetation in mid- and lower-stories appears to be important, and likely provides protection from predators and a higher density of prey items including lizards, small birds and mammals, and insects (Abbate *et al.* 1996, Wilcox *et al.* 1999).

CFPOs begin nesting activities in late winter to early spring. CFPOs lay eggs from mid- to late-April. Eggs were laid asynchronously, with one egg laid every 32 to 39 hours until the entire clutch of four to five eggs has been laid (Proudfoot 1996). Incubation continued for 21 to 23 days, with eggs hatching asynchronously at a rate of one egg every 20 to 26 hours. Fledging occurred 26 to 28 days after hatching was complete (Proudfoot 1996). In Arizona, differences between nest sites may vary as much as two months (Abbate *et al.* 1996, S. Richardson, AGFD unpubl. data). As with other avian species, this may be the result of a second brood or a second nesting attempt following an initial failure (Abbate *et al.* 1996). The female incubates the eggs

and attends hatchlings, while the male provides food to the female and young. In Arizona, the majority of hunting activity and prey captures by male CFPOs were conducted away from the nest site and, consequently, out of sight of nest observers (Abbate *et al.* 1996).

Adult CFPOs, and particularly young, may be susceptible to predation from avian species such as Cooper's hawks (*Accipiter cooperii*), Harris's hawk (*Parabuteo unicinctus*), great horned owls (*Bubo virginianus*) and others; therefore, cover, particularly near nest sites for young to fledge to are important (Wilcox *et al.* 1999, S. Richardson, AGFD pers. comm. 1999).

Telemetry studies in Arizona during 1999 resulted in dispersal distances ranging from 2.3 km (1.4 mi) to 20.7 km (12.9 mi) (straight line distance) (n=6, mean 10 km [6.2 mi]) (S. Richardson, AGFD unpubl. data). Juveniles typically dispersed from natal areas in July did not appear to defend a territory until September. They may move up to 1.6 km (1 mi) in a night; however, they appear to fly from tree to tree instead of long single flights (S. Richardson, AGFD unpubl. data). Subsequent surveys during the spring have found that their locations are in the same general location as last observed the preceding fall.

The size of the area used by the female and fledgling expanded as the fledgling aged. The fledgling was observed at what may have been the northern and southernmost points of the nesting territory. In contrast, the adult male appeared to be using the same size area during incubation as he did during the nestling stages. The adult female was observed to use an area approximately 0.2 ha (0.5 ac) in size during the pre-fledgling and nesting stages. However, this area expanded to approximately 14 ha (35 ac) post-fledgling, this area was also used by the fledgling (Abbate *et al.* 1996).

Following dispersal of the fledgling, it was believed that the area used by the adult CFPOs expanded beyond the 14 ha (35 ac) area (Abbate *et al.* 1996). An additional pair of CFPOs was found in the late fall of 1997. Researchers in Arizona indicated that this pair used approximately 64 ha (160 ac) (S. Richardson, AGFD unpubl. data). In addition, an unpaired male was monitored by AGFD in the late fall of 1997 and used approximately 64 ha (160 ac) (S. Richardson, AGFD unpubl. data).

CFPOs typically hunt from perches in trees with dense foliage using a perch-and-wait strategy; therefore, sufficient cover must be present within their home range for them to successfully hunt and survive. Their diverse diet includes birds, lizards, insects, and small mammals (Bendire 1888, Sutton 1951, Sprunt 1955, Earhart and Johnson 1970, Oberholser 1974) and frogs (Proudfoot *et al.* 1994b). Prey items delivered by the female at a nest site in Arizona included house finches, black-tailed gnatcatchers, lizards, and cicadas. Observed prey bird size range from mourning doves (*Zenaida macroura*) to hummingbirds (*Trochilidae* fam.) indicating CFPOs are capable of taking prey considerably heavier than their own weight and a wide variety of bird species (G. Proudfoot 1994b, S. Richardson, AGFD unpubl. data). Studies indicate that lizards are the predominant prey item for CFPOs. Seasonal variations in prey availability and abundance may affect prey taken by CFPOs; however, further research is needed to determine these fluctuations.

CFPOs must have sufficient prey available and accessible to them in order to survive and successfully raise their young. It appears that survival during winter months, and possibly

exacerbated in dry years with less abundant prey species available, may be of particular concern for this species. The use of the maximum home range territory size (113 ha (280 ac) is appropriate to adequately support a pair and to provide sufficient prey and cover throughout the year.

CFPOs are considered non-migratory throughout their range by most authors, and have been reported during the winter months in several locations, including OPCNM (R. Johnson unpubl. data, T. Tibbitts, OPCNM unpubl. data). While the majority of Arizona CFPO detections in the last six years have been from the northwest Tucson area, CFPOs have also been detected in southern Pinal County, at Organ Pipe Cactus National Monument (OPCNM), on the Buenos Aires National Wildlife Refuge (BANWR), and on the Coronado National Forest.

The 1999 survey season resulted in a total of 41 adult CFPOs found in Arizona. Statewide, a total of 28 CFPO sites were documented, 10 of which had nesting confirmed which produced 33 young, although only 16 juveniles were known to successfully fledge young (juveniles documented to have successfully dispersed from their natal area) (S. Richardson, AGFD unpubl. data). CFPOs were found in three distinct regions of the state: the Tucson Basin (northwest Tucson and southern Pinal County), Altar Valley, and OPCNM.

Overall, mortality was documented for a number of fledglings due to natural causes (e.g., predation). Of the 33 young documented, only 16 were documented as surviving until dispersal, and the fate of several was unknown. It is unclear what the survival rate for CFPOs is; however, as with other owls and raptors, a high mortality (50 percent or more) of young is typical during the first year of life.

Surveys conducted thus far in Arizona during the on-going 2000 survey season have resulted in 23 CFPO sites (30 adults) being located. Nine sites in the Tucson Basin (12 adults), 6 sites in the Altar Valley (7 adults), 6 sites (8 adults) at OPCNM, and 2 sites (3 adults) in south-central Arizona (S. Richardson, AGFD unpubl. data, T. Tibbitts, OPCNM unpubl. data, USFWS unpubl. data).

The most urgent threat to CFPOs in Arizona is the loss and fragmentation of habitat, especially from large scale and commercial developments (USFWS 1997a, Abbate *et al.* 1999). The complete removal of vegetation and natural features required for many large scale and high-density developments directly and indirectly impacts CFPO survival, and the stabilization and recovery of this known population (Abbate *et al.* 1999).

Other factors contributing to the decline of CFPO habitat include the destruction of riparian bottomland forests and bosques (e.g., Phillips *et al.* 1964, Carothers 1977, Kusler 1985, AGFD 1988, Jahrsdoerfer and Leslie 1988, USFWS 1988b, U.S. GAO 1988, Szaro 1989, Dahl 1990, State of Arizona 1990, Bahre 1991).

Regardless of past distribution in riparian areas, it is clear that the CFPO has declined throughout Arizona to the degree that it is now extremely limited in distribution in the state (Johnson *et al.* 1979, Monson and Phillips 1981, Davis and Russell 1984, AGFD 1988, Johnson-Duncan *et al.* 1988, Millsap and Johnson 1988, Monson 1998).

In recent decades, the CFPO's riparian habitat has continued to be modified and destroyed by agricultural development, woodcutting, urban expansion, and general watershed degradation (Phillips *et al.* 1964, Brown *et al.* 1977, State of Arizona 1990, Bahre 1991, Stromberg *et al.* 1992, Stromberg 1993a and 1993b). Some outdoor recreation activities (e.g., offroad vehicle [ORV] and motor bike use/racing, firearm target practicing, jeep tours, etc.) may disturb CFPOs during their breeding season (particularly from March 1 through July 30) (G. Proudfoot pers. comm. 1999, S. Richardson pers. comm. 1999). Disturbance during the breeding season may affect an individual's productivity; disturbance outside of this period may affect the energy balance and, therefore survival (Knight and Cole 1995). Wildlife may respond to disturbance during the breeding season by abandoning their nests or young, leading to nest abandonment (Knight and Cole 1995).

Other direct and indirect human caused mortalities (e.g., collisions with cars, glass windows, fences, power lines, domestic and/or feral cats [*Felis* spp.], etc.), while likely uncommon, are often underestimated, and are likely to increase as the human interface with owls increases (Banks 1979, Klem 1979, Churcher and Lawton 1987). Richardson also has documented incidents of children shooting BB guns near a nest site in Tucson, also indicating another potential of owl mortality.

Bald eagle

The bald eagle south of the 40th parallel was listed as endangered under the Endangered Species Preservation Act of 1966, on March 11, 1967 (USFWS 1967), and was reclassified to threatened status on July 12, 1995 (USFWS 1995). No critical habitat has been designated for this species. The bald eagle was proposed for delisting on July 6, 1999 (USFWS 1999d). The bald eagle is a large bird of prey that historically ranged and nested throughout North America except extreme northern Alaska and Canada, and central and southern Mexico.

The bald eagle occurs in association with aquatic ecosystems, frequenting estuaries, lakes, reservoirs, major rivers systems, and some seacoast habitats. Generally, suitable habitat for bald eagles includes those areas which provide an adequate food base of fish, waterfowl, and/or carrion, with large trees for perches and nest sites. In winter, bald eagles often congregate at specific wintering sites that are generally close to open water and offer good perch trees and night roosts (USFWS 1995).

There were an estimated one-quarter to one-half million bald eagles on the North American continent when Europeans first arrived. Initial eagle population declines probably began in the late 1800s, and coincided with declines in the number of waterfowl, shorebirds, and other prey species. Direct killing of bald eagles was also prevalent. Additionally, there was a loss of nesting habitat. These factors reduced bald eagle numbers until the 1940s when protection for the bald eagle was provided through the Bald Eagle Protection Act (16 U.S.C. 668). This Act accomplished significant protection and slowed the decline in bald eagle populations by prohibiting numerous activities adversely affecting bald eagles and increasing public awareness of bald eagles. The widespread use of dichloro-diphenyl-trichloroethane (DDT) and other organochlorine compounds in the 1940s for mosquito control and as a general insecticide caused additional declines in bald eagle populations. DDT accumulated in individual birds following ingestion of contaminated food. DDT breaks down into dichlorophenyl-dichloroethylene (DDE)

and accumulates in the fatty tissues of adult females, leading to impaired calcium release necessary for egg shell formation. Thinner egg shells led to reproductive failure, which is considered a primary cause of declines in the bald eagle population. DDT was banned in the United States in 1972 (USFWS 1995).

Since listing, bald eagles have increased in number and expanded in range due to the banning of DDT and other persistent organochlorine compounds, habitat protection, and additional recovery efforts. Surveys in 1963 indicated 417 active nests in the lower 48 states with an average of 0.59 young produced per nest. Surveys in 1974 resulted in a population estimate of 791 occupied breeding areas in the lower 48 states (USFWS 1999d.). In 1994, 4,450 occupied breeding areas were reported with an estimated average of 1.16 young produced per occupied nest (USFWS 1995). The Service estimates that the breeding population exceeded 5,748 occupied breeding areas in 1998 (USFWS 1999d.).

Although not considered a separate subspecies, bald eagles in the southwestern United States have been considered as a distinct population for the purposes of consultation and recovery efforts under the Act. A recovery plan was developed in 1982 for bald eagles in the Southwest recovery region. However, new information has indicated that the bald eagles in Arizona and the Southwest recovery region are not a distinct, reproductively isolated population as was previously believed. In 1994, a male bald eagle which originated from eastern Texas was discovered nesting at Luna Lake in east central Arizona. The origin of the unbanded female was not determinable. Also, some of the eagles observed in recent years in Arizona with silver leg bands are suspected to have immigrated into this region. The Service has determined that bald eagles in the Southwest recovery region are part of the same bald eagle population found in the remaining lower 48 states (USFWS 1995).

The Service has proposed delisting of the bald eagle in the lower 48 states, stating that the number of breeding pairs in the Southwestern Recovery Unit has more than doubled in the last 15 years (USFWS 1999d.).

Bald eagle breeding areas in Arizona are predominantly located in the upper and lower Sonoran life zones. The Luna Lake breeding area is one of the few territories in Arizona that is found in coniferous forests, as opposed to the majority which occur in Sonoran vegetation communities. All breeding areas in Arizona are located in close proximity to a variety of aquatic habitats including reservoirs, regulated river systems, and free-flowing rivers and creeks. The alteration of natural river systems has had both beneficial and detrimental affects to the bald eagle. While large portions of riparian forests were inundated or otherwise destroyed following construction of dams and other water developments, the reservoirs created by these structures enhance habitat for the waterfowl and fish species (often nonnative species) on which bald eagles prey.

Arizona bald eagles demonstrate unique behavioral characteristics in contrast to bald eagles in the remaining lower 48 states. Eagles in the Southwest frequently construct nests on cliffs. By 1992, of the 111 nest sites known, 46 were in trees, 36 on cliffs, 17 on pinnacles, 11 in snags, and one on an artificial platform. While there were more nests in trees, one study found that cliff nests were selected 73 percent of the time, while tree nests were selected 27 percent of the time. Additionally, eagles nesting on cliffs were found to be slightly more successful in raising young to fledgling though the difference was not significant. Bald eagles in the Southwest are

additionally unique in that they establish their breeding territory in December or January and lay eggs in January or February, which is early compared with bald eagles in more northerly areas. It is believed that this is a behavioral adaptation so chicks can avoid the extreme desert heat of midsummer. Young eagles will remain in the vicinity of the nest until June (Hunt *et al.* 1992).

From 1970 to 1990, 226 known eaglets fledged in Arizona, for an average of 10.8 young produced per year. Successful nests contained an average of 1.6 young per year (Hunt *et al.* 1992). In 1998, there were 39 known breeding areas, with 36 of those being occupied. Within those breeding areas, 24 nests were active and ten nests failed. Fourteen of the 24 nests were successful in producing young, and a total of 25+ young hatched. Twenty-one of these young survived to fledged (Driscoll *et al.* 1999). In 1999, 40 breeding areas were known in Arizona (AGFD 1999).

In addition to breeding bald eagles, Arizona provides habitat for wintering bald eagles, which migrate through the state between October and April each year. In 1997, the standardized statewide Arizona winter count totaled 343 bald eagles, including 193 adults, 134 subadults, and 16 of unknown age; in 1998, 183 adults, 103 subadults, and 4 of unknown age were recorded. The highest numbers of bald eagles, in both years, occurred on the Verde River and San Carlos Reservoir (Beatty and Driscoll 1999).

Bald eagles in Arizona consume a diversity of food items, including some invertebrates. However, their primary food is fish, which are generally consumed twice as often as birds, and four times as often as mammals. Bald eagles are known to catch live prey, steal prey from other predators (especially osprey), and use carrion. Carrion constitutes a higher proportion of the diet for juveniles and subadults than it does for adult eagles. Diet varies depending on what species are available locally. This can be affected by the type of water system on which the breeding area is based (Hunt *et al.* 1992).

The establishment of the Southwestern Bald Eagle Management Committee (SWBEMC) and the Arizona Bald Eagle Nest Watch Program (ABENWP) has been essential to the success of recovery efforts for eagles in the Southwest. The ABEMC includes a number of Federal, State, Tribal, and quasi-governmental agencies and partners, and has been effective at implementing breeding area closures to reduce the threat of harassment to nesting eagles. The ABENWP documents disturbances at nest sites, provides on-site protection, and intervenes as necessary to reduce harassment or as otherwise needed for the benefit of the eagles. This intervention has proven to be very effective in maintaining the southwestern bald eagle population. The ABENWP has "rescued" up to 50 percent of the fledglings produced in a year. These rescue operations include removing fishing line and tackle from nestlings and adults, and returning nestlings to their nests after they fell or jumped out of the nest in response to disturbance or to escape extreme heat. Since the 1980's, the ABENWP has rescued 48 eagles and eggs, and documented 52 cases of fishing line or tackle posing a treat to the nesting eagles and eaglets. At least 15 percent of the bald eagle production is due to assistance provided by the Nest Watch Program (USFWS 1999). Other important activities for bald eagle management carried out by AGFD include coordinating eagle banding, winter counts, demographics, contaminants, closure coordination, education nest surveys, and productivity assessment.

Even though the bald eagle has been reclassified to threatened, and the status of the birds in the Southwest is on an upward trend, the Arizona population remains small and under threat from a variety of factors. Human disturbance of bald eagles is a continuing threat which may increase as numbers of bald eagles increase and human development continues to expand into rural areas (USFWS 1999d.). The bald eagle population in Arizona is exposed to increasing hazards from the regionally and rapidly increasing human population. These include extensive loss and modification of riparian breeding and foraging habitat through clearing of vegetation, changes in groundwater levels, and changes in water quality. Threats persist in Arizona largely due to the proximity of bald eagle breeding areas to major human population centers and recreation areas.

Additionally, because water is a scarce resource in the Southwest, recreation is concentrated along available watercourses. Some of the continuing threats and disturbances to bald eagles include entanglement in monofilament fish line and fish tackle; overgrazing and related degradation of riparian vegetation; malicious and accidental harassment, including shooting, off-road vehicles, recreational activities (especially watercraft), and low-level aircraft overflights; alteration of aquatic and riparian systems for water distribution systems and maintenance of existing water development features such as dams or diversion structures; collisions with transmission lines; poisoning; and electrocution (Beatty *et al.* 1999; Stalmaster 1987). In Arizona, the use of breeding area closures and close monitoring of nest sites through the ABENWP has been and will continue to be essential to the recovery of the species. Ensuring the longevity of the ABENWP and other important bald eagle management activities of AGFD is of primary concern to the Service (USFWS 1999).

Human presence too close to nests can result in flight reaction by adults, unsuccessful or cessation of foraging activities, premature fledging by nestlings, or nest failure. Human presence and noise levels on the beach and in the river will occur year round, annually. Fishing activities and associated debris and trash (fishing line, lures, hooks, etc) are threats to the species. Trash attracts ravens, brown-headed cowbirds, and potential bald eagle predators (eggs and/or young are especially at risk). Noise (levels, intensities, and durations) of voices, vehicles, machinery, and music disturb bald eagles and can cause eagles to abandon the area.

ENVIRONMENTAL BASELINE (IN THE ACTION AREA)

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.

The Service defines the action area to include Saguaro Lake, the stretch of the Lower Salt River from Km 6 to Km 36, and associated lands along the river, for reasons discussed in the “Effects of the proposed action” section of this BO.

The entire Lower Salt River has recreational developments to accommodate water-based recreation. Riverside campgrounds and extensive roads run the length of the river and occur in the action area. Saguaro Lake has been developed for recreation and receives consistent and

considerable year round use. The action area is close and convenient to Phoenix (and Tempe, Mesa, Fountain Hills, and other communities). Human activities in the action area include tubing, camping, picnicking, hiking, cliff and rock climbing, fishing, hunting, shooting, vandalism, and off-road vehicle driving.

Species in the action area

CFPO

While CFPOs have not been detected in the action area or the project area, (1998, 1999, 2000), CFPO were detected at the confluence of the Salt and Verde Rivers (1971)(M. Wrigley, pers. comm.). The proposed project is within designated CFPO critical habitat. Nesting habitat is in degraded condition. There are scattered, large mesquite and palo verde trees [greater than six inches diameter breast height (dbh)] in the action and project areas, and some additional large trees in a wash that runs across the project area, although the canopy in the wash is relatively sparse. Foraging, thermal cover, and dispersal habitat occurs in the action and project areas.

Bald Eagle

Unless otherwise cited, the following bald eagle information comes from the Hunt *et al.*, 1992 report prepared for the Bureau of Reclamation by BioSystems Analysis, Inc. While the data were obtained ten years ago, the descriptions, analysis, and projections are still very much valid today.

The Blue Point bald eagle breeding area is located along the regulated Lower Salt River below Stewart Mountain Dam and along Saguaro Reservoir above the dam. The Blue Point breeding area was discovered in 1930 and has been very productive, with bald eagle pairs fledging three young per year on six occasions since 1981. The Blue Point eagles have laid eggs from 19 January to 6 February, hatching young from 23 February to 13 March, and fledging eagles from 13 May to 7 June.

Breeding season (nest and egg attendance, protection from predators and nest shading, and feeding and fledging young) is from January 1 through May 30, annually. During incubation and early nestling stages, breeding bald eagles have less time to gather and consume prey due to the time they spend incubating eggs and brooding eaglets.

The Blue Point eagles have built a pinnacle nest (#1), a cliff nest (#5), three nests in live cottonwood trees (#2, #3, and #4) on the regulated Salt River below Stewart Mountain Dam, a pinnacle nest (#6) in a side canyon off Willow Springs Cove on Saguaro Reservoir, and a cliff nest (#7) located near the pinnacle nest.

Two cliff nests (#8 and #9) are located on the Salt River above Stewart Mountain Dam. The pinnacle nest (#6) was used from 1987 to 1988 and from 1991 to 1992, and the cliff nest (#7) was used from 1993 to 1999 (SRP 1998).

Bald eagles forage year round, and the Blue Point eagles forage at Saguaro Reservoir and in the regulated Salt River below Stewart Mountain Dam. The most important foraging areas for the Blue Point eagles are 1) the river section between Kms 13 and 20, 2) the areas of drowned

mesquites at Kms 12 and 14 and, 3) Willow Springs and Camper's Coves. The Blue Point Bridge is located at approximately Km 16 and the cliffs provide foraging perches for Kms 12 through 16.

Reports in 1984 and 1985 maintained that the eagles concentrated their foraging near the dam spillway after AGFD stocked trout in the area, and that eagles utilized the reservoir more often than they did the river as river recreation (tubing) increased. In addition, the eagles utilized the Blue Point Cliffs and the mud cliffs near the Blue Point Ranger Station for perching.

The male eagle from the Blue Point breeding area was captured and radio-tagged in March 1987; his movements were tracked throughout 1987 and 1988. Telemetry data indicated the home range of the Blue Point pair extended from Km 6 on the Salt River to Km 36 on Saguaro Reservoir, totaling 30 Km. The bald eagles foraged from Bull Dog Cliffs on the Salt River at Km 20, and the area of the Salt River near Blue Point Bridge from Km 13 through Km 15. In addition, the eagles also frequented the upper Saguaro Reservoir and Willow Springs Cove areas, although to a lesser extent.

In March and April of 1987 and 1988, the male eagle used the river portion of his home range much more than he used the reservoir section. In April 1987, he used the Salt River for 72 percent of his visitation. This eagle also used the furthest downstream portion of his home range in March and April and was recorded as far as Km 11 in both years.

Throughout the rest of the breeding season, the male's use of the river dwindled as his visits to the reservoir increased. Hunt *et al.* (1992) found that both the river and the reservoir contributed significantly to the diet of the Blue Point bald eagles. Suckers were taken exclusively from the river, while all waterfowl, yellow bass, and flathead catfish came from the reservoir.

Each prey item is important to the overall success of breeding bald eagles as they are often dependant on different food sources becoming available during the breeding season. The importance of spawning native suckers along rivers are particularly important. Blue Point was one of the territories defined as being key to the eagle's foraging strategy. Without this component, the bald eagles likely would not have been successful. Loss of native sucker populations along the upper Salt River has been implicated as the likely cause of reduced success of eagles along this stretch of river during the 1990s (AGFD in prep.). As a result, continued access to spawning suckers below Stewart Mountain Dam is crucial to maintaining the success of the Blue Point bald eagles.

Hunt *et al.* (1992) indicated the Blue Point pair incurred the highest human disturbance of any of the breeding territories in Arizona because Saguaro Reservoir and the lower Salt River are the largest and closest recreation areas to metropolitan Phoenix. Detrimental effects caused by the high amount of public recreation use at Blue Point are suggested by the unusually high turnover rate (mortality) of adults there; this breeding area has the greatest number of adult bald eagle mortalities in Arizona, with seven having occurred since 1971.

Tubing and rafting are the most popular recreational activities on the lower Salt River. Salt River Recreation (SRR), a concessionaire of the Forest Service, rents inner tubes to the public which are used to float this section of the river. SRR operates their service from the last week of

April until mid-September. In addition to tubers, Hunt *et al.* (1992) noted greater numbers of anglers, RV enthusiasts, and sunbathers utilizing the river. After river flows increased in early May, rafting activity increased, with as many as 70 rafters per hour passing Blue Point Bridge.

While there are documented incidents of tubers directly affecting eagles and their young (tubers attempted to capture an eaglet that could not yet fly), tubing does not generally pose a physical threat to the birds. Data indicate eagles shift foraging spots when tubing numbers increase in the summer and on weekend (Hunt *et al.* 1992). Anecdotal information indicates when river flows are at their lowest, people cross the river and climb up to the cliff nests, and deliberate eagle harassment has occurred in past years. Human activity on the river during eagle breeding season could interfere with their foraging, causing more expenditure of energy, due to being flushed more often from their perches. Additionally, availability and timing of fish in the river contributes to the overall success or failure in the eagle's ability to secure enough food for successful nesting. People and/or their presence could interfere with bald eagle courtship, nesting, egg laying, rearing and fledging young, and successful foraging, by simple passive presence (consistent or intermittent) or active harassment of eagles.

Hunt *et al.* (1992) indicated they do not know to what extent increased recreation on the river in late April and May contributed to the shift in eagle visitation from the river to the reservoir during that time period. The shift might be due to the availability of carrion yellow bass increasing on the reservoir, but the increase in public use is also substantial during this time.

Eagles were recorded foraging in the Blue Point bridge area from February into May. Variation in the amount of use was largely dependent on fish activity, which was largely dependent on water temperatures. The most important months for bald eagle's successful foraging on the river were March and April. Ambient public disturbance levels in the high use foraging areas in 1987 and 1988 did not appear to prevent the eagles from successfully foraging and raising young. The eagle's use of the river between Kms 13 and 20 suggests they require human disturbance protection, particularly during the spring in years they successfully nest (Hunt *et al.* 1992). Hunt *et al.* (1992) recommended that the foraging areas remain free of further facility development (e.g., roads, picnic grounds, etc.), that would draw greater numbers of people to them.

The action area provides 100 percent of the local bald eagle's foraging area and 100 percent of their nesting area. Different types and total numbers of water-based recreation users, associated noise levels, duration and proximity, can be measured. Direct effects of water-based recreation users to bald eagles and typical foraging and nesting behaviors can be noted and analyzed.

While the proposed project area is small in comparison to the rest of the Salt River, the project area is at a very important bald eagle foraging area; one of the most important in terms of successful bald eagle reproduction in the state. A great deal of the Salt River is already impacted and developed; other sites may exist, but food sources, accessibility, and availability at the proper times may not exist for bald eagle foraging and nesting needs.

Effects on foraging bald eagles can be quantified; less successful foraging in this area would be expected to be related to increased incidences of nest failures. Key foraging and nesting habitat elements are grouped closely at Blue Point; adequate, available, and accessible food sources; perch sites (the cliffs, although short, are useable by eagles); nesting sites (pinnacles, trees, cliff

ledges), and relatively low enough human disturbance levels that they may not significantly interfere with successful bald eagle reproduction.

Concentrated human use at Blue Point has contributed to the deterioration of the river system, as seen by the degraded upland condition and the lack of riparian habitat, including nesting and perching trees on the river.

The 1990 BioSystems Report (Volume III, pages B-68-D-82) contains detailed description and analysis of the Blue Point breeding area location, including various recreational impacts from human presence, incidents of harm and harassment of eagles by people, trash, noise, pollution, and sheer numbers of river users. The report notes that recreation and development in the action area is believed to have resulted in the following:

a) The nesting eagles moving their nests from along the river to a mile from the water; eagles not using tree nests due to recreation/degradation. As a result, recreation would appear to have a negative impact on bald eagle nesting habitat, basically rendering nest sites along the river unsuitable for breeding (Hunt *et al.* 1992).

b) Exposed pinnacle nest in Goldfields led to eaglets jumping from nest and dying to escape heat in 1988 (Hunt *et al.* 1992).

c) As of 1992, Blue Point was considered the territory with the highest turnover rate (mortality) in the breeding pair (Hunt *et al.* 1992).

d) Low-flying aircraft in 1985 was believed to have caused the adults to stop delivering prey to the eaglets and the death of one eaglet. The male subsequently was observed attacking helicopters; not uncommon for the eagle (Hunt *et al.* 1992).

e) Human presence and activity in approaching the nest area from water users recreation area was implicated in causing failure of the nest in 1990 (Hunt *et al.* 1992). This was the only known nesting attempt along the river since 1985.

f) Disturbance to eagles on the lake: Biologists studying foraging eagles in Willow Springs Cove prevented recreationists from entering the cove in 1987. From May 27 to June 4, 1987, they witnessed 11 forage attempts in the cove and 10 elsewhere on the reservoir. On June 12, 1987, and from June 24 to 30, 1987, they did not discourage recreationists from entering the cove and they observed only two foraging attempts and six elsewhere on the reservoir. Eagles were observed being flushed six times in the June monitoring period in Willow Springs Cove in 1987.

EFFECTS OF THE ACTION

CFPO

The proposed developed recreation project is located within designated CFPO critical habitat and will result in the removal or modification of approximately 163 acres of critical habitat (including removal of approximately 95 trees six inches or greater dbh). CFPO are not currently known to be using this specific site, so noise and disturbance during construction should have no effects on CFPO. Noise from year round use after construction is complete and public use on the site begins may affect any CFPO that use this site in the future. The proposed project will appreciably reduce the total number of site users from currently unregulated levels, eliminate unofficial or illegal roads, and regulate day use, overnight camping, sanitation and trash.

Bald eagle

Because this area is the primary foraging and perching area for the bald eagles that successfully use this site annually, it is critical for continued bald eagle success. Effects of recreation use to foraging bald eagles depends on many factors including timing and availability of food, accessibility of the birds to the food, the number and quality of foraging sites available to the eagles, and the persistence, timing, intensity and proximity of recreation activities in the vicinity.

The frequency of disturbance from people at this site is likely to be highest and most often during the daylight hours (particularly during at least five summer months), year round, every year. Anecdotal information tells of increasing crowds, noise, and trash (biological or otherwise), from river tubing annually. Currently, trends in visitor use indicate that human activities and noise peaks and is sustained through at least five summer months and lessens during the winter months. However, as the nearby metropolitan areas (Phoenix and surrounding communities) grow in population, increased and continual water-based recreation will occur. The number of water-based recreation users continues to rise and is expected to become more constant and additive throughout each year. The proposed action should reduce the existing and future level of disturbances by limiting public use of this area.

Low disturbance intensities could be expected to occur, especially on weekends, during the winter months. With the facilities provided by the proposed project in place, an increase in weekday and winter month-use could be reasonably expected to occur. Human activities could be expected to increase as the weather warms up, remain high in summer, and not drop off until the weather changes to a cooler season and the water flows drop.

Disturbance severity depends on a number of factors such as distances that people approach or linger at a nest or forage site, the presence of great numbers of people tubing in the river that interferes or prevents successful bald eagle foraging, nest site selection activities, courtship, or other nesting disturbance by climbers, and noise levels that disturb or alter foraging or reproductive behavior of bald eagles. Severity could be expected to be low in winter months, climb during spring, peak and sustain in summer months, and decrease in winter, every year.

Successful and adequate foraging during nesting season is important for reproductive success. Adult bald eagles have less time in which to gather and consume prey; they spend up to half of their original forage time sitting on eggs (Beatty, pers. comm.). When the young hatch, they are even busier with feeding them, as well as themselves. Disturbance to foraging eagles may cause them to spend additional time and energy to find food. If they are forced by disturbance to fly away from a site near the nest, they risk searching for food in an area and site possibly unknown to them. This may alter their foraging success. Extended absence from the nest leaves eggs and/or young in a vulnerable state for longer periods of time, subject to temperature changes and/or predation. In addition, experience aids in foraging success; if a bald eagle is unsuccessful at foraging, reproduction may suffer.

Disturbances to bald eagles can vary in intensity, level and degree. Low level, short-duration, temporary disturbances to bald eagles (such as nest-watching from a distance) may be easier for

the birds to recover from than higher-level, long-term, permanent changes (such as a year-round recreation site with buildings, consistent human presence, paved parking, vehicles, noise, and concessionaires).

Some individual birds may habituate to differing levels of disturbance or noise, but high levels of disturbance have been shown to cause strong reactions in nesting birds. Reactions of the bald eagles that frequent this area are unpredictable; they could range from continued foraging and nesting in the area, to moving nests farther away and continuing to forage (with or without reproductive success), to abandonment of nesting and foraging at this site.

Recreation was once considered a non-consumptive use in regards to its effects to wildlife, but that is no longer true (Knight and Cole 1995). Recent studies have demonstrated how recreation can influence the behavior of foraging and nesting eagles. McGarigal *et al.* (1991) discovered that foraging eagles typically avoided an area within 400 meters of an experimental stationary boat. Buffer areas up to 800 meters (approximately 2500 feet) were recommended. Their study confirmed that boating activities have the potential to significantly affect eagle spatial use patterns and can effectively cause eagles to avoid use of an area. This is not unlike what bald eagles in central Arizona and the Blue Point breeding area experience.

Another study along the Gulkana River in Alaska (Steidl and Anthony 1999) assessed the effects of increased recreation to nesting eagles. The Gulkana River has received greater use due to its proximity to two large cities, abundant sportfish populations, and easy road access. Human activity decreased some eagle activity by 59 percent and the time they left their nest area unattended increased 24 percent. This resulted in birds consuming 29 percent less prey per day. The authors believed that nestlings probably suffered the highest cost because of their dependence on the adults for food (causing reduced growth rates and lowered survivability).

The cliffs at Blue Point are not very tall, but are used as perches by the eagles as they are the only perch areas in the vicinity. Other locations on the river are inferior for bald eagle foraging, as evidenced by the lack of eagle use. The Forest Service has established developed recreation sites along the Salt River on public lands, the number of river users is increasing in intensity and duration, and effects to bald eagles at Blue Point are only anticipated to increase through time.

Disturbance to foraging the Blue Point bald eagles from the proposed project will likely increase during late spring and early summer, peak in mid-summer and continue until the water level drops too low for people to tube, or the weather turns too cold. This will occur annually. If disturbance levels are too high or activities and presence of people in or on the river alters or prevents successful foraging, bald eagle reproduction could suffer. During breeding season, bald eagles spend approximately half their time sitting on eggs or attending nestlings and half their time foraging. If forced by disturbance to forage for longer periods of time, or to shift foraging sites, time and energy expended would be taken from egg sitting or nestling attendance. Eggs and young would be more vulnerable and exposed to temperature changes and predation for longer periods of time. This could result in reduced or failed reproduction.

The annual bald eagle breeding season closure for the Blue Point West picnic and beach site is anticipated to help keep people at greater distances from nests than if there were no closure order. This area will be closed to vehicles and people during the closure. The closure will be as

follows: the Blue Point West site will be closed to people and vehicles from February 1 through the Friday prior to the Memorial Day weekend, annually. It will be opened for Easter weekend (Good Friday through Easter Sunday, annually). Should bald eagle nest monitoring by AGFD personnel (or their appropriate or official designates) during the bald eagle breeding season closure confirm reproductive failure for that season, the closure will be lifted for the remainder of that bald eagle breeding season. This closure and timing is anticipated to reduce disturbance to nesting bald eagles during the critical times of their breeding season.

Signing, warning and educational, will be clearly posted for site visitors, in English and Spanish. The total number of visitors at any one time will be regulated by the finite number of designated parking spaces available. Noise levels, durations, and intensities will be regulated and kept lower than if use were unregulated, as is currently ongoing. The sanitary facilities, trash collection and pickup, area access, and parking will be regulated and maintained at a standard that inflicts the least amount of effects on the bald eagles. All this will help reduce effects to nesting bald eagles.

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 Service is not aware of any other future Federal, State, tribal or private actions for the action area; however, public use of this portion of the river is expected to increase as the population of metropolitan Phoenix (and adjacent communities) increases.

CONCLUSION

After reviewing the current status of the bald eagle, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the proposed Blue Point Developed Recreation project, as described, is not likely to jeopardize the continued existence of the bald eagle. Our reasons for this conclusion are:

1. The population status of the bald eagle continues to improve overall,
2. While the proposed project will likely increase year round use at the site, the total number of site users will be reduced, regulated and managed for lessened effects, and
3. The seasonal closure will help reduce human disturbance effects to the species, especially during the latter part of the critical bald eagle breeding season.

No critical habitat has been designated for this species; therefore, none will be affected.

Due to modifications made to the project design and layout, which include tree planting and survivability on site, it is the Service's biological opinion that the proposed project, as described, is not likely to jeopardize the continued existence of the CFPO or destroy or adversely modify CFPO critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation 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 further defined by the Service 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 by the Service 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.

The measures described below are non-discretionary, and must be undertaken by the Forest Service so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Forest Service has a continuing duty to regulate the activity covered by this incidental take statement. If the Forest Service (1) fails to assume and implement the terms and conditions or (2) fails to require the (applicant) to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Forest Service must report the progress of

the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

AMOUNT OF EXTENT OF TAKE

The Service anticipates that no CFPO will be taken as a result of the proposed action.

The Service anticipates one pair of bald eagles and associated eggs and/or young, annually, could be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment of foraging bald eagles during spring and summer months.

The Service will not refer the incidental take of 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 the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the bald eagle, or destruction or adverse modification of CFPO critical habitat.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

Reasonable and prudent measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of bald eagles:

1. The Forest Service will maintain an annual bald eagle breeding season closure at Blue Point.
2. The Forest Service will maintain, lock, and sign gates and fences in the project area.
3. The Forest Service will inform and educate the public, particularly river recreationists, of the bald eagle breeding seasonal closure and the reason for it.
4. The Forest Service will establish and enforce a reasonable capacity of use for Blue Point.
5. The Forest Service will aid the AGFD in their bald eagle management programs for the state.
6. The Forest Service will actively participate in the Bald Eagle Conservation Agreement, Assessment, and Strategy, beginning in year 2000.
7. The Forest Service will monitor and report to the Service by January 31, annually.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. The Forest Service will close all public use (pedestrian and vehicular) at the Blue Point West picnic/beach site from February 1 to the Friday prior to the Memorial Day weekend, annually; with the following exceptions:

a. The Blue Point West picnic/beach site may be open for the Easter weekend (Good Friday through Easter Sunday).

b. The Forest Service may open Pebble Beach campground site (the northeast quadrant) for day use equestrian truck and trailer parking from February 1 through May 15, annually, with the following stipulations:

i. The public will be made aware of the bald eagle breeding season closure, the location boundaries of the closure, and associated restrictions,

ii. The public may bring and will completely remove all their own trash and animal feed, and

iii. Equestrian traffic will not be allowed on the beaches or in the river area.

2. The Forest Service will maintain fences and locked and signed gates to prevent unauthorized access to the Salt River except at designated entry and exit points at Blue Point.

3. The Forest Service will patrol the Blue Point site and campground daily and ensure public compliance with all rules and regulations. The Forest Service will post a minimum of six bald eagle annual seasonal closure signs (in English and Spanish) at campgrounds and developed sites up-and downstream and at or on the Blue Point bridge where they can be read by recreationists. The text will explain the closure and the reasons for it, and include a map of the closure area. The Forest Service will also post educational signs that describe the importance of protecting eagles post-listing, the dangers to adult and young eagles from fishing lines, hooks, etc., and any other proactive ways the public can help protect the eagles. Text and sign location will be coordinated with the AGFD's BEMC and their Mesa Office's Wildlife Specialist.

4. The Forest Service will monitor and enforce a specific capacity of users (set at a peak use maximum of 1,715 people) at Blue Point on a daily basis. The Forest Service will not allow use of amplifiers (noise, voice, or music) at the Blue Point site. The Forest Service will ensure trash pickup and disposal will be timely and appropriate for the use levels, which may vary during the year.

5. The Forest Service will assist the AGFD's bald eagle management activities annually. This includes but is not limited to providing housing for bald eagle management workers, support personnel or vehicles, equipment loans, or direct funding.

6. The Forest Service will designate a representative to be an active advocate for the Bald Eagle Agreement, Assessment, and Strategy in all applicable Forest Service projects.

7. Monitoring of the project area and other areas that could be affected by the proposed action shall be done to ascertain take of individuals of the species and/or of its habitat that causes harm or harassment to the species. This monitoring will be accomplished using the following protocol:

a. During bald eagle breeding season, if the nest site locations allow for use of the Nest Watch protocol and monitoring procedures, that will be the method of bald eagle monitoring. If the nest site locations do not allow for use of this intensive protocol, the Forest Service will arrange for either AGFD qualified personnel (or appropriate substitute personnel) to make (a minimum) of monthly visits during the season.

b. Any bald eagle egg, nestling, juvenile or adult bald eagle, injured or dead, will be salvaged and the Service and AGFD will be immediately notified. The report of the results of the monitoring, including records of all incidental take that occurred during the course of the project, will be submitted to the Service within 30 days of completion of the project. If this project is expected to last from six months to one year, or longer, an annual report or a report that details the entire length of work time for all activities associated with this project will be submitted to the Service on an annual basis, beginning from the date of project start, to 12 months after that, as one year. This report will also clearly describe how the Reasonable and Prudent measures and the accompanying Terms and Conditions were implemented in the project.

The Service believes that no more than one pair and associated eggs and/or young of bald eagles will be incidentally taken annually as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Forest Service must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures. New or additional information or subsequent changes to the project and/or its management, or the numbers of people using the site, will be reported immediately to the Service and will be cause for the Forest Service to reinitiate on this project.

DISPOSITION OF DEAD OR INJURED LISTED ANIMAL

Upon locating a dead or injured threatened or endangered animal, initial notification must be made to the Service's Division of Law Enforcement, 26 North McDonald, #105, Mesa, Arizona, 85201, at (602) 835-8289 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, and any other pertinent information. Care must be taken in handling injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible condition. If feasible, the remains of intact specimens of listed animals shall be submitted to educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information above shall be obtained and the carcass left in place. Arrangements regarding proper disposition of potential museum specimens shall be made with the institution prior to implementation of the action. Injured animals should be transported to a qualified veterinarian by a qualified biologist. Should any treated listed animal survive, the Service should be contacted regarding the final disposition of the animal.

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. The Forest Service should refrain from any future development or permitted activities that could result in a more regular human presence along the river from Stewart Mountain Dam down past Blue Point Bridge (Kms 20 to 12).
2. The Forest Service should maintain the river closure past the five-year post delisting monitoring stage of the bald eagle to ensure the continued success of the Blue Point breeding area and eagles in Arizona.
3. The Forest Service should fund a study on the effects of water-based recreation use on bald eagles at important nesting and foraging sites, with emphasis on sites affected by increasing human use levels and intensities.
4. The Forest Service should develop and promote an outreach program presentation that educates and explains the importance of protection of all species, especially recovering species.

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

REINITIATION - CLOSING STATEMENT

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 Service appreciates the Forest Service's efforts on behalf of threatened and endangered species and the public lands they inhabit. Please contact Thetis Gamberg at 520-670-4619 or Sherry Barrett at 520-670-4617 of my Tucson staff with any questions or concerns. Please refer to consultation number, 2-21-00F-027, in future correspondence concerning this project.

Sincerely,

/s/ David L. Harlow
Field Supervisor

Enclosure

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES: Steve Chambers)
Michele James, US Fish and Wildlife Service, Flagstaff, AZ
Greg Beatty, Mike Wrigley, US Fish and Wildlife Service, Phoenix, AZ

Terry Johnson, Nongame Branch, Arizona Game and Fish Department, Phoenix, AZ
Amy Heuslein, Environmental Protection Officer, Bureau of Indian Affairs, Phoenix, AZ

Blue Point BO.wpd:tatgkh

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APPENDIX A

May 21, 1999 meeting at Blue Point

Attendees: Pete Libby, Lisa Bizios (FS), Greg Beatty (Service): Notes by Greg Beatty.

Points from that meeting were:

1. Bald eagles from the Blue Point breeding area perch and forage at two primary locations along the Salt River; Bulldog Cliffs below Stewart Mountain Dam and Blue Point Cliffs at Blue Point Bridge (Hunt *et al.* 1992). Due to the large amounts of recreation that exist along the length of the lower Salt River, it is important to protect and ensure the access to foraging perches, foraging areas, and prey for eagles. These foraging areas are especially important during the breeding season when hunting times are reduced during incubation and when eagles are foraging more often to feed young.
2. Bald eagles were found to visit and forage from Blue Point Cliffs from January 1 through May 30, annually. The Service recommended the Forest Service should ensure that the downstream portions of the campground should be closed to all access. Signs should be posted and gates locked to ensure protection of this area as much as possible.
3. The Service also noted the Forest Service could to post signs at the upstream campgrounds, along the river, and on Blue Point Bridge alongside the tubing instruction sign.
4. The Service and the Forest Service agreed that construction of the campgrounds should occur during the bald eagle non-breeding season (July 15 through December 15, annually). The Service commented that the future success of eagles will require this type of consideration and management not only while the bird is listed, but also should the eagle be delisted (as is proposed). The Arizona Game and Fish Department (AGFD) is developing a Conservation Agreement, Assessment, and Strategy that outlines the importance of this type of progressive management, especially in the wake of development and population increases expected for Maricopa County and the recreation demands on the lower Salt and Verde rivers.

5. The Forest Service and the Service discussed the idea of having the campground open for Easter weekend and/or possibly having the campground used as a parking area for equestrians and their trailers. The Service believes that these specific considerations could be accomplished with the right stipulations, but without more discussion, consideration, and planning documents for development of campgrounds further upstream near the water users parking lot, the Service is unsure of that campground's effects to foraging and breeding eagles. As noted earlier, the Bulldog Cliff area is a foraging area and cliff nests #1 and #2 are located across the river from the Water users parking lot.

6. The Service and the Forest Service briefly discussed the need for plans to address the bald eagles nesting in a cottonwood tree across the river from the tubers take-out area near Orme, near the Forest Service and Salt River Pima boundary. The Service emphasized that disturbance from tubing and related human activities is likely to occur to nesting birds, foraging adults, adults feeding young at the nest, adults feeding newly-fledged young, and inexperienced newly fledged young. The Service asked that the Forest Service discuss with AGFD's Bald Eagle Management Coordinator innovative ways to manage this area in case eagles continue to nest at this location. Such ideas could include moving the take-out area upstream, providing funding for monitors through the Arizona Bald Eagle Nestwatch Program, and other types of assistance.