



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
ARIZONA ECOLOGICAL SERVICES FIELD OFFICE  
3616 West Thomas Road, Suite 6  
Phoenix, Arizona 85019



Telephone: (602) 379-4720 FAX: (602) 379-6629

2-21-92-F-189

December 2, 1992

MEMORANDUM

TO: Area Manager, Bureau of Land Management, Phoenix District,  
Kingman Resource Area, Kingman, Arizona

FROM: Acting Field Supervisor

SUBJECT: Biological Opinion, Cyprus-Bagdad Copper Corporation, Francis  
Creek Power Line

This responds to your request of September 1, 1992, for formal consultation pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended, on the Cyprus-Bagdad Copper Corporation's (CBCC) proposed Francis Creek Power Line. The species of concern is the bald eagle (*Haliaeetus leucocephalus*). The 90-day consultation period began on September 3, 1992, the date your request was received in our office.

The following biological opinion is based on information provided in the Biological Assessment, data in our files, and other sources of information.

BIOLOGICAL OPINION

It is my biological opinion that CBCC's proposed Francis Creek Power Line is not likely to jeopardize the continued existence of the southwestern population of the bald eagle.

BACKGROUND INFORMATION

Species Description

The bald eagle was listed as an endangered species on March 11, 1967 (32 FR 4001). No critical habitat has been designated for this species. The bald eagle is a large raptor once found throughout North America, nesting in trees or on cliffs near seacoasts, lakes and rivers. The primary food is fish, taken live or as carrion. Chemical contamination, chiefly by organochlorine pesticides, caused severe population declines and local extirpation throughout the species' range, through reproductive failure and direct toxicity.

Although not considered a separate subspecies, bald eagles in the southwestern United States and northern Mexico are considered a distinct population for purposes of recovery efforts and section 7 consultation under the Act (USFWS 1982, USFWS 1986). Southwestern bald eagles represent a distinct population biologically, distinguishable by morphology, breeding

chronology and geographic isolation. Southern bald eagles are smaller on average than northern and California bald eagles. The breeding cycle begins in midwinter instead of spring, apparently a behavioral adaptation to avoid the extreme heat of spring and summer. Southwestern bald eagles also frequently nest on cliffs, a phenomenon rare or absent outside this geographic region. This population also supplements its piscine diet with mammals, birds and reptiles, taken either live or as carrion (Hunt et al. 1991). Thirty-eight occupied bald eagle breeding sites have been identified in the southwestern population in recent years. Six are known from Mexico (Mesta et al. 1991, Brown et al. 1990), two from New Mexico (pers. comm., Sartor O. Williams III, New Mexico Department of Game and Fish), and 30 in Arizona (Hunt, et al. 1991, G. Beatty pers. comm.). The majority of the population inhabits Arizona, distributed along the Salt, Verde, Gila and Bill Williams Rivers and several major tributaries.

A bald eagle breeding site was first documented in the proposed project area in 1988 (Gooch and Tibbitts 1988). It is named the "Devil's Postpile" breeding area (BA), after local geological formations. Nesting activity may have taken place here as long ago as the late 1970s (J. Higgs, San Carlos Apache Game and Fish Department, pers. comm.). Two nests are currently known, in trees located along Burro Creek adjacent to the proposed power line route. Potential nest sites are also available on cliffs in the project area, but no cliff nests are known at this time.

The Devil's Postpile BA has a relatively short documented history. The available information suggests that, due to low nesting success and productivity, Devil's Postpile ranks among the least influential in its contribution to maintaining the Southwestern bald eagle population. In the five consecutive breeding seasons for which data are available (1988 - 1992), this BA has failed to produce eggs or young (G. Beatty, Arizona Game and Fish Department, pers. comm.).

#### Project Description

The proposed project consists of constructing 18.4 miles of 12.5 kV electricity transmission line. Five and one-half miles of line will be reconstruction of existing power line, from the mine to the Contreras and Urie wells. This segment would come no closer than five miles to the Devil's postpile eagle nests and would not be constructed in Burro Creek. The second segment would consist of 12.9 miles of power line, from the existing mine to the Francis Creek pumping station. This segment would run adjacent to the two existing eagle nests, and through portions of Burro Creek and Francis Creek known to be used by the resident eagles (Smith and Lashley 1991). Project activities would include: vegetation clearing; drilling; blasting; augering holes; preparing, assembling and placing poles; backfilling; and stringing and tensioning conductors. Transmission lines may be suspended from single-, double-, or triple-pole structures [Bureau of Land Management (BLM) 1992].

All the above activities would be confined to CBCC's existing rights-of-way (BLM 1992). No project construction would take place in Burro Creek Canyon or in Francis Creek during the bald eagle breeding season, December 1 through June 30, annually. The proposed power line would be designed and constructed using guidelines presented by Olendorff et al. (1981), to

reduce risk of eagle electrocution. Perch guards would be constructed between conductors on any poles having cross arms (BLM 1992).

Also within Burro Creek Canyon and Francis Creek, power lines would be placed on horizontal cross bars, and specular wire would be used. Transmission wires would therefore be more visible, and all arrayed in the same horizontal plane, to reduce the risk of eagles striking the wires.

#### EFFECTS OF THE ACTION

##### Environmental Baseline

The Southwestern bald eagle population is exposed to increasing hazards, from a regionally increasing human population. These include extensive loss and modification of riparian breeding and foraging habitat through clearing, changes in groundwater levels, and changes in water quality. Hazards also include increasing human disturbance from urban, rural and recreational encroachment into breeding habitat. This latter includes a host of threats documented by Stahlmaster (1987), such as: shooting; collision with vehicles, aircraft, transmission lines and structures; poisoning; and electrocution. The bald eagle population in the southwest was probably never very large due to limited habitat, and in pre-industrial times likely fluctuated in size in response to weather conditions (e.g. cyclic droughts and wet periods). Following the banning of domestic use of DDT in 1972, the Arizona bald eagle population has probably recovered despite increasing pressures of a regionally increasing human population and associated industrialization. However, while significant recovery has taken place, the bald eagle remains somewhat tenuously established in the Southwest. Various reports and records suggest that nesting bald eagles may have been more widely distributed in Arizona in the past. Approximately 20 historic site records strongly suggest bald eagle nest sites which are not known to have been occupied in the last decade (Hunt, et al. 1991). These observations may suggest factors are at work which limit further recovery or population expansion. These pressures compound the stresses of a naturally harsh environment for breeding bald eagles. Especially near population centers, eagle breeding sites face continually increasing threats from malicious and accidental harassment, including shooting, off-road vehicles (ORVs), low aircraft overflights, loss of nesting and foraging habitat from riparian degradation, and lethal entanglement in fishline, a threat documented by Hunt et al. (1991).

Much of the Southwestern bald eagle population is exposed to the pressures described above. Half of Arizona's 30 known breeding sites are located on rivers and near reservoirs that are easily and frequently accessed by the public, providing the potential for these threats. The Arizona Bald Eagle Nestwatch Program (ABENWP) continues to document disturbance at nest sites, and frequently intervenes to reduce harassment. This intervention has proven not only effective, but perhaps crucial in maintaining the southwestern population. Up to 50 percent of a given year's reproduction has been salvaged by ABENWP "rescue" operations. These include removing fishline and tackle from nestlings and returning nestlings into nests after they fell or jumped out in response to disturbance or to escape extreme heat.

The Devil's Postpile site is relatively remote and may have very limited exposure to the threats discussed above. However, Smith and Lashley (1991) believed vehicular traffic along the existing maintenance road may have disturbed the Devil's Postpile eagles. Although Devil's Postpile is relatively remote, it may also constitute marginal bald eagle habitat. As discussed above, this BA has never been known to produce any young. This poor performance may be due to the BA existing in peripheral, marginal bald eagle habitat. This upper reach of Burro Creek, with relatively low water flows, may not provide sufficient prey to sustain a successful breeding effort.

#### Direct and Indirect Effects of the Proposed Action

Direct effects of the proposed project are expected to be minimal. They would include habitat loss and introducing the risks of electrocution and collision with transmission wires. As discussed above, the biological assessment (BLM 1992) details measures that would be taken to minimize the threats of electrocution and collision. Loss of bald eagle habitat would be negligible or nonexistent. Approximately 2.6 acres of wildlife habitat would be disturbed for placing poles. Of this, only 0.1 acre would be lost over the long term; the remainder will be reclaimed immediately after project construction.

Replacing the current Francis Creek pump with an electric pump would reduce the number of necessary maintenance trips. As discussed above, vehicular traffic may disturb the Devil's Postpile eagles. Any reduction in traffic may therefore reduce potential disturbance of the eagles.

#### Cumulative Effects of the Proposed Action

Cumulative effects are those effects of future non-Federal (State, local government, or private) activities on endangered or threatened species or critical habitat that are reasonably certain to occur during the course of the Federal activity subject to consultation. Future Federal actions are subject to the consultation requirements established in Section 7 and therefore, are not considered cumulative in the proposed action.

No cumulative effects are anticipated in association with the proposed project. No additional developments are planned for the Burro Creek-Francis Creek area of the Devil's Postpile BA.

#### INCIDENTAL TAKE

Section 9 of the Act, as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish and wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. 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 a prohibited taking provided that such

taking is in compliance with the incidental take statement. The measures described below are nondiscretionary and must be undertaken by the agency or made a binding condition of any grant or permit issued to the applicant, as appropriate.

The Service anticipates that the proposed project will result in incidental take of bald eagles as follows:

1. Death of one bald eagle per seven years due to electrocution, resulting from perching on project power poles.
2. Death of one bald eagle per seven years due to collision with project transmission lines.

If, during the course of the action, the amount or extent of the incidental take limit is exceeded, the Bureau of Land Management must reinitiate consultation with the Service immediately to avoid violation of Section 9. Operations must be stopped in the interim period between the initiation and completion of the new consultation if it is determined that the impact of the additional taking will cause an irreversible and adverse impact on the species. The BLM should provide an explanation of the causes of the taking.

#### Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the incidental taking authorized by this biological opinion.

1. Decrease the threat of electrocution of eagles.
2. Decrease the threat of eagle collision with transmission lines along the project segment in Burro Creek Canyon and Francis Creek Canyon.

#### Terms and Conditions for Implementation

The following terms and conditions implement the above Reasonable and Prudent Measures for minimizing the incidental taking authorized by this biological opinion.

1. Minimize risks of electrocution of eagles by:
  - a. Using guidelines and configurations for transmission lines recommended by Olendorf et al. (1981).
  - b. Installing perch guards on all cross arms.
2. Minimize risks of collision with transmission lines by:
  - a. In the project segment within Burro Creek Canyon and Francis Creek Canyon, use specular or other high-visibility transmission wire.

- b. Also in this segment, place wires on a horizontal crossbar at each pole. By this method, wires will be in the same horizontal plane and collision may be reduced further.

To be exempt from the prohibitions of section 9 of the Act, the BLM is responsible for compliance with the following terms and conditions, which implement the reasonable and prudent measures described above.

The incidental take statement provided in this opinion satisfies the requirements of the Act, as amended. This statement does not constitute an authorization for take of listed migratory birds under the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, or any other Federal statute.

#### Reporting Requirements

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial notification must be made to the Service's Law Enforcement Office in Mesa, Arizona. Care should be taken in handling sick or injured birds to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

#### 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. The term conservation recommendations has been defined as Service suggestions regarding discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibility for these species.

1. The Service recommends that the BLM establish, and mark with signs, a seasonal closure area around the Devil's postpile nest site(s), to minimize disturbance of the breeding eagles. Such a closure should be designed in consultation with the Arizona Game and Fish Department and the Service.
2. The Service recommends that the BLM continue supporting the Arizona Bald Eagle Nestwatch Program, with the specific goal of ensuring periodic checking of the Devil's Postpile BA. This will allow the BLM and Service to monitor reproductive progress and disturbance at the Devil's Postpile BA, and to monitor effectiveness of the Reasonable and Prudent Measures, and the closure area, outlined above.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their

habitats, the Service requests notification of the implementation of any conservation recommendations.

CONCLUSION

This concludes formal consultation on the actions outlined in the Francis Creek Power Line biological assessment. As required by 50 CFR 402.16, reinitiation of formal consultation is required if: (1) the amount or extent of incidental take is reached; (2) new information reveals effects of the agency action that may impact 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 that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

If we can be of further assistance, please contact Tim Tibbitts or me.

Sincerely,



Gilbert D. Metz

cc: Director, Arizona Game and Fish Department, Phoenix, Arizona  
Regional Director, Fish and Wildlife Service, Albuquerque, New Mexico  
(AWE)  
Director, Fish and Wildlife Service, Washington, D.C. (HC)  
District Manager, Phoenix District, Bureau of Land Management,  
Phoenix, Arizona  
Chairperson, Southwestern Bald Eagle Management Committee, Phoenix,  
Arizona

Personal Communications

Beatty, Gregory. Bald Eagle Management Coordinator, Arizona Game and Fish Department, Phoenix, Arizona.

Driscoll, Daniel. Research Biologist, Biosystems Analysis, Inc. Santa Cruz, California.

Higgs, James. Director, San Carlos Apache Game and Fish Department, San Carlos, Arizona. (Former Wildlife Manager, Arizona Game and Fish Department, Bagdad, Arizona.)

Williams, Sartor O. III. Endangered Species Biologist, New Mexico Department of Game and Fish, Santa Fe, New Mexico.

Literature Cited

- Brown, B.T., R. Mesta, W.C. Leibfried and J.A. Olivera. 1990. Bald eagles of northwest Mexico: Reproductive success of the 1990 nesting season. Draft report submitted to the U.S. Bureau of Reclamation and the Salt River Project, May 30, 1990. 18 pp.
- Bureau of Land Management. 1992. Biological assessment for Cyprus - Bagdad Copper Corporation's proposed Francis Creek Power Line and water line replacement project. Bureau of Land Management, Kingman, Arizona. 26 pp.
- Gooch, M.T. and T.J. Tibbitts. 1988. Bald eagle nesting survey: final report and recommendations. Arizona Game and Fish Department, Phoenix, Arizona.
- Hunt, W.G., E.W. Bianchi, D.E. Driscoll, and R.E. Jackman. 1991. Ecology of breeding bald eagles in Arizona, Parts A - F. Report to the U.S. Bureau of Reclamation, Contract No. 6-CS-30-04470. BioSystems Analysis, Inc. Santa Cruz, California.
- Mesta, R., R.V. Romero and E.S. Monarque. 1991. 1991 Bald eagle population survey, Rio Yaqui, Sonora. Draft report to U.S. Fish and Wildlife Service. October 1991. 16 pp.
- Olendorff, R.R., A.D. Miller, and R.N. Lehman. 1981. Suggested practices for raptor protection on power lines: the state of the art in 1981. Raptor Res. Rep. No. 14, Raptor Res. Foundation., Inc., St. Paul, Minnesota. 111 pp.
- Smith, R.N. and F.A. Lashley. 1991. Devil's Postpile Nestwatch report. Arizona Bald Eagle Nestwatch Program. Arizona Game and Fish Department, Phoenix, Arizona. 19 pp.
- Stahlmaster, M.V. 1987. The bald eagle. Universe books. New York, New York. 227 pp.
- U.S. Fish and Wildlife Service. 1982. Bald eagle recovery plan (Southwestern population). U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 65 pp.
- U.S. Fish and Wildlife Service. 1986. Memorandum, from Service Director to Regional Directors, re: Jeopardy standard under the Endangered Species Act. U.S. Fish and Wildlife Service, Washington, D.C. March 6, 1986.