



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



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

June 1, 1994

In Reply Refer To:
AESO/ES
2-21-94-I-359

MEMORANDUM

To: Area Manager, Bureau of Land Management, Yuma Resource Area, Yuma, Arizona

From: State Supervisor

Subject: Conference Opinion for the Construction and Maintenance of a Proposed 69-kilovolt Arizona Public Service Company Powerline near San Luis, Arizona

This conference opinion responds to your request for a formal conference with the Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (Act). Your request for conferencing was dated May 11, 1994, and received by us on May 16, 1994. The proposed action includes construction, operation, and maintenance of a 69-kilovolt (kV) powerline near San Luis, Arizona. At issue are impacts the proposed action may have on the flat-tailed horned lizard (*Phrynosoma mcallii*), a species proposed for Federal listing as threatened.

This conference opinion was prepared using information from the following sources: your May 11, 1994, request for conferencing; Bureau of Land Management (Bureau) environmental assessment AZ-055-94-40 (Bureau 1994a); the threatened and endangered species clearance for the project (Bureau 1994b); a letter dated April 4, 1994, from Arizona Public Service (APS) to the Bureau of Reclamation (APS 1994); informal coordination between our staffs; and our files.

Conference Opinion

It is the finding of the Service that the proposed action is not likely to jeopardize the continued existence of the flat-tailed horned lizard. No critical habitat has been proposed for the flat-tailed horned lizard, thus destruction or adverse modification of proposed critical habitat would not occur.

Description of the Proposed Action

APS proposes to construct 42,760 feet (8.1 miles) of 69-kV powerline and a substation in the Yuma Valley and the South Yuma Mesa northeast of San Luis, Arizona (Bureau 1994a) (Figure 1). The purpose of the project is to help meet the current and projected power needs for San Luis, Arizona (Bureau 1994a). The project would be constructed along existing roadways, thus no new access would be constructed. The northern 5.7 miles of the project would lie adjacent to Avenue G. This portion of the proposed route is on private land in an agricultural area in the Yuma Valley. The remaining southern 2.4 miles of the proposed route, south of the East Main Canal on the Yuma Mesa (Figure 1), are on lands administered by the Bureau and the Bureau of Reclamation. APS has requested right-of-way on 4.9 acres of public land to construct the project.

Flat-tailed horned lizard habitat only occurs in the southern 2.4 miles of the route. In this area, most of the proposed powerline would be routed adjacent to an existing Bureau of Reclamation 34.5-kV powerline. Construction vehicles would use the access route along this existing powerline. The northern 0.51 mile of the line on the Yuma Mesa would be accessed by cross-country travel. No new access would be bladed. Approximately one week, probably in June 1994, would be required to auger 16-inch diameter holes and install 22 poles on the southern 2.4 miles of the route. To accomplish these actions a tracked vehicle would travel approximately 17 feet to one side of the centerline of the right-of-way. The auger would be attached to a boom that would swing out to the centerline. Approximately one month after the poles were in place, the same tracked vehicle would be used to attach three conductors and one ground wire. The line would be pulled and tensioned from two sites (Figure 1). Routine inspections of the powerline would be conducted on-the-ground annually. Additional inspections would be made with aircraft.

The Bureau and APS propose the following measures to reduce the effects of the action on the flat-tailed horned lizard (Bureau 1994a and b, APS 1994):

1. The tracked vehicle used to auger the holes and place the powerpoles would travel on existing access routes where they exist and avoid large shrubs and straddle smaller ones in areas requiring cross-country travel.
2. APS shall disturb no more of the surface than is absolutely necessary.
3. Routes between existing roads and new pole sites shall not be bladed. No new roads shall be bladed.
4. The number of construction vehicles shall be held to a minimum and operated at a speed limit of 15 miles per hour.

Arizona State Maps Corporation, 1974

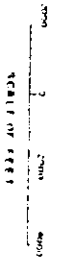
BAJA CALIFORNIA

MEXICO U.S.A.

ARRIAGA COUNTY YUMA COUNTY

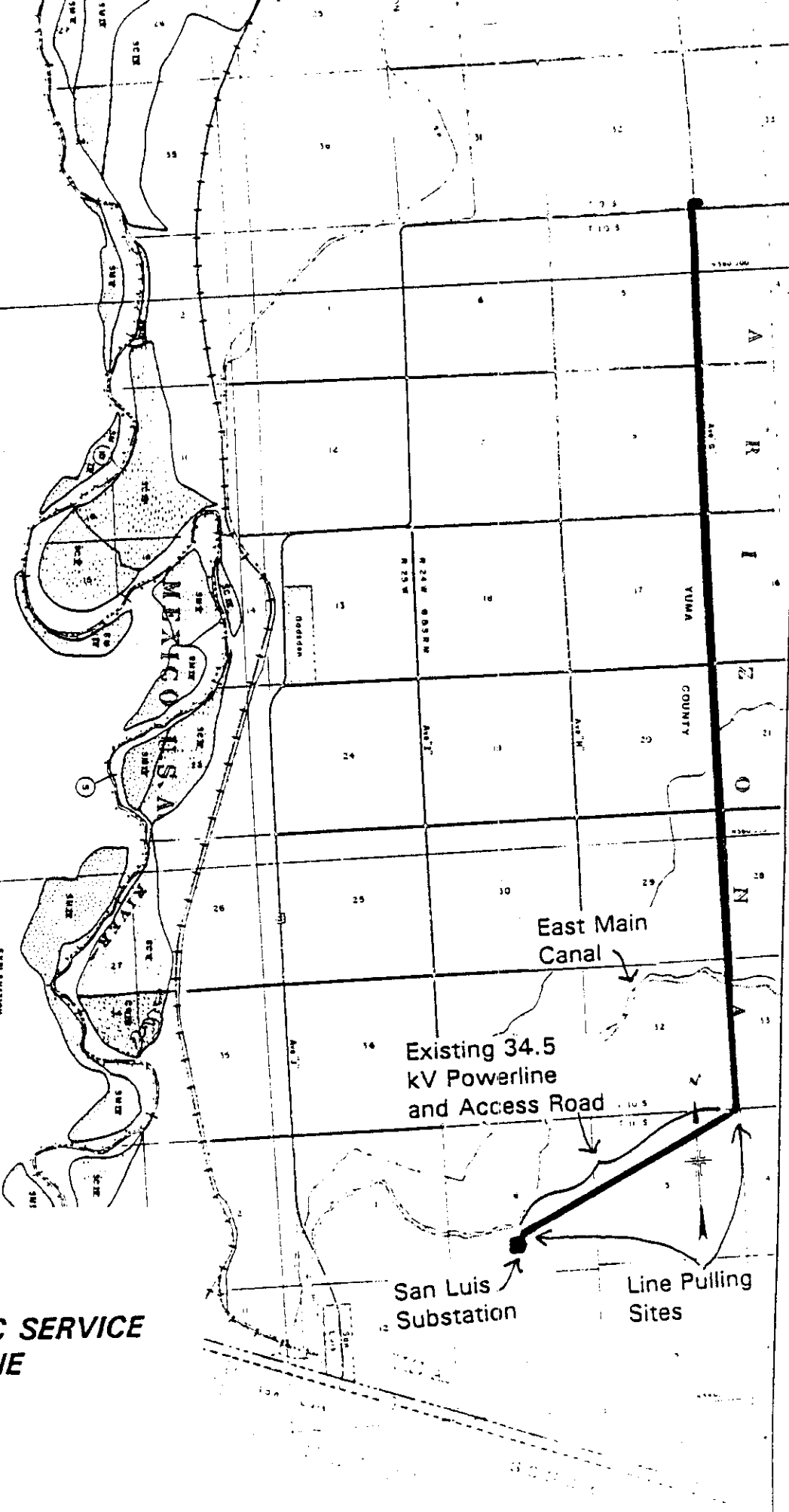
EXPLANATION

VEG	VEGETATION COMMUNITY
1	DESERT SCRUB
2	SALT DESERT
3	SALT DESERT - MOUNTAIN
4	SALT DESERT - MOUNTAIN
5	SALT DESERT - MOUNTAIN
6	SALT DESERT - MOUNTAIN
7	SALT DESERT - MOUNTAIN
8	SALT DESERT - MOUNTAIN
9	SALT DESERT - MOUNTAIN
10	SALT DESERT - MOUNTAIN
11	SALT DESERT - MOUNTAIN
12	SALT DESERT - MOUNTAIN
13	SALT DESERT - MOUNTAIN
14	SALT DESERT - MOUNTAIN
15	SALT DESERT - MOUNTAIN
16	SALT DESERT - MOUNTAIN
17	SALT DESERT - MOUNTAIN
18	SALT DESERT - MOUNTAIN
19	SALT DESERT - MOUNTAIN
20	SALT DESERT - MOUNTAIN
21	SALT DESERT - MOUNTAIN
22	SALT DESERT - MOUNTAIN
23	SALT DESERT - MOUNTAIN
24	SALT DESERT - MOUNTAIN
25	SALT DESERT - MOUNTAIN
26	SALT DESERT - MOUNTAIN
27	SALT DESERT - MOUNTAIN
28	SALT DESERT - MOUNTAIN
29	SALT DESERT - MOUNTAIN
30	SALT DESERT - MOUNTAIN
31	SALT DESERT - MOUNTAIN
32	SALT DESERT - MOUNTAIN
33	SALT DESERT - MOUNTAIN
34	SALT DESERT - MOUNTAIN
35	SALT DESERT - MOUNTAIN
36	SALT DESERT - MOUNTAIN
37	SALT DESERT - MOUNTAIN
38	SALT DESERT - MOUNTAIN
39	SALT DESERT - MOUNTAIN
40	SALT DESERT - MOUNTAIN
41	SALT DESERT - MOUNTAIN
42	SALT DESERT - MOUNTAIN
43	SALT DESERT - MOUNTAIN
44	SALT DESERT - MOUNTAIN
45	SALT DESERT - MOUNTAIN
46	SALT DESERT - MOUNTAIN
47	SALT DESERT - MOUNTAIN
48	SALT DESERT - MOUNTAIN
49	SALT DESERT - MOUNTAIN
50	SALT DESERT - MOUNTAIN
51	SALT DESERT - MOUNTAIN
52	SALT DESERT - MOUNTAIN
53	SALT DESERT - MOUNTAIN
54	SALT DESERT - MOUNTAIN
55	SALT DESERT - MOUNTAIN
56	SALT DESERT - MOUNTAIN
57	SALT DESERT - MOUNTAIN
58	SALT DESERT - MOUNTAIN
59	SALT DESERT - MOUNTAIN
60	SALT DESERT - MOUNTAIN
61	SALT DESERT - MOUNTAIN
62	SALT DESERT - MOUNTAIN
63	SALT DESERT - MOUNTAIN
64	SALT DESERT - MOUNTAIN
65	SALT DESERT - MOUNTAIN
66	SALT DESERT - MOUNTAIN
67	SALT DESERT - MOUNTAIN
68	SALT DESERT - MOUNTAIN
69	SALT DESERT - MOUNTAIN
70	SALT DESERT - MOUNTAIN
71	SALT DESERT - MOUNTAIN
72	SALT DESERT - MOUNTAIN
73	SALT DESERT - MOUNTAIN
74	SALT DESERT - MOUNTAIN
75	SALT DESERT - MOUNTAIN
76	SALT DESERT - MOUNTAIN
77	SALT DESERT - MOUNTAIN
78	SALT DESERT - MOUNTAIN
79	SALT DESERT - MOUNTAIN
80	SALT DESERT - MOUNTAIN
81	SALT DESERT - MOUNTAIN
82	SALT DESERT - MOUNTAIN
83	SALT DESERT - MOUNTAIN
84	SALT DESERT - MOUNTAIN
85	SALT DESERT - MOUNTAIN
86	SALT DESERT - MOUNTAIN
87	SALT DESERT - MOUNTAIN
88	SALT DESERT - MOUNTAIN
89	SALT DESERT - MOUNTAIN
90	SALT DESERT - MOUNTAIN
91	SALT DESERT - MOUNTAIN
92	SALT DESERT - MOUNTAIN
93	SALT DESERT - MOUNTAIN
94	SALT DESERT - MOUNTAIN
95	SALT DESERT - MOUNTAIN
96	SALT DESERT - MOUNTAIN
97	SALT DESERT - MOUNTAIN
98	SALT DESERT - MOUNTAIN
99	SALT DESERT - MOUNTAIN
100	SALT DESERT - MOUNTAIN



VEG

**FIGURE 1:
ARIZONA PUBLIC SERVICE
69-kV POWERLINE
LOCATION MAP**



5. Biological monitors (individuals trained to identify flat-tailed horned lizards) shall walk a 10 by 10 feet grid pattern in front of heavy equipment to flush lizards off the immediate work area and remove lizards during construction.

6. Project employees shall be informed of the sensitive nature of the flat-tailed horned lizard and its impending status.

7. Holes drilled for power poles will not be left open, but rather the pole will be installed immediately upon completion of the drilling activity.

Species Account

On November 29, 1993, the Service published a rule in the Federal Register proposing the flat-tailed horned lizard as a threatened species (U.S. Fish and Wildlife Service 1993). The flat-tailed horned lizard is a small, cryptically colored, iguanid lizard restricted to flats and valleys in the western Sonoran Desert, including the Coachella, Borrego, and Imperial valleys in California; the Yuma Desert in extreme southwestern Yuma County, Arizona; and adjacent portions of Baja California Norte and Sonora, Mexico (Johnson and Spicer 1985).

In Arizona, the range of this species is bounded by the Gila River on the north, urban and agricultural development along the Colorado River on the west, and the Gila and Tinajas Altas Mountains on the east (Rorabaugh et al. 1987). In this area, most records for the species are from areas of fine, often windblown sand dominated by sparse stands of white bursage (*Ambrosia dumosa*), creosote (*Larrea tridentata*), and galleta grass (*Hilaria rigida*) (Rorabaugh et al. 1987). The species shows a preference for and may be more abundant on sandy substrates as compared to desert pavement or hardpan surfaces (Muth and Fisher 1992, Rorabaugh et al. 1987).

The diet of the flat-tailed horned lizard consists primarily of ants, particularly from May to July (Parker and Pianka 1975; Turner and Medica 1982; Mark Fisher, Deep Canyon Desert Research Center, Palm Desert, California, pers. comm. 1992). The species is active primarily from mid-February to mid-November (Muth and Fisher 1992, Mayhew 1965). Mean home range of telemetered flat-tailed horned lizards in Imperial County, California was 4.7 acres (Muth and Fisher 1992). Females produce one or two clutches of eggs which hatch in July and August-September (Turner and Medica 1982, Muth and Fisher 1992). Flat-tailed horned lizards construct burrows in which they hibernate in winter and escape high temperatures in summer (Muth and Fisher 1992, Rorabaugh 1994). Mean cloacal temperature of active flat-tailed horned lizards in California was 37.7° C (Mayhew 1965). Maximum and minimum voluntary body temperatures are 41.0° and 29.3° C, respectively (Brattstrom 1965). Individuals become stressed when cloacal temperatures are 45° C or more (Mayhew 1965).

Further information on the range, biology, and ecology of the flat-tailed horned lizard can be found in Muth and Fisher (1992), Turner et al. (1980), Turner and Medica (1982), Rorabaugh et al. (1987), Rorabaugh (1994), Norris (1949), and Mayhew (1965).

Environmental Baseline

The vegetation community in which the APS 69-kV powerline would be constructed is classified as the lower Colorado River Valley subdivision of Sonoran desertscrub (Turner and Brown 1982). It is the largest and most arid subdivision of Sonoran desertscrub. Dominant perennial plant species on the proposed powerline route include creosote and white bursage. Mormon tea (*Ephedra* spp.) occurs on the edge of the mesa (Bureau 1994b).

Relative abundance of flat-tailed horned lizards has been estimated by standardized transects in which observers count flat-tailed horned lizards and their scat. Number of scat and lizards observed per hour has been used as an index to the species' relative abundance as follows (Bureau 1990):

High relative abundance = >9 scat/hr or at least 1 *P. mcallii* observed

Medium relative abundance = 5 to <9 scat/hr

Low relative abundance = 1 to <5 scat/hr

Poor relative abundance or unoccupied habitat = <1 scat/hr

The Flat-tailed Horned Lizard Interagency Technical Advisory Team (ITAC), comprised of biologists and land managers from a variety of State and Federal agencies, met in April 1993, to discuss current research and the validity of this survey method. The ITAC concluded that scat counts may not provide a reliable index to the relative abundance of the flat-tailed horned lizard and should be used with great caution. The primary concern was that the assumption of a correlation between scat counts and lizard density has never been tested. Scat count data are best used in combination with lizard observations and habitat characteristics to determine the importance of an area for this species (Rorabaugh 1994).

The public lands portion of the project area was visited by a biologist from the Bureau on January 28, 1994. No flat-tailed horned lizards or their scat were noted during this visit; however, no surveys were conducted for the species and the site was visited too early in the year to conduct surveys (Turner and Medica 1982). "Section searches" (triangular transects in which an individual searches for lizards and scat for one hour within a section) were conducted in 1985 in T10S, R24W, section 33 and in T11S, R24W, section 5 (Rorabaugh et al. 1987). The proposed route traverses the western boundary of section 33 and would pass through section 5. Two scat and no flat-tailed horned

lizards were found in section 33; 11 scat and no lizards were found in section 5. A flat-tailed horned lizard was found during that work approximately 1.3 miles to the east of the proposed powerline route. The Sonoran desertscrub is continuous throughout this area to the edge of the mesa. It is likely that flat-tailed horned lizards inhabit the entire 2.4 miles of the powerline right-of-way on the Yuma Mesa.

Effects of the Proposed Action on the Listed Species

An estimated 0.2 acres of flat-tailed horned lizard habitat would be disturbed as a result of pole installation along the portion of the proposed route that parallels the 34.5-kV Bureau of Reclamation powerline (Bureau 1994b). The Service estimates that all proposed construction activities, including auguring of holes, pole placement, cross-country access, and construction of the San Luis substation, would disturb approximately one acre of flat-tailed horned lizard. Most of this disturbance would be temporary; however, desert scrub habitats recover very slowly from powerline construction (Vasek et al. 1975). Reestablishment of perennial shrubs is especially slow if substrates are graded or excavated. Shrubs which are crushed by construction activities, but not uprooted, often resprout from the base.

Based on 1985 surveys (Rorabaugh et al. 1987), habitat disturbed by the project may support relative abundances of flat-tailed horned lizards varying from low to high (using the relative abundance categories from Bureau 1990). However, densities of flat-tailed horned lizards in the project area are unknown. Density or minimum density has been estimated at several sites in California and one site in Arizona. Density estimates in the Yuha Basin and West Mesa in California ranged from 0.3 to 1.5 flat-tailed horned lizards per acre (Muth and Fisher 1992, Turner and Medica 1982, Rorabaugh 1994). Minimum density at a site in the Yuma Desert was estimated as 0.2 flat-tailed horned lizards per acre (Rorabaugh 1994). If densities in the project area fall within the range of these estimates, then no loss of individual flat-tailed horned lizards would be expected as a result of habitat loss. This is because habitat disturbed by the project would be minimal, flat-tailed horned lizards occur at low densities, and because impacts would be dispersed in a linear fashion over the 2.4 mile route on the Yuma Mesa. However, lizards could be crushed by construction or maintenance vehicles operating either on or off existing access roads. Also, lizards could fall into augured holes and become entrapped. Flat-tailed horned lizards are frequently found basking on or crossing both paved and unpaved roads. They are especially vulnerable to being crushed by passing vehicles because they often stop rather than moving off of a roadway as vehicles approach. Because construction would occur in June and July when lizards are active (Muth and Fisher 1992), flat-tailed horned lizards would probably be encountered on roadways by construction crews and would be subject to death or injury due to construction activities. Additional mortality could occur during annual on-the-ground inspections.

The Service believes the impacts described above will not jeopardize the continued existence of the flat-tailed horned lizard. Our conclusion is based on the following reasons:

- 1) The proposed action would affect a minor portion of the species' range and disturbance of this habitat would not significantly contribute to further fragmentation of flat-tailed horned lizard populations.
- 2) Most impacts to the habitat of the species would be temporary.
- 3) The Bureau proposes measures to mitigate, in part, the direct and indirect impacts of the proposed action, including measures to reduce direct take of flat-tailed horned lizards.

Cumulative Effects

Cumulative effects are those impacts of future non-Federal (State, local government, and private) actions that are reasonably certain to occur in the project area. Future Federal actions will be subject to the consultation and conferencing requirements established in section 7 of the Act and, therefore, are not considered cumulative to the proposed project.

Because most flat-tailed horned lizard habitat in the vicinity of the project area is managed by Federal agencies, most activities likely to occur in this area will be Federal actions subject to section 7 of the Act. However, private lands supporting flat-tailed horned lizards occur in the vicinity of San Luis, Arizona and to the north near Yuma and the Foothills. Continued development of these lands for residential, industrial, and agricultural purposes is expected. The purpose of the proposed action is to provide power to San Luis. Implementation of this action would not, in itself, promote growth in San Luis, but would support existing and future demands for power. New development may include conversion of flat-tailed horned lizard habitat to residential or other purposes. If the flat-tailed horned lizard is subsequently listed, the effects of non-Federal actions, including residential development, will be addressed through the section 10(a)(1)(B) permit process.

Incidental Take

Section 9 of the Act prohibits the take of listed species without special exemption. Taking is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. The prohibitions against taking in section 9 of the Act do not apply to proposed species. However, the Service advises the Bureau to

consider implementing the following reasonable and prudent measures. If this conference opinion is adopted as a biological opinion following listing of the species, these measures and their implementing terms and conditions will be nondiscretionary and must be undertaken by the Bureau or made a binding condition of any grant or permit, as appropriate. Following listing and under the terms of section 7(b)(4) and 7(o)(2) of the Act, taking of the species that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with this incidental take statement.

This conference opinion anticipates the following forms of take:

- 1) Three flat-tailed horned lizards in the form of direct mortality resulting from crushing or injury as a result of construction activities.
- 2) Two flat-tailed horned lizards in the form of direct mortality resulting from maintenance activities during the ten-year term of the right-of-way.
- 3) Six flat-tailed horned lizards in the form of harassment resulting from people moving lizards out of harm's way during construction.

If this conference report is adopted as a biological opinion, the Service will not authorize any form of take that is not incidental to construction, operation, and maintenance of the APS 69-kV powerline near San Luis, Arizona. Incidental take will be authorized only for proposed construction, operation, and maintenance activities, so long as such activities are consistent with the terms and conditions of this conference opinion.

Following listing of the flat-tailed horned lizard and adoption of this document as a biological opinion, if the incidental take authorized herein is met, the Bureau shall immediately notify the Service in writing. The Bureau should provide an explanation of the causes of the taking. If the incidental take authorized by this opinion is exceeded, the Bureau must immediately reinstate consultation with the Service to avoid a violation of section 9 of the Act, and all activities resulting in the take must cease if it is determined that the impact of additional taking will cause an irreversible and adverse impact on the species.

Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measure is necessary and appropriate to minimize the incidental taking authorized by this conference opinion:

- 1) Worker education programs, clearly delineated construction areas, and well-defined operational procedures shall be implemented to avoid or minimize the take of flat-tailed horned lizards and loss of habitat for this species resulting from construction, operation, and maintenance of the proposed action.

Terms and Conditions

To be exempt from section 9 of the Act, the following terms and conditions are established to implement the reasonable and prudent measure described above. These terms and conditions apply only to proposed construction and maintenance activities on that portion of the powerline route on the Yuma Mesa from approximately the East Main Canal south to the San Luis Substation (Figure 1).

Terms and conditions #1, 2, 3, 4, 5, and 12 are taken from the project description (Bureau 1994a and b, APS 1994), but contain minor changes.

1. The tracked vehicle used to auger the holes and place the powerpoles would travel on existing access routes where they exist and avoid large shrubs and straddle smaller ones in areas requiring cross-country travel.

2. APS shall minimize surface disturbance.

3. Routes between existing roads and new pole sites shall not be bladed. No new roads shall be bladed. Project-related off-road vehicle operation (including construction equipment and employee access) shall be minimized to the extent possible.

4. The number of construction vehicles shall be held to a minimum. Vehicles shall be operated at a speed limit of 15 miles per hour in flat-tailed horned lizard habitat.

5. Biological monitors (biologists knowledgeable in flat-tailed horned lizard biology and approved by the Bureau) shall be present within the area of active construction throughout the working period each day. Monitors shall walk in front of heavy equipment to flush or move lizards from the immediate work area and out of harm's way. They will also be responsible for monitoring augured holes or other excavations to ensure flat-tailed horned lizards do not become entrapped. Biological monitors shall monitor all project-related activities to ensure compliance with these terms and conditions.

6. The biological monitors shall work with the construction supervisor to take steps, as necessary, to avoid disturbance to flat-tailed horned lizards and their habitat. If avoiding disturbance to a flat-tailed horned lizard is not possible, or if a flat-tailed horned lizard is found trapped in an excavation, the affected lizard shall be captured by hand and relocated by an authorized biologist (see term and condition 7 for definition) pursuant to term and condition 8.

7. If the species is listed, only persons authorized by the Service under the auspices of this opinion shall be permitted to handle flat-tailed horned lizards. The names(s) and credentials of proposed authorized biologists shall be submitted to the

Service for review and approval at least 15 days prior to the onset of any construction activities. Authorized biologists shall also obtain all necessary authorization from Arizona Game and Fish Department before construction is initiated.

8. Relocated flat-tailed horned lizards shall be placed in the shade of a large shrub that is a short distance from the construction zone and in the direction of undisturbed habitat. If surface temperatures in the sun are less than 30° C or exceed 50° C, the authorized biologist shall hold the flat-tailed horned lizard for later release. Initially, captured flat-tailed horned lizards shall be held in a cloth bag, cooler, or other appropriate clean, dry container from which the lizard cannot escape. Lizards shall be held at temperatures between 25 and 35° C and shall not be exposed to direct sunlight. Release shall occur as soon as possible after capture and during daylight hours when surface temperatures range from 32 to 40° C. If such conditions do not occur within 48 hours of capture, the lizard shall be transferred to a terrarium containing at least 2 inches of sand from the project area. The terrarium shall be maintained at 10 to 20° C until conditions at the site are appropriate for release. Lizards shall be allowed to acclimate to higher surface temperatures prior to release. The authorized biologist shall be allowed some judgement and discretion to ensure that survival of flat-tailed horned lizards found in the project area is likely.

9. The outer boundaries of the right-of-way and work areas shall be clearly flagged or marked to define the limit of work activities. All construction workers shall strictly limit their activities and vehicles to areas which have been flagged to eliminate adverse impacts to the flat-tailed horned lizard and its habitat. All workers shall be instructed that their activities are restricted to flagged and cleared areas. Construction shall occur on previously disturbed sites or desert pavement, whenever possible.

10. Construction and maintenance employees shall be advised that care should be exercised when commuting to and from the project area to reduce mortality of flat-tailed horned lizards on roads.

11. A worker education program shall be developed and implemented. All personnel who implement actions authorized by this opinion shall be briefed on the biology and status of the flat-tailed horned lizard, protection measures designed to reduce potential impacts to this species, and reporting procedures to be used if flat-tailed horned lizards are encountered in the field. Personnel shall be advised that handling, harming, or harassing listed species without specific authorization is a violation of the Act. Personnel shall also be advised that taking a listed species without a permit can result in penalties of up to a \$200,000 and six months in prison.

12. Holes drilled for powerpoles will not be left open, but rather the pole will be installed immediately upon completion of the drilling activity.

13. Prior to land-disturbing activities, an individual shall be designated as a field contact representative (FCR). The FCR shall have the authority to ensure compliance with protective stipulations for the flat-tailed horned lizard and be responsible for coordination with the Service. The FCR, the biological monitor(s), and the authorized biologist(s) shall have the authority and responsibility to halt activities that are in violation of these terms and conditions.

14. Within 90-days of completion of construction, the Bureau shall submit a monitoring report to the Arizona Ecological Services State Office. The report shall include the actual acres of flat-tailed horned lizard habitat destroyed, numbers and locations of flat-tailed horned lizards encountered, and numbers of flat-tailed horned lizards killed, injured, moved, or otherwise taken as a result of activities authorized by this opinion. The report shall also make recommendations for modifying or refining the terms and conditions stipulated herein to enhance flat-tailed horned lizard protection or to reduce needless hardship on the Bureau and project applicant.

Disposition of Dead, Injured, or Sick Flat-tailed Horned Lizards

Upon locating a dead, injured, or sick individual of a listed species, initial notification must be made to Special Agent Melvin Holt, Federal Building, Room 105, 26 North McDonald, Mesa, Arizona 85201 (Telephone: 602/261-6443) 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 finding, a photograph of the animal, and any other pertinent information. The notification shall be sent to Special Agent Holt with a copy to the Arizona Ecological Services State Office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. If possible, the remains of intact flat-tailed horned lizards shall be placed with educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted 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 an authorized biologist. Should any treated flat-tailed horned lizards survive, the Service should be contacted regarding the final disposition of the animals.

Conservation Recommendations

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species. The term "conservation recommendation" 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 recommendation provided here does not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the flat-tailed horned lizard, should it be listed. In furtherance of the purposes of the Act, we recommend implementing the following action:

1) The Bureau should develop a management plan and compensation formula for the flat-tailed horned lizard. The existing flat-tailed horned lizard management plan (Bureau 1990) and compensation formula used by the California Desert District of the Bureau could be adopted or modified as needed for use in the Yuma District. Development and implementation of this plan should be coordinated with the Flat-tailed Horned Lizard Interagency Technical Advisory Committee, the California Desert District, Luke Air Force Base, the Bureau of Reclamation, local governments, and the Marine Corps Air Station. The plan for the Yuma District would include, at a minimum, the following elements:

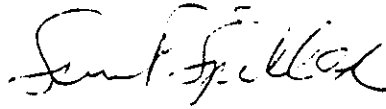
- a) Goals and objectives allowing for long-term maintenance of a viable population of flat-tailed horned lizards in Arizona.
- b) Establishment of a mechanism for interagency coordination and commitment necessary to meet management goals.
- c) Identification of actions, development of implementation schedules, and designation of lead agencies for achieving management goals.
- d) Development of annual monitoring to track implementation of the plan. Monitoring would include determination of population trends, documentation of habitat loss, and effectiveness of mitigation.

The Service requests notification of the implementation of any conservation recommendations so we can be kept informed of actions that either minimize or avoid adverse effects, or that benefit listed species or their habitats.

Conclusion

This concludes the conference for the APS 69-kV Powerline Project near San Luis, Arizona. If the flat-tailed horned lizard is listed, the Bureau may request in writing that the Service adopt this conference opinion as a biological opinion. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned, or in the information used during the conference, the Service will confirm the conference opinion as a biological opinion and no further section 7 consultation will be necessary. The conference opinion will not be confirmed if: 1) the amount or extent of incidental take is reached; 2) new information reveals effects of the agency action that may adversely 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 a 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 this action (50 CFR 402.16). The incidental take statement does not become effective until the species is listed. At that time, if the amount or extent of incidental take is exceeded, any activities causing such take must cease pending reinitiation. We would appreciate notification of your final decision on this matter. Any questions or comments should be directed to Jim Rorabaugh or Tom Gatz of my staff.



Sam F. Spiller

cc: Chief, Division of Endangered Species, Washington, D.C.
Regional Director, Fish and Wildlife Service, Albuquerque, NM (AES)
Field Supervisor, Fish and Wildlife Service, Carlsbad, CA
Larry Voyles, Arizona Game and Fish Department, Yuma, AZ
Director, Arizona Game and Fish Department, Phoenix, AZ
Project Manager, Bureau of Reclamation, Yuma, AZ

Literature Cited

- Arizona Public Service. 1994. April 4, 1994, letter from Arizona Public Service to Dave Gudgel, Project Manager, Bureau of Reclamation, Yuma, Arizona.
- Brattstrom, B.H. 1965. Body temperatures of reptiles. *American Midland Naturalist* 73(2):376-422.
- Bureau of Land Management. 1990. Management strategy for the flat-tailed horned lizard (*Phrynosoma mcallii*) on Bureau of Land Management administered lands in the California Desert Conservation Area. Bureau of Land Management, Riverside, CA.
- Bureau of Land Management. 1994a. Environmental assessment, AZ-055-94-40, Arizona Public Service Company, San Luis, Arizona Area, powerline right-of-way AZA-28030. Bureau of Land Management, Yuma Resource Area, Yuma, Arizona.
- Bureau of Land Management. 1994b. Threatened and endangered species clearance, Arizona Public Service Company, 69-kV powerline right-of-way, AZA-28030. Bureau of Land Management, Yuma Resource Area, Yuma, Arizona.
- Johnson, T.B., and R.B. Spicer. 1985. Status Report: *Phrynosoma mcallii* (Hallowell 1852). Prepared for Office of Endangered Species, U.S. Fish and Wildlife Service, Albuquerque, New Mexico. Contract No. 14-16-0002-81-224. 57 pages.
- Mayhew, W.W. 1965. Hibernation in the horned lizard, *Phrynosoma mcallii*. *Comp. Biochem. Physiol.* 16:103-119.
- Muth, A., and M. Fisher. 1992. Development of baseline data and procedures for monitoring populations of the flat-tailed horned lizard, *Phrynosoma mcallii*. Report to the California Department of Fish and Game, Sacramento, California.
- Norris, K.S. 1949. Observations on the habits of the horned lizard *Phrynosoma mcallii*. *Copeia*, 1949(3):176-180
- Parker, W.S. and E.R. Pianka. 1975. Ecology of horned lizards: a review with special reference to *Phrynosoma platyrhinos*. *Copeia* 1975:141-162.
- Rorabaugh, J.C. 1994. An analysis of scat counts as a survey method for the flat-tailed horned lizard (*Phrynosoma mcallii*). Report to the Fish and Wildlife Service, Phoenix, Arizona.
- Rorabaugh, J.C., C.L. Palermo, and S.C. Dunn. 1987. Distribution and relative abundance of the flat-tailed horned lizard (*Phrynosoma mcallii*) in Arizona. *Southwestern Naturalist* 32(1):103-109

- Turner, F.B., and P.A. Medica. 1982. The distribution and abundance of the flat-tailed horned lizard (*Phrynosoma mcallii*). *Copeia*, 1984(24):815-823.
- Turner, F.B., J.C. Rorabaugh, E.C. Nelson, and M.C. Jorgensen. 1980. A survey of the occurrence and abundance of the flat-tailed horned lizard (*Phrynosoma mcallii*) in California. Contract YA-512-CT8-58. 52 pages.
- Turner, R.M. and D.E. Brown. 1982. Sonoran desertscrub. In: D.E. Brown (ed.). Biotic communities of the American Southwest-United States and Mexico. *Desert Plants* 4(1-4):181-222.
- Vasek, F.C., H.B. Johnson, and G.D. Brum. 1975. Effects of power transmission lines on vegetation of the Mojave Desert. *Madrono* 23(3):114-130.
- U.S. Fish and Wildlife Service. 1993. Endangered and threatened wildlife and plants; proposed rule to list the flat-tailed horned lizard as threatened. *Federal Register* 58(227):62624-62629.