

SUMMARY

BIOLOGICAL OPINION FOR THE RIO VIRGIN FIBER OPTIC CABLE PROJECT

Date of Opinion: February 7, 1995

Action Agency: Bureau of Land Management, Shivwits Resource Area, St. George, Utah

Project: Proposed installation and operation of a fiber optic cable in an existing right-of-way between Mesquite, Nevada, and Beaver Dam, Arizona, a distance of approximately 10.5 miles. The purpose of the project is upgrade telephone service in the area.

Listed Species Affected: Mojave population of the desert tortoise (*Gopherus agassizii*), a federally listed threatened species.

Biological Opinion: Non-jeopardy

Incidental Take Statement:

Level of take anticipated: Anticipated take includes no more than one desert tortoise injured or killed as a result of project activities, and no more than six desert tortoises and two clutches of desert tortoise eggs as a result of excavation of eggs and occupied burrows and moving of animals and eggs out of harm's way.

Reasonable and Prudent Measures: The biological opinion presents three measures for reducing incidental take. Implementation of these measures through the terms and conditions are mandatory.

Terms and Conditions: Twenty-five mandatory terms and conditions are included to implement the reasonable and prudent measures. They include a variety of measures to reduce incidental take of desert tortoises, such as minimization of disturbance to desert tortoise habitat, avoidance of taking individual animals (but moving animals out of harm's way when necessary), education of project employees to be aware of the desert tortoise and the terms and conditions of the biological opinion, on-site biological monitors, a preconstruction survey, and trash abatement.

Conservation Recommendations: The Bureau should monitor any relocated desert tortoises to improve our knowledge of relocation techniques, and initiate planning efforts on an ecosystem-based, comprehensive plan for the Beaver Dam Slope that would implement the Desert Tortoise Recovery Plan.



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ARIZONA ECOLOGICAL SERVICES STATE OFFICE
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February 7, 1995

In Reply Refer To:
AESO/SE
2-21-95-F-124

TO: Area Manager, Shivwits Resource Area, Bureau of Land Management,
 St. George, Utah

FROM: State Supervisor

SUBJECT: Biological Opinion for the Rio Virgin Fiber Optic Telephone Cable
 Project

This biological opinion responds to your request for formal consultation with the Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated December 22, 1994, and received by us on December 27, 1994. At issue are impacts resulting from proposed installation, operation, and maintenance of a fiber optic cable between Mesquite, Nevada and Beaver Dam, Arizona, a distance of approximately 10.5 miles, and removal of three miles of overhead telephone line and poles in the same area. These actions may affect the Mojave population of the desert tortoise (*Gopherus agassizii*), a federally listed threatened species.

This biological opinion was prepared using information from the following sources: your December 22, 1994, request for consultation; the environmental assessment/biological evaluation for the project [Bureau of Land Management (Bureau) 1994]; additional information on the project transmitted from the Bureau to this office (Bureau 1995); informal consultation between our staffs; and our files.

Biological Opinion

It is the opinion of the Service that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and is not likely to destroy or adversely modify desert tortoise critical habitat.

Description of the Proposed Action

Rio Virgin Telephone Company has applied to the Bureau for an amendment to an existing right-of-way across public lands in order to install, operate, and maintain a fiber optic cable from Rio Virgin's offices in Mesquite, Nevada to Beaver Dam, Arizona (Figure 1). The purpose of the proposed action is to upgrade telephone services to these communities. The existing four-fiber, multi-mode cable is at capacity and is inadequate to accommodate growth in the region (Bureau 1994). Construction is expected to require six weeks and is tentatively scheduled for completion by mid March to early April 1995. Construction would begin upon signature of a decision record and completion of environmental analyses, section 7 consultation, inventories and clearances.

The fiber optic cable would be placed in a 1 3/8-inch plowcon (orange polyethylene pipe) for mechanical protection and ease in identification. The cable would be installed with a mid-sized bulldozer equipped with a cable reel on the front and a single ripper blade about 3 inches wide on the rear. A trench would be plowed approximately two to three feet from the existing cable, the new cable would be placed 24 to 42 inches below the surface, and the trench would be closed all in one pass by the bulldozer. A backhoe may be needed to remove rocks or boulders, particularly at wash crossings. Two large washes, Big Bend Wash and another wash, would be spanned. The same poles that support the existing cable across these washes would be used to support the new cable. All activities would occur within the 15-foot right-of-way that contains the existing cable. The disturbed area would be smoothed and compressed to minimize evidence of the buried cable. The cable is expected to require little or no maintenance. No vehicular access will be needed for maintenance.

The Bureau proposes the following measures to reduce the effects of the project on the desert tortoise and its habitat:

1. If a tortoise wanders onto the site during this project, all activity will cease until the tortoise wanders out of harm's way of its own volition or a qualified biologist can move it safely.
2. If project activity occurs between March 15 and October 15, a desert tortoise biologist will be on-site during any activity to ensure that tortoises are not inadvertently harmed. All sheltersites will be flagged and avoided. Any sheltersite that will be destroyed will be excavated by a qualified biologist to ensure that no tortoise is trapped or crushed. Rio Virgin will attempt to install the cable prior to March 15 while tortoises are still inactive.
3. A desert tortoise biologist would be responsible for informing all employees working on this project about tortoises (including information provided by the Service and the Bureau on the life history of the tortoise, its status, protocols for dealing with tortoises if and when they are encountered, and the definition of take).

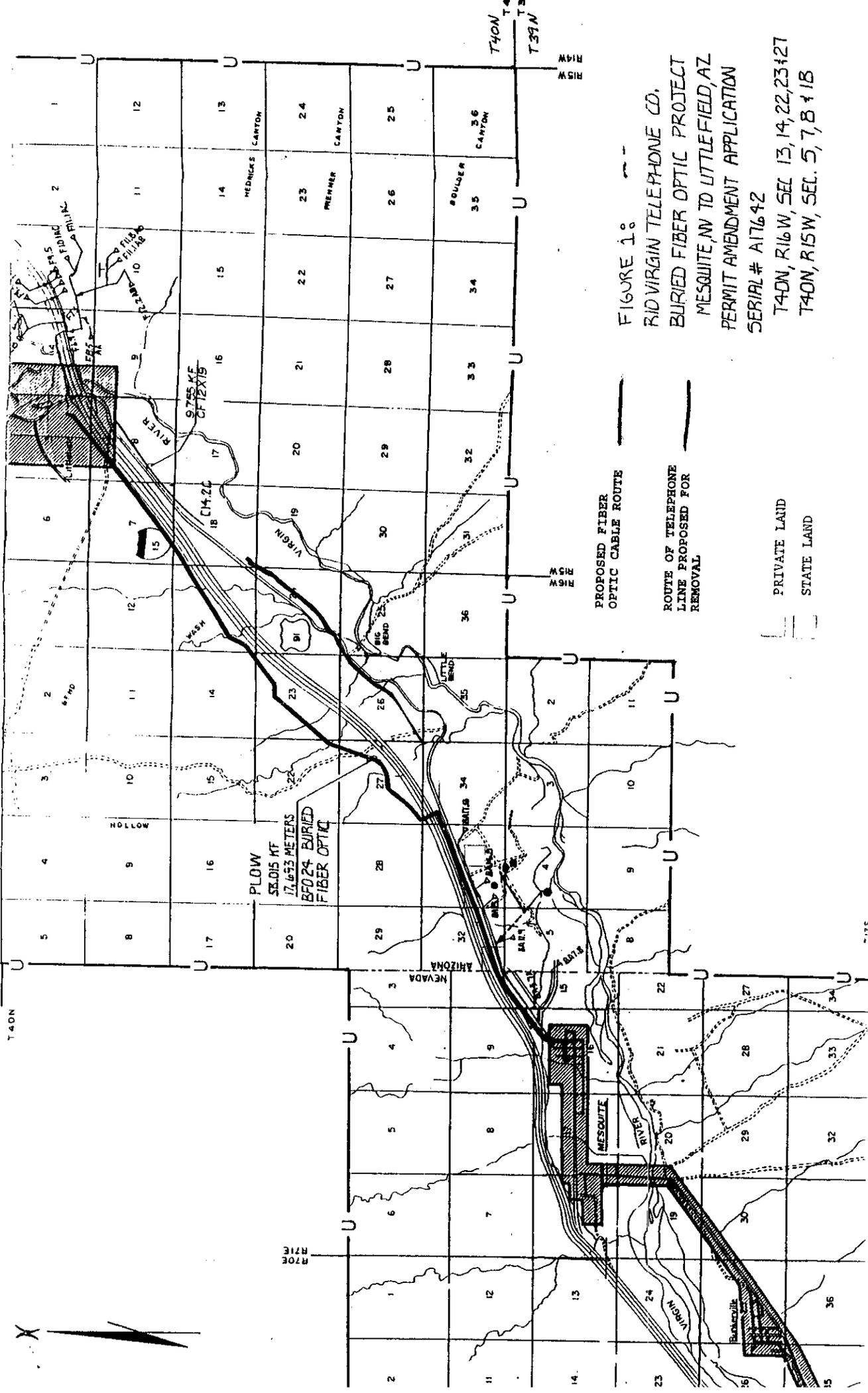


FIGURE 1:
 RIO VIRGIN TELEPHONE CO.,
 BURIED FIBER OPTIC PROJECT
 MESQUITE, NV TO LITTLEFIELD, AZ
 PERMIT AMENDMENT APPLICATION
 SERIAL # A17642
 T40N, R16W, SEC 13, 14, 22, 23 & 27
 T40N, R15W, SEC. 5, 7, 8 & 18

PROPOSED FIBER
 OPTIC CABLE ROUTE

ROUTE OF TELEPHONE
 LINE PROPOSED FOR
 REMOVAL

PRIVATE LAND
 STATE LAND

T40N

T40N
T39N

R14W
R15W

R15W
R16W

PLOW
 58,015 KF
 17,653 METERS
 BFO 24 BURIED
 FIBER OPTIC

9,755 KF
 CF 12X15

PROPOSED FIBER
 OPTIC CABLE ROUTE

ROUTE OF TELEPHONE
 LINE PROPOSED FOR
 REMOVAL

PRIVATE LAND
 STATE LAND



4. Desert tortoises encountered during pre-work clearances or during project activity will be relocated by the qualified biologist a minimum of 150 yards into an off-site burrow on public land. If a burrow is not available, one must be constructed by the biologist.
5. All activity associated with the construction of the fiber optic line will occur within disturbed areas.
6. At no time shall vehicle or equipment fluids be dumped on public lands. All accidental spills must be reported to the Bureau and be cleaned up immediately, using best available practices. All spills of federally or state-listed hazardous materials that exceed reportable quantities shall be promptly reported to the appropriate state agency and the Arizona Strip District.
7. No surface disturbance shall be authorized that would impact any threatened or endangered species prior to compliance with the Endangered Species Act.
8. Construction-related traffic shall be restricted to routes approved by the Bureau. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the Bureau. Authorized roads used by Rio Virgin and its contractors shall be rehabilitated or maintained when construction activities are complete as approved by the Bureau.
9. Specific sites as identified by the Bureau (e.g., areas with threatened and endangered species or fragile watersheds) where construction equipment and vehicles shall not be allowed, shall be clearly marked on-site by Rio Virgin before any construction or surface disturbing activities begin. The Bureau and Rio Virgin shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.
10. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be placed in covered receptacles to avoid attracting predators of desert tortoises and disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
11. The project shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et seq.*), with regard to any toxic substances that are used, generated by, or stored on the right-of-way or on facilities authorized under this right-of-way grant (see 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls,

40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or state government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or state government.

12. No dogs will be allowed on site during construction.

13. No discharge of firearms will be allowed on site during construction.

Rio Virgin also proposes to remove three miles of overhead telephone line and poles just north of the Virgin River between Mesquite and Beaver Dam (Figure 1). This action is proposed as compensation for habitat damage and will act to reduce nest and perch sites for common ravens (*Corvus corax*), a predator of the desert tortoise.

Species Account

On August 4, 1989, the Service published an emergency rule listing the Mojave population of the desert tortoise as endangered. In a final rule dated April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened. The desert tortoise is a large, herbivorous reptile found in portions of the California, Arizona, Nevada, and Utah deserts, and in Baja California Sur, Sonora, and northern Sinaloa, Mexico (Germano et al. 1994, Crumly and Grismer 1994). The threatened Mojave population is found in California, Nevada, and north of the Colorado River in Arizona and southwestern Utah. In Arizona, desert tortoises of the Mojave population are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and after summer monsoons. Desert tortoises spend the remainder of the year in burrows, escaping the extreme weather conditions of the desert.

The Service recently issued a final recovery plan for the Mojave population of the desert tortoise (Service 1994). This plan proposes the establishment of 14 Desert Wildlife Management Areas (DWMAs) in six recovery units. Land management in DWMAs would target the reduction or elimination of those factors that have caused declines in desert tortoise populations. The boundaries of proposed DWMAs are not precisely defined in the draft plan, but would be established by the Bureau and other land management agencies in coordination with the Service, Arizona Game and Fish Department, and others. The eastern two-thirds of the proposed project area is in the vicinity of and could possibly be included in the Beaver Dam Slope DWMA in the northeastern Mojave recovery unit.

The Service designated critical habitat for the Mojave population of the desert tortoise in a Federal Register notice dated February 8, 1994 (59 FR 5820-5846, also see corrections at 59 FR 9032-9036). All project features lie outside of designated critical habitat.

Further information on the range, biology, and ecology of the desert tortoise can be found in Burge and Bradley (1976), Luckenbach (1982), Turner et al. (1984), Weinstein et al. (1987), various papers by J.R. Spotila and others in Herpetological Monographs published June 30, 1994, various papers in Bury and Germano (eds.) (1994), and Service (1994).

Environmental Baseline

The project area is located in the northeastern Mojave Desert just north of the Virgin River between Beaver Dam, Arizona, and Mesquite, Nevada. Vegetation of the area is typical of the creosote bush series of Mohave desert scrub (Turner 1982). Creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) are the dominant perennial plants. The area has been disturbed by a variety of human uses or human-caused impacts, including grazing, fire, off-highway vehicle use, and legal and illegal dumping.

Approximately 4.3 miles of the fiber optic cable route, from the southern boundary of T40N, 16W section 27 to the eastern boundary of T40N, R16W, section 13 (Figure 1), is within category 2 desert tortoise habitat. Category 2 habitats contain medium to high density tortoise populations and are areas that may be essential to maintenance of viable populations (Spang et al. 1988). The northern-most 2.4 miles of the route, from the eastern boundary of T40N, R16W, section 13 to Beaver Dam, Arizona is category 3 desert tortoise habitat. Category 3 habitats are those that contain low to medium densities of desert tortoises but are not essential to the maintenance of viable populations (Spang et al. 1988). The remaining 3.7 miles of the proposed route, from the Interstate 15 crossing in T40N, 16W, NW1/4N of section 34, to Mesquite, Nevada, is not considered desert tortoise habitat. The category 3 habitats and non-tortoise habitat lands are in State and private ownership; the category 2 lands are primarily public lands administered by the Bureau. The proposed removal of 3.0 miles of overhead telephone line would occur entirely on category 3 habitat.

Desert tortoise surveys [triangular transects (Berry and Nicholson 1984)] have been conducted in a number of sections along the route of the proposed fiber optic cable and proposed overhead telephone line removal (Table 1). Although no live desert tortoises were observed during these surveys, sign counts suggest low to moderate densities of desert tortoises (0 to 50 per square mile) inhabited both the category 2 and 3 habitats in the project area in 1982, when the surveys were conducted. Current densities are probably similar (Tim Duck, Bureau of Land Management, St George, Utah, pers. comm. 1995) but may be reduced in the Littlefield area.

Effects of the Proposed Action on the Listed Species

Desert tortoises could be encountered during project construction. Tortoises encountered could be accidentally injured or crushed by construction equipment. Inactive desert tortoises could be trapped in their burrows if burrows are collapsed during construction. Desert tortoises could also be collected by project personnel. Furthermore, refuse left by work crews could attract desert tortoise predators, such as common ravens, and cause elevated mortality in local desert tortoise populations.

Table 1: Results of desert tortoise surveys in the project area

Township, Range, Section:	Date	Total Sign	Live Tortoises
T40N, R15W, S5	10/11/82	2	0
T40N, R15W, S7	8/25/82	10	0
T40N, R15W, S7	8/27/82	2	0
T40N, R15W, S8	8/16/82	2	0
T40N, R15W, S8	8/26/82	1	0
T40N, R15W, S18	8/27/82	1	0
T40N, R16W, S13	9/29/82	7	0
T40N, R16W, S14	9/29/82	6	0
T40N, R16W, S23	9/29/82	4	0
T40N, R16W, S24	10/4/82	2	0

From Bureau (1991)

Habitat disturbance caused by construction activities could result in destruction or damage to tortoise cover sites, and crushing of shrubs that are important as tortoise forage and cover. Disturbance of surface soils could also result, causing destruction of cryptogamic crusts, erosion, and adverse effects to the vegetation community (see Appendix D of Service 1994). The single pass of a dozer needed to excavate the trench and lay the cable is expected to disturb a path within the 15-foot right-of-way that will be, on average, approximately 10 feet wide. The proposed route traverses 7.0 miles of desert tortoise habitat; thus approximately 8.5 acres of tortoise habitat will be disturbed by construction. All 8.5 acres were previously disturbed during placement of the existing fiber optic cable in the early 1980s. Areas disturbed by construction activities are expected to revegetate and recover very slowly (Vasek et al. 1975).

Proposed removal of 3.0 miles of overhead telephone line would require travel of vehicles and equipment to and between pole sites. Minimal disturbance of at and between poles in an area disturbed by previous construction activities areas would be required to remove the telephone line. As with the proposed fiber optic cable construction, removal of the telephone line could result in accidental crushing or injury of tortoises in the project area and habitat disturbance. However, removal of the poles would eliminate nest and perch sites for common ravens and potentially reduce predation pressure on desert tortoises in the area.

The Bureau has proposed a worker education program, relocation of tortoises that are in harm's way, strict control of waste materials and hazardous materials, an on-site biologist during project activities scheduled for the period between March 15 and October 15, and other measures that should minimize take of desert tortoises.

The Service believes the effects described above are neither likely to jeopardize the continued existence of the desert tortoise nor likely to cause adverse modification or destruction of critical habitat. We present this conclusion for the following reasons:

1. The project lies outside of and would not affect critical habitat of the desert tortoise.
2. The Bureau's project description includes features to minimize take of desert tortoises and mitigate the direct and indirect effects of the proposed action on the desert tortoise and its habitat.

Cumulative Effects

Cumulative effects are those effects of future non-Federal (State, local government, and private) actions that are reasonably certain to occur in the project area. Future Federal actions would be subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative to the proposed project. Due to the extent of the lands in this area that are administered by the Bureau, many of the actions that are reasonably expected to occur within the vicinity of the project site would be subject to section 7 consultations. However, lands at both the eastern (Beaver Dam) and western terminuses (Mesquite) of the fiber optic cable are in State and private ownership and continued development of these non-Federal lands is anticipated. In the Beaver Dam area, expansion of the Beaver Dam golf course is proposed (Topham 1994) and may result in further fragmentation and loss of tortoise habitat. Loss of desert tortoise habitat and possible take of tortoises as a result of golf course expansion may be addressed through a section 7 consultation with the Army Corps of Engineers on issuance of a section 404 permit for proposed activities in Beaver Dam Wash. Non-Federal actions that may result in a take of desert tortoises require a section 10(a)(1)(B) permit from the Service. A landowner in the Littlefield area has expressed an interest in obtaining a section 10(a)(1)(B) permit for development of approximately 2,000 acres of

private lands. Cumulative impacts of future State and private projects 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 at 50 CFR 17.3 as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." "Harass" is defined in the same regulation as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, taking 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. Reasonable and prudent measures, as well as terms and conditions in this biological opinion are nondiscretionary, and must be undertaken by the agency or made a binding condition of any grant or permit, as appropriate.

This biological opinion anticipates the following forms of take:

- 1) One desert tortoise in the form of mortality or injury resulting from project activities.
- 2) Six desert tortoises through harassment associated with excavation of occupied burrows, relocation of desert tortoises out of harm's way, and monitoring of relocated tortoises.
- 3) Two clutches of desert tortoise eggs in the form of harassment associated with moving eggs out of harm's way.

This biological opinion does not authorize any form of take not incidental to implementation of the proposed action for the Rio Virgin Fiber Optic Telephone Cable Project as described in Bureau (1994, 1995). If the incidental take authorized by this opinion is met, the Bureau shall immediately notify the Service in writing. 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. In the interim, the Bureau must cease the activity resulting in the take if it is determined that the impact of additional taking will cause an irreversible and adverse impact on the species. The Bureau should provide an explanation of the cause of the taking.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the incidental take authorized by this biological opinion. These measures and the terms and conditions that implement them must be implemented on all lands where project features are proposed, regardless of ownership.

1. Worker education programs, defined construction areas, and well-defined operational and monitoring procedures shall be implemented.
2. Activities that may result in a take of desert tortoise shall be preceded by preconstruction desert tortoise surveys and, if activities occur during periods when desert tortoises are active, project activities shall be monitored by an on-site qualified biologist(s). Measures shall be taken to avoid a take of desert tortoises found in project areas.
3. Attraction of common ravens and other potential desert tortoise predators to the project area shall be reduced to the maximum extent possible.

Terms and Conditions

The following terms and conditions are established to implement the reasonable and prudent measures described above. Terms and conditions 1.a, 1.b., 1.d., 1.e., 1.f., 1.g., 1.h., 1.i., 1.k., 1.l., 1.m., 2.b.1, and 3.a. are adapted from the Bureau's project description (Bureau 1994, 1995), but contain slight modifications or added detail.

The following terms and conditions implement reasonable and prudent measure number 1:

- a. If a desert tortoise is found on a project site, all activity shall cease until the tortoise moves out of harm's way on its own volition or is relocated pursuant to terms and conditions 2.c., d., and e.
- b. A qualified desert tortoise biologist (a biologist approved by the Bureau) shall be responsible for informing all employees working on this project about tortoises (including information provided by the Service and the Bureau on the life history of the tortoise, its status, protocols for dealing with tortoises if and when they are encountered, terms and conditions in this biological opinion, and the definition of and penalties for take). Personnel shall be advised that handling, harming, or harassing desert tortoises without specific authorization is a violation of the Act. Personnel shall also be advised of the penalties of up to \$200,000 and six months in prison for taking a listed species without a permit. Handouts summarizing this information shall be provided to all personnel implementing actions that may result in a take of desert tortoise

- c. The Bureau shall designate a "field contact representative" (FCR) who shall be responsible for overseeing compliance with these terms and conditions and for coordination on compliance with the Service. The FCR, authorized biologist(s) (see term and condition 2.c. for definition), and qualified biologist(s) shall have the authority and responsibility to halt all project activities that are in violation of these terms and conditions. The FCR shall have a copy of all terms and conditions.
- d. Rio Virgin shall attempt to install the cable prior to March 15, 1995, while tortoises are still inactive.
- e. All activity associated with the construction of the fiber optic line shall occur within disturbed areas.
- f. At no time shall vehicle or equipment fluids be dumped on public lands. All accidental spills must be reported to the Bureau and be cleaned up immediately, using best available practices. All spills of federally or state-listed hazardous materials that exceed reportable quantities shall be promptly reported to the appropriate state agency and the Arizona Strip District.
- g. No surface disturbance shall be authorized that would impact any threatened or endangered species prior to compliance with the Endangered Species Act.
- h. Construction-related traffic shall be restricted to routes approved by the Bureau. New access roads or cross-country vehicle travel shall not be permitted unless prior written approval is given by the Bureau. Authorized roads used by Rio Virgin and its contractors shall be rehabilitated or maintained when construction activities are complete as approved by the Bureau.
- i. Specific sites as identified by the Bureau (e.g., areas with threatened and endangered species or fragile watersheds) where construction equipment and vehicles shall not be allowed, shall be clearly marked on-site by Rio Virgin before any construction or surface disturbing activities begin. The Bureau and Rio Virgin shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.
- k. The project shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by, or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any released of toxic substances (leaks, spills,

etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or state government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or state government.

- l. No dogs shall be allowed on site during construction.
 - m. No discharge of firearms shall be allowed on site during construction.
 - n. Vehicle parking and equipment staging areas shall be located in previously disturbed areas to the maximum extent feasible.
 - o. Project areas shall be confined to the smallest practical area, considering topography, project needs, safety considerations, and other limiting factors. Any flagging or stakes used to delineate project boundaries shall be removed after construction is complete. To the extent possible, the route of the fiber optic cable shall be placed to avoid damage to perennial shrubs. If damage to perennial shrubs is unavoidable, the shrubs should be crushed by equipment, rather than excavated, if possible.
 - p. Within 90 days after completion of construction, the Bureau shall submit a monitoring report to the Arizona Ecological Services State Office. The report shall briefly document the effectiveness of the desert tortoise mitigation measures, actual acreage of desert tortoise habitat disturbed, the number of desert tortoises excavated from burrows, the number of desert tortoises moved from construction sites, and information on individual desert tortoise encounters as stipulated in term and condition 2.e. The report shall make recommendations for modifying or refining these terms and conditions to enhance desert tortoise protection and reduce needless hardship on the project proponent.
2. The following terms and conditions implement reasonable and prudent measure number 2:
- a. If ground-disturbing activities occur between October 15, and March 15, one of the following two measures shall be implemented:
 1. A qualified biologist (an experienced desert tortoise biologist approved by the Bureau) shall conduct a preconstruction survey of all project areas where ground-disturbing activities are proposed during the period between October 15, and March 15. Surveys shall conform to Service protocol (Service 1992), except that zone of influence surveys will not be necessary. No ground-disturbing

activities shall occur prior to preconstruction surveys, and no ground-disturbing activities shall occur in areas in which preconstruction surveys have not been conducted. If desert tortoises are found above ground or within burrows, or desert tortoise eggs are found in areas to be disturbed by construction activities, the qualified biologist shall work with the construction supervisor to take steps, as necessary, including altering project boundaries, to avoid damaging a burrow or disturbing a desert tortoise or desert tortoise eggs. If disturbance of desert tortoises or eggs is unavoidable, they shall be relocated pursuant to terms and conditions 2.c., 2.d., and 2.e.

2. A qualified biologist shall be on-site during all activities that may result in the take of desert tortoises and occur between October 15 and March 15. The qualified biologist shall survey the project sites within 24 hours of disturbance and monitor construction activities to ensure compliance with these terms and conditions. All shelter sites shall be flagged and avoided, to the extent possible. If disturbance of a shelter site is unavoidable, it shall be excavated by an authorized biologist. When evaluating the potential effects of project activities, the biologist should consider that burrows may be as long as 30 feet. If a desert tortoise or eggs are found in a burrow they shall be relocated pursuant to terms and conditions 2.c., 2.d., and 2.e.

b. If ground-disturbing activities occur from March 15 to October 15, the following terms and conditions shall be implemented:

1. A qualified biologist shall be on-site during all activities that may result in the take of desert tortoises and occur from March 15 to October 15. The activities of the qualified biologist shall be as defined in term and condition 2.a.2.

2. From March 15 to October 15, open excavations and other hazards created by construction activities shall be checked three times each day. These inspections shall be performed by the qualified or authorized biologist. The authorized biologist shall remove any trapped desert tortoises and relocate animals pursuant to the attached handling protocol. Open excavations or other hazards created by project activities shall be removed at the end of each day, or when project personnel are absent. Any hazards that are not removed shall be fenced or otherwise barricaded to prevent entry by desert tortoises.

3. All project personnel shall inspect under parked vehicles at the work area prior to driving. If a desert tortoise is discovered under a parked vehicle, the authorized biologist shall be notified immediately. The animal shall either be allowed to move out of harm's way on its own accord or the authorized biologist shall relocate it to a nearby, safe location pursuant to Service protocol (Desert Tortoise Council 1994).

4. Speed limits shall not exceed 25 miles per hour while project personnel are driving off of paved roads.

c. Only biologists authorized by the Service shall handle desert tortoises. The Service authorizes Tim Duck and Dustin Haines to handle desert tortoises pursuant to these terms and conditions. If other personnel are to be authorized for handling desert tortoises, the Bureau shall submit the name(s) of the proposed authorized biologist(s) to the Service for review and approval at least 15 days prior to the onset of activities.

d. Desert tortoises shall be handled only by authorized biologists and only when necessary. Handling of tortoises shall follow Service protocol (Desert Tortoise Council 1994).

e. The authorized biologist(s) shall maintain a record of all desert tortoises encountered during project activities. This information shall include for each desert tortoise:

- The locations and dates of observation
- General condition and health, including injuries and state of healing and whether animals voided their bladders
- Location moved from and location moved to
- Diagnostic markings (i.e. identification numbers of marked lateral scutes)

No notching of scutes or replacement of fluids with a syringe is authorized.

3. The following term and condition implements reasonable and prudent measure number 3:

a. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be placed in covered receptacles to avoid attracting predators of desert tortoises and disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

Disposition of Dead, Injured, or Sick Desert Tortoises

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 8, 26 North McDonald, Mesa, Arizona, (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, 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 desert tortoises 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 desert tortoise survive, the Service should be contacted regarding the final disposition of the animal.

Conservation Recommendations

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize 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 recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the desert tortoise. In furtherance of the purposes of the Act, we recommend implementing the following actions:

1. The Bureau should monitor the movements, survivorship, and condition of relocated desert tortoises to evaluate the effectiveness of the relocation. This information could be used to develop more successful relocation techniques.
2. In coordination with the Dixie Resource Area, the Shivwits Resource Area should initiate planning efforts on an ecosystem-based, comprehensive plan for the Beaver Dam Slope that would implement the Desert Tortoise (Mojave Population) Recovery Plan.

The Service requests notification of the implementation of these 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 formal consultation on the construction and operation of the Rio Virgin Fiber Optic Cable Project. Reinitiation of formal consultation is required if: 1) the amount or extent of incidental take is exceeded; 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). Any questions or comments should be directed to Jim Rorabaugh or Ted Cordery of my staff.



Sam F. Spiller

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (AES)
Director, Arizona Game and Fish Department, Phoenix, AZ
Office Supervisor, Fish and Wildlife Service, Las Vegas, NV
State Supervisor, Fish and Wildlife Service, Salt Lake City, UT
Field Supervisor, Fish and Wildlife Service, Ventura, CA
Field Supervisor, Fish and Wildlife Service, Carlsbad, CA

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