

Environmental Assessment for a

**Qwest/Fossil Creek Fiber Optic Line
Camp Verde to Strawberry
Yavapai and Gila Counties, Arizona**

Submitted to

Coconino National Forest

and

Tonto National Forest

Submitted by

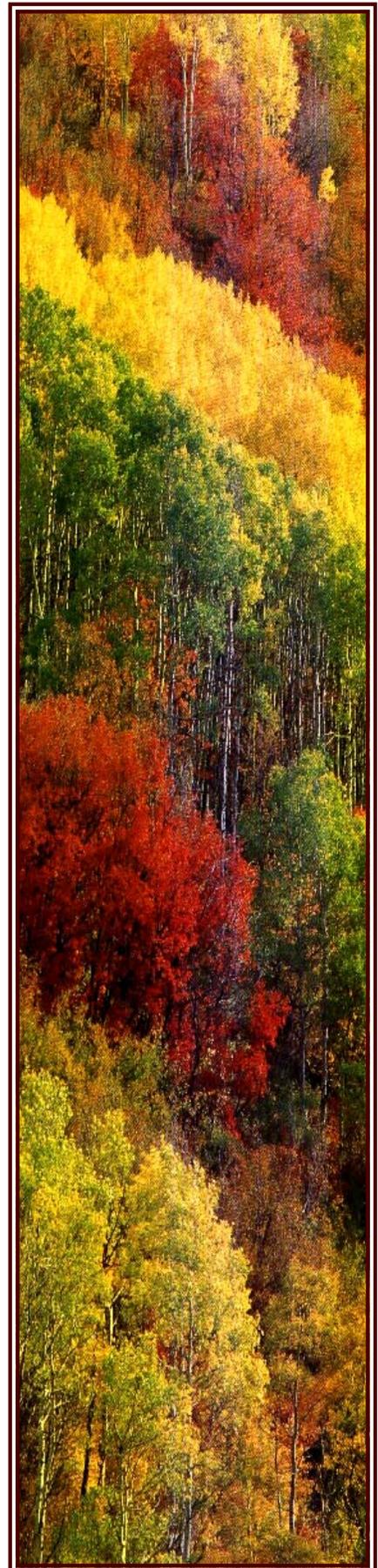
Qwest Corporation

Prepared by

EnviroSystems Management, Inc.

Environmental Planning • Regulatory
Compliance

September 2003



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Preface

EnviroSystems Management, Inc. has prepared this Environmental Assessment on behalf of the Qwest Corporation and Coconino and Tonto National Forests for the installation of an underground fiber optic cable line from the Town of Camp Verde, Yavapai County, Arizona to the community of Strawberry, Gila County, Arizona in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations.

This EA is prepared according to the format established by Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508) and Forest Service Policy as described in Forest Service Handbook 1909.15. Chapter 1 explains the purpose and need for the proposed action. It also discusses how the proposal relates to the Land and Resource Management Plans for the Coconino and Tonto National Forests as the project involves both Forests. Finally Chapter 1 identifies significant issues driving this EA. Chapter 2 describes and compares the proposed action with viable alternatives (including a No Action Alternative). Chapter 3 describes those environments potentially affected by the alternatives and identifies the direct, indirect, and cumulative effects of each alternative. Chapter 4 lists the agencies and individuals consulted. Appendix A contains information on Best Management Practices that shall be employed if the proposed action is permitted. This EA incorporates documented analyses by summarization and reference where appropriate.

CHAPTER 1: PROJECT SCOPE

1.1 Proposed Action

The proposed action is to authorize Qwest Corporation (Qwest) to install an underground fiber optic cable from Camp Verde to Strawberry to service the communities of Camp Verde, Strawberry, Pine and Payson in central Arizona. The project will initiate along the southern shoulder of State Highway 260 near Camp Verde and continue for approximately 1.24 miles to the intersection of Highway 260 and Forest Road 708 (FR 708), also known as Fossil Creek Road. It will then follow the FR 708 corridor for 22.6 miles. The cable would be buried within the bounds of the roadway. No work will occur outside of the FR 708 road prism. Corrugated metal culvert ends will be cut and replaced. All trenching will be completed by typical equipment such as a basic backhoe, plow train or rock wheel. No blasting will be done at any time.

Several staging areas will be utilized during construction. Two are located on private lands at the beginning and at the end of FR 708. Other, smaller staging areas, will occur in disturbed areas along FR 708 such as vehicle pull-offs but will remain within 25 feet of the roadway centerline (within the bounds of resources surveys). Four planned and two proposed handholes (4 feet wide by 6 feet long by 7 feet deep concrete boxes) will be installed within the road corridor just outside the drivable surface within 25 five feet of the roadway centerline. These handholes are a technical requirement in order to pull cable and the two additional ones may be necessary depending on the curvature and length of the conduit. Construction time has been projected to be two months. Figure 1 depicts the project location and Figure 2 presents the features of the proposed action.

The proposed project crosses the Coconino National Forest, Red Rock Ranger District (CNF) for 15.84 miles, including 1.24 miles occurring along Highway 260 within Arizona Department of Transportation (ADOT) right-of-way through CNF land. Qwest has submitted the ADOT required environmental compliance documentation for this portion of the fiber optic line. The remaining 8.0 miles occur on the Tonto National Forest, Payson Ranger District (TNF). The CNF has been designated as the lead for completion of the Environmental Assessment (EA).

1.2 Purpose of and Need for Action

There is a need to provide high quality reliable telecommunication (telephone and data) services to the communities of Payson, Pine, and Tonto Creek. Qwest is requesting approval from the CNF and TNF to place fiber facilities to feed the Payson, Pine and Tonto Creek communities with diverse routing from Camp Verde. Diverse routing functions as a "self-healing ring" i.e., signals get rerouted if there is a break in the line so that service does not get interrupted. This fiber facility will be the lifeline to entities calling out of these communities. Qwest currently feeds this area by radio from Payson to Phoenix. This radio site has taken multiple lightning strikes, which have caused recurring maintenance problems. The existing radio is at capacity and the tower will not support another transmitter device, which has prompted Qwest to look at alternate solutions. On two occasions, trouble with this radio has isolated the Payson, Pine and Tonto Creek areas causing a total out-of-service condition for outgoing calls from these communities, impacting vital 911 services. During the past year, Qwest has also been contacted by the Governor's Office for Homeland Security concerning network reliability and route diversity in Arizona. This proposed fiber placement addresses these concerns and would provide the needed services.

1.3 Decision Framework

The decision to be made by the CNF Forest Supervisor is whether to issue an authorization for construction, operation and maintenance of the proposed fiber optic cable. Based on the environmental analysis, the CNF in consultation with the TNF will decide whether to allow the installation of the fiber optic cable to proceed as proposed. The CNF Forest Supervisor will determine if the proposed project is in accordance with each Forest's Plan goals, objectives and desired future conditions. This decision will also include mitigation measures and monitoring requirements, if necessary.

1.4 Project Area

The project corridor is 23.84 miles in total length and occurs in central Arizona between the communities of Camp Verde and Strawberry, Yavapai and Gila Counties, respectively (see Figure 1). The project begins on the south side of State Highway 260, west of FR 708 for 1.24 miles, and continues within ADOT right-of-way to the intersection of State Highway 260 and FR 708. The fiber optic line would then follow the entire length of FR 708 through CNF administered land entering TNF land at Fossil Creek and ending just west of the community of Strawberry. All impacts will be confined to the existing road corridor. Installation equipment will utilize the road right-of-way temporarily during construction activities. The trench will be approximately 24 inches wide for placement of line, which is equivalent to approximately 5.78 acres of disturbance. Seven handholes affecting an additional 0.03 acres will be installed. Construction impacts are temporary in nature, as all facilities will be buried and will occur within the existing area of the roadway. Permanent right-of way required will consist of the entire line placement area and handholes, a total of approximately 5.81 acres.

1.5 Relationship to Forest Plan(s)

National forest planning takes place at several levels: national, regional, forest, and project levels. The Qwest Buried Fiber Optic Line EA is a project-level analysis; its scope is confined to addressing the significant issues and possible environmental consequences, including cumulative effects, of the project. Each Forest Plan sets forth in detail the direction for managing the land and resources. Where appropriate, this EA tiers to the Coconino National Forest Plan (USDA Forest Service 1987 and subsequent amendments), and Tonto National Forest Plan (USDA Forest Service 1985 and subsequent amendments) as encouraged by 40 CFR 1502.20.

The CNF plan (page 79-80) contains forestwide standards and guidelines for special-use management, which applies to authorizations for utilities such as the proposed action:

Evaluate requests for transmission corridors based on public need, economics, and environmental impacts of the alternatives. Use existing corridors to capacity with compatible utilities where additions are environmentally and visually acceptable before evaluating new routes.

New corridors will avoid wildernesses, RNA's, geological and botanical areas, Elden Environmental Study Area, and the ponderosa pine and mixed conifer vegetation types. New corridors will be evaluated for their potential impacts on T&E habitats.

New corridors are managed to maintain current resource protection and output to the degree possible.

The TNF plan (page 46-47) contains forestwide standards and guidelines for special-use management, which applies to authorizations for utilities such as the proposed action:

Authorization for special uses may be issued to qualified applicants when the proposed use (a) fulfills a demonstrated special need without unduly infringing on the use by the general public, (b) is in accordance with an approved implementation plan (where called for) and will not cause adverse impacts in the National Forest and its resources which cannot be fully mitigated, (c) does not serve a function that can be provided by private enterprise off National Forest lands, and (d) is complimentary to Forest Service and Management Area objectives, programs and purposes.

Requests for utility corridors will be coordinated to locate needed facilities within existing corridors where feasible. Design and construction practices will meet the standards defined in National Forest Landscape Management Volume 2, Chapter 2, U.S.D.A. Handbook 478.

Authorize new utility corridors only after full compliance with the NEPA process.

The proposed action is consistent with the directives in the CNF and TNF Forest Management Plans by evaluating Qwest's request following the NEPA process and placing the fiber optic cable within an existing road right of way and road prism.

1.6 Forest Plan Management Areas

Forest Plan Management Areas provide for unique combinations of activities, practices and uses on national forest lands. Each Forest Plan contains a detailed description of each management area along with goals, objectives, desired conditions, standards and guidelines. The proposed project is consistent with the general directives for each of the Management Areas affected. The portion of the project on the CNF occurs mostly in Management Area 11 (Verde Valley) with a small portion in Management Area 12 (Riparian) where the project crosses Fossil Creek.

The Management Emphasis for MA 11 is:

Emphasize watershed condition, range management, wildlife habitat for upland game birds, and dispersed recreation. (LMP page 166)

The Management Emphasis for MA 12 is:

Emphasize wildlife habitat, visual quality, fish habitat, and watershed condition on the wetlands, riparian forest, and riparian scrub. Emphasize dispersed recreation, including wildlife and fish recreation, on the open water portion. (LMP page 171)

The portion of the project on the TNF occurs in Management Area 4F. Management Area 4F direction is described as follows:

Watershed protection, livestock grazing, non-wilderness dispersed recreation, fuelwood production, and wildlife habitat.

1.7 Applicable Laws and Executive Orders

Shown below is a partial list of federal laws and executive orders pertaining to project-specific planning and environmental analysis on federal lands. Disclosures and findings required by these laws and orders pertinent to this EA are contained in Chapter 3.

- National Forest Management Act (NFMA) of 1976 (as amended)
- Multiple-Use Sustained-Yield Act of 1960
- National Historic Preservation Act of 1966 (as amended)
- Wild and Scenic Rivers Act of 1968, amended 1986
- National Environmental Policy Act (NEPA) of 1969 (as amended)
- Clean Air Act of 1970 (as amended)
- Endangered Species Act (ESA) of 1973 (as amended)
- Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended)
- Clean Water Act of 1977 (as amended)
- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1980
- Cave Resource Protection Act of 1988
- Executive Order 11593 (cultural resources)
- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)
- Executive Order 12962 (aquatic systems and recreational fisheries)
- Executive Order 13186 Jan. 11, 2001 (Migratory Bird Treaty Act)

1.8 Project Record Availability

Additional documentation, including more detailed analyses of project area resources, may be found in the project planning record located at the Red Rock Ranger District Office in Sedona, Arizona. These records are available for public review pursuant to the Freedom of Information Act (5 U.S.C 552).

1.9 Public Involvement

The Council on Environmental Quality (CEQ) defines scoping as "...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the environmental analysis process. Although scoping is to begin early, it is really an iterative process that continues until a decision is made.

The Qwest proposed fiber optic line project has been listed on the CNF Schedule of Proposed Actions (SOPA) since Spring 2002. The SOPA is available for review by the public and the public is invited to contact the appropriate office or email comments regarding any activity listed. In addition, a Public Notice describing the proposal and soliciting public input was placed in the Camp Verde Bugle, Verde Independent and Payson Round Up newspapers serving the local communities. No comments have been received as a result of these initial public involvement efforts regarding the proposed project. A legal notice will be printed in the Arizona Daily Sun indicating a formal 30 day comment period for this project. Additional news releases to local media sources will be done in conjunction with the legal notice printing.

1.10 Issues

Public and internal CNF/TNF scoping for the proposed fiber optic line project produced the following concerns to be addressed in the EA document:

- Soils
- Watersheds and Water Quality
- Cultural Resources

There was no public comment on this project and the proposal includes standard construction mitigation, Best Management Practices and appropriate cultural resource processing to address the slope stability, watershed, and cultural resource concerns. No significant issues were raised that warranted development of any additional alternatives other than the Proposed Action (Alternative A) and the No Action (Alternative B) alternatives.

CHAPTER 2: ALTERNATIVES

2.1 Alternative Development

There have been no significant issues identified; therefore, the CNF retained the proposed action as Alternative A and described the no-action as Alternative B.

2.2 Alternatives Considered, but Eliminated from Detailed Study

During development of the proposed action, there were some alternatives considered for the proposed project that were not carried forward primarily due to cost.

- a) Bury the cable along the entire length of State Highway 260 from Camp Verde to Strawberry. This option would require an additional 43 miles of cable across Forest Service lands and related construction effort. Further, the increased length would require the construction of an additional and costly Central Office (CO). This alternative would be constructed along the edge of the roadway versus within the disturbed roadbed, which would result in much greater construction impacts. State Highway 260 is a major arterial between Camp Verde and Strawberry and installation of the line would result in traffic related impacts causing much greater inconvenience to the traveling public.
- b) "Piggyback" the cable onto an existing power line. This option was originally considered as the preferred alternative but was abandoned when the power line company declined the proposal. The existing poles in this corridor were considered inadequate to support the additional lines. In order to allow for sharing of this pole line, APS would have required upgrading of this facility. As a portion of this line goes through the Verde Wild and Scenic River Corridor, upgrading the lines is not consistent with protection and enhancement of the values in that corridor and therefore would not be consistent with National Forest management direction in this area.

2.3 Alternative A - (*Proposed Action*)

Alternative A will require excavating a trench 48 inches deep by 24 inches wide to bury the fiber optic cable. Spoils will be placed within the existing roadway and used for backfill and soils will be returned to 93% compaction. Any remaining spoils will be removed. Corrugated metal culverts impacted will be repaired by removing and replacing the damaged ends. All trenching will be completed by typical equipment such as a basic backhoe, plow train or rock wheel. No blasting will be done at any time.

Several staging areas will be utilized during construction. Two are located on private lands at the beginning and at the end of FR 708. Others will occur in disturbed areas along FR 708 such as vehicle pull-offs but will remain within 25 feet of the roadway centerline (within the bounds of resources surveys). Four planned and two proposed handholes (4 feet wide by 6 feet long by 7 feet deep concrete boxes) will be installed within the road corridor just outside the drivable surface in already disturbed wide areas or pull-offs and within 25 five feet of the roadway centerline. The handholes will not impact future transportation use of this area.

Two culverts and four bridges constructed during the 1930's time period, all made from poured concrete occur on FR 708.

The Fossil Creek Bridge (the only listed archeological site) and bridges/culverts will be crossed on the surface by placing the fiber optic line in a fiberglass conduit and incasing the conduit in a maximum eight-inch by eight-inch concrete curb on top of the bridge deck paralleling the existing interior bridge wall. Expansion joint material will be placed between the curb and the bridge wall. The deck surfaces will be cleaned of any residual dirt to prepare for placement of curb.

Local residents in the area will be notified of the upcoming construction activities. Traffic control will be in place during construction with access unaffected during most of the project. The only exception may be where the road is too narrow and safety becomes an issue. This is anticipated at the upper reaches of the FR 708 on the TNF end of the project corridor. This section of the road may be temporarily closed to the public during construction in the area for public safety.

The project has been designed to limit physical impacts to FR 708 to the already disturbed road corridor. No new surface disturbing activities outside of the road prism will occur thus virtually eliminating potential direct impacts to physical, cultural and natural resources. The construction activities along Highway 260 will occur in the ADOT right-of-way, which will affect resources within the right-of-way for 1.24 miles. Best Management Practices will be followed as stated in Appendix A.

2.4 Alternative B - (No Action Alternative)

The law requires the No Action Alternative. It is used as a baseline to measure effects if no changes to current trends are implemented. The No Action Alternative represents the status quo for the Qwest telecommunication services in the Camp Verde - Strawberry area. No installation of new communication facilities would occur and the needs of the general public in the communities of Camp Verde, Strawberry and Payson would not be adequately met. This alternative takes no steps to change, or alter the progression of current conditions.

2.5 Preferred Alternative

In this environmental assessment the Forest Service's preferred alternative is the proposed action, Alternative A. Alternative A will best meet the purpose and need. The projects primary objective is to provide increased and more reliable telecommunications service to the communities of Camp Verde, Strawberry, Pine, and Payson. Current telecommunications resources to these areas are reaching capacity and continued growth is expected and not proceeding with this project would result in lack of services in these communities.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter shows the present condition (also called the affected environment) within the project area and the changes that can be expected from implementing the proposed action (Alternative A). The No Action Alternative (Alternative B) sets the environmental baseline for comparing effects of the action alternative.

The major issues define the scope of environmental concern for this analysis. The environmental effects (changes from present baseline condition) that are described in this chapter reflect the identified major issues. Some of the environmental effects are confined to this action and this project area. Others accumulate environmental effects from other actions and spread beyond this project area. Cumulative effects are discussed for each subject area. Appendix A contains Best Management Practices to be employed to mitigate potential impacts identified in the EA as resulting from implementation of the preferred alternative.

3.2 Landscape Character Range of Variability (History)

The most visible elements of the natural landscape (the basic landform, water features and related plant life) have been moderately modified for the greater portion of the project area along FR 708. Modifications to the natural landscape of the area consist of a few houses, power lines, dirt roads, livestock corrals, and most significantly the Irving Power Plant operated by Arizona Public Service. Vegetative patterns have been altered to some degree. Native wildlife species have been lost in some areas and exotic species have been introduced to other areas of the forest. However, there is still a sense of naturalness over the extended area of the FR 708 corridor. The Highway 260 corridor has undergone significant modification in association with development in the area, particularly close to communities at either end of the project.

3.3 Current Forest Patterns

FR 708 is an unpaved dirt road that runs through rugged mountainous terrain in central Arizona. It traverses and contours around steep slopes, and crosses several ephemeral drainages and one perennial stream, Fossil Creek. It ranges in elevation from 3455 to 5864 feet above mean sea level (amsl). This road is traveled on a daily basis. Plant communities include Great Basin Conifer Woodland and Interior Chaparral (Brown 1994). Fossil Creek is a perennial stream forming the boundary between the CNF and the TNF as well as Yavapai and Gila Counties. The stream is spring fed and about 95% of the water from Fossil Creek is diverted for the Childs-Irving Power Plant operation. Fossil Creek provides important habitat to several plant and animal species.

The Irving facility of the Childs-Irving Power Plant operation is located at Fossil Creek just upstream from FR 708. Workers at the plant utilized FR 708 for access. The Childs-Irving Power Plant operation is proposed for decommissioning and deconstruction by 2009. Qwest will require access on FR 708 following fiber optic line installation for emergencies. This continued access requirement will need to be taken into consideration during the Childs-Irving Power Plant decommissioning evaluation process.

3.4 Vegetation and Noxious Weeds

3.4.1 Affected Environment

In the area surrounding FR 708, plant communities include Great Basin Conifer Woodland and Interior Chaparral (Brown 1994). Woodland areas are dominated by Utah juniper (*Juniperus osteosperma*), with some pinyon pine (*Pinus edulis*) and one seed juniper (*Juniperus monosperma*). Understory is typically blue grama grass (*Boutaloua gracilis*). Interior chaparral species include shrub live oak (*Quercus* spp.), skunkbush (*Rhus trilobata*), barberry (*Berberis fremontii*), manzanita (*Arctostaphylos* spp.), California buckthorn (*Rhamnus californica*), century plant (*Agave* spp.), silktassel (*Garrya* spp.), and grama grass (*Boutaloua* spp.). In places these two plant communities are intermingled. Various cactus species are found throughout both of these plant communities. The project also crosses and runs adjacent to riparian communities in several places. These areas include such species as ash (*Fraxinus* spp.), Fremont cottonwood (*Populus fremontii*), Arizona walnut (*Juglans major*), sycamore (*Platanus wrightii*), netleaf hackberry (*Celtis reticulata*), willows (*Salix exigua* and *Salix gooddingii*), and mesquite (*Prosopis velutina*).

The vegetation community occurring along Highway 260 consists of mixed Semi-Desert Grassland (Brown 1994). The entire right-of-way in this section has been previously bladed while constructing the highway and has since been disturbed by off-road vehicles. Vegetation occurring this area consists of three-awn (*Aristida purpuea*), snakeweed (*Gutierrezia sarothae*), apricot mallow (*Sphaeracea ambigua*), prickly pear (*Opuntia phaeacantha*), yucca (*Yucca* spp.), and grama grasses (*Bouteloua* spp.).

Noxious weeds located in the project corridor consist of common purslane (*Portulaca oleracea*), field bindweed (*Convolvulus arvensis*), puncture vine (*Tribulus terrestris*), silverleaf nightshade (*Solanum elaeagnifolium*), and tumbleweed (*Salsola iberica*). Results of the noxious weed survey are detailed in *Noxious and Invasive Weed Survey* (EnviroSystems 2002) located at the Red Rock Ranger District Office in Sedona, Arizona. None of the species observed are in Category A, which is the category with the highest priority for eradication (Phillips et al. 1998). They are all Category C species, which are defined as native and non-native species of a common nature. The most abundant species observed during the survey was silverleaf nightshade. Eighteen different occurrences were noted along and sometimes within FR 708, with densities of one individual to no more than five hundred individuals growing together.

3.4.2 Direct Effects

Effects to native vegetative communities will be similar from either Alternative A or B on FR 708, as all construction will be maintained within the disturbed dirt road right-of-way. No disturbance of vegetation will occur from either alternative.

Trenching and construction vehicles in the area will disturb vegetation along State Highway 260 during construction. Following installation a trench scar will remain until seed placed for revegetation purposes becomes established. Seed species will be native to the area and certified weed-free in Arizona to prevent the introduction and spread of invasive and non-native vegetation. Mitigation measures for invasive species are included in Appendix A.

Spreading of noxious weeds will likely increase from implementation of Alternative A versus Alternative B. FR 708 receives regular traffic use and spreading by this means undoubtedly occurs now. However, the likelihood of increased transport of noxious weed seed may increase from the soil disturbing nature of the proposed installation activities and the increased concentration of equipment

within the road corridor. The weeds currently existing are of low priority at this time (Phillips et al. 1998), but may either be elevated in priority or a higher priority species may be introduced if precautions are not taken.

3.4.3 Indirect Effects

There will be no indirect effects to vegetation from implementing either Alternative A or B.

3.4.4 Cumulative Effects

A lack of negative environmental effects to the vegetation communities from Alternative A or B indicates no added cumulative negative effect when reviewed with other past, present and foreseeable future projects in the greater area. Implementation of the mitigation measures for invasive species included in Appendix A will minimize the potential spreading of noxious weeds in the project corridor. No other similar projects in the project corridor are planned for the foreseeable future that would cumulatively effect spread of noxious weeds. The current situation of the road being used regularly by private land owners and recreationists probably results in the spread of noxious weeds compounded by the lack of weed management along the roadway corridor.

3.5 Wildlife and Management Indicator Species

3.5.1 Affected Environment

Wildlife associated with Great Basin Conifer Woodland include pinyon deer mouse (*Peromyscus truei*), pinyon jay (*Gymnorhinus cyanocephalus*), gray flycatcher (*Empidonax wrightii*), Arizona bushy-tailed woodrat (*Neotoma cinerea arizonae*), gray vireo (*Vireo vicinior*), black-throated gray warbler (*Dendroica nigrescens*), Scott's oriole (*Icterus parisorum*), and the plateau whiptail (*Cnemidophorus velox*). A somewhat larger number of the more adaptable, and therefore, more widely distributed species also may be found in these relatively recent environments (Brown 1994). Other wildlife associated with the Great Basin Conifer Woodland and Interior Chaparral Biomes are Wapiti elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), and eastern cottontail (*Sylvilagus floridanus holzeri*).

Forest Service Management Indicator Species (MIS) are wildlife species representative of different vegetation communities. Long-term changes in the population of these species serve as a barometer of the overall health of ecosystems.

CNF indicator species for ponderosa pine/mixed-conifer and pinyon-juniper vegetation types include elk, red squirrel (*Tamiasciurus hudsonicus*), Mexican spotted owl (*Strix occidentalis*), hairy woodpecker (*Picoides villosus*), mule deer, and juniper titmouse (*Baeolophus ridgwayi*).

TNF indicator species for ponderosa pine/mixed-conifer and pinyon-juniper vegetation types include elk, Merriam's turkey (*Meleagris gallopavo merriami*), Abert's squirrel (*Sciurus aberti*), violet-green swallow (*Tachycineta thalassina*), western bluebird (*Sialia mexicana*), hairy woodpecker, northern goshawk (*Accipiter gentilis*), ash-throated flycatcher (*Myiarchus cinerascens*), gray vireo, Townsend's solitaire (*Myadestes townsendi*), juniper titmouse, northern flicker (*Colaptes auratus*), spotted towhee (*Pipilo maculatus*), warbling vireo (*Vireo gilvus*), western wood pewee (*Contopus sordidulus*), and common black-hawk (*Buteogallus anthracinus*).

During surveys of the road corridor numerous plateau whiptail lizards and scrub jays (*Aphelocoma coerulescens*) were observed.

Habitat surveys of the Fossil Creek corridor were conducted approximately 100 yards on either side of the bridge. Twenty-one birds species were either heard or observed. Three TNF MIS, the ash-throated flycatcher, warbling vireo, and western wood pewee were observed.

3.5.2 Direct Effects

No direct effects to wildlife or MIS from loss of habitat are anticipated as a result of implementation of the preferred alternative or Alternative B. It is possible that some wildlife, including MIS will be directly impacted by construction equipment or vehicles resulting in injury or death. Activities at Fossil Creek will be confined to the bridge preventing impact to the creek or surrounding riparian habitat. No direct effects related to the proposed action will significantly impact wildlife populations.

3.5.3 Indirect Effects

Indirect effects include likely avoidance of the immediate area by various species due to visual and aural disturbance related to construction activities. This will be temporary in nature and should not be significant due to the abundance of similar habitat in the area. No fawning areas or nesting sites were observed in the immediate vicinity of construction activities. Construction activities at Fossil Creek Bridge will not impact any riparian habitat but may result in some bird species choosing other nesting locations up or downstream depending when construction occurs. Construction at Fossil Creek Bridge and one mile either side of the bridge will last approximately one week. Due to the short-term nature of construction most species will likely reinhabit the area immediately following cessation of construction. Proper sediment control measures at Fossil Creek would be taken to minimize possible indirect impacts to Fossil Creek aquatic species from sediment loading related to storm events that may occur during the one-week construction period at Fossil Creek.

Wildlife use of the construction corridor for foraging, nesting, feeding, and migration may decline in the immediate vicinity due to visual and aural impacts related to construction. However, current use is low because the project area is directly adjacent to or on top of existing roads. These impacts should not be significant nor result in long-term negative effects to wildlife populations.

The potential for noxious weeds to be brought in by construction equipment is present and may result in infestation of areas previously free of such weed species resulting in degradation wildlife habitat. Proper weed management techniques will be taken to minimize this potential effect.

3.5.4 Cumulative Effects

Due to the lack of environmental effects to the wildlife communities, there will be no cumulative effects from either alternative.

3.6 Threatened and Endangered, and Forest Service Sensitive Species

3.6.1 Affected Environment

There are 34 federal threatened or endangered species listed by the U.S. Fish and Wildlife Service as occurring in Yavapai and Gila Counties. In addition, there are 75 Forest Service Sensitive species listed as occurring in the TNF and the CNF. All species were evaluated in the *Biological Assessment and Evaluation* (EnviroSystems 2002) prepared for this project. This document can be located at the Red Rock Ranger District Office in Sedona, Arizona.

A total of 40 species, 16 listed threatened or endangered and 24 Forest Service sensitive, were determined to have potential habitat within or adjacent to the project corridor. Twelve threatened or endangered species and 10 Forest Service sensitive species are aquatic species associated directly with Fossil Creek or similar habitats. Table 1 presents the results of further evaluation of these species.

3.6.2 Direct Effects

Direct effects include visual and aural disturbance, which may cause avoidance of the project corridor by some species of wildlife more susceptible to such disturbance. Abundant similar habitat is available for the vast majority of the project corridor. However, the riparian habitat associated with Fossil Creek is unique and highly valuable. Species associated with use of this habitat may utilize areas further up or downstream from the Fossil Creek Bridge during construction activities. The duration of construction activities at Fossil Creek including up to one mile either side of the creek are anticipated to last approximately one week. Disturbance of this nature for such a short duration will not significantly impact threatened or endangered, or Forest Service sensitive species utilizing the Fossil Creek riparian habitat. Bat species that forage along the corridor in the evening will not be affected, as construction activities will be confined to daylight hours. Bats utilizing the cracks and crevices of the cliff face on the easternmost portion of the project corridor may choose to roost in other locations temporarily. No large caves or mineshafts were observed in or adjacent to the project corridor. There will not be any loss of wildlife habitat associated with implementation of the proposed alternative.

Fossil Creek will not be directly affected by the action alternative. In order to ensure that increased sediment loading into the creek will not occur, proper sediment control measures will be taken. As a result, no impacts to fish, invertebrate, or amphibian species associated with Fossil Creek will occur from implementation of either Alternative A or B.

3.6.3 Indirect Effects

Indirect effects include likely avoidance of the immediate area by various species due to construction activities. This will be temporary in nature and should not be significant due to the abundance of similar habitat in the area. No important habitats such as fawning areas or nesting sites were observed in the immediate vicinity of construction activities. Construction activities at Fossil Creek Bridge may result in some bird species choosing other nesting locations up or downstream depending when construction occurs. Due to the short-term nature of construction, most species will likely reinhabit the area immediately following cessation of construction.

Increased sediment loading into Fossil Creek, if not controlled, could impact water quality during storm events and may have indirect, however, temporary impacts to aquatic species. Water quality impacts will be minimized with effective runoff source reduction barriers such as straw bales or silt fencing (see Appendix A).

3.6.4 Cumulative Effects

The ability to mitigate potential effects to water quality of Fossil Creek result in no cumulative effects to threatened and endangered, and Forest Service sensitive species as a result of implementation of Alternative A. No cumulative effects are associated with Alternative B.

Table 1. Special Status Species Evaluation

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
MAMMALS			
Allen's Big-eared Bat <i>Idionycteris phyllotis</i>	0/FS	Ponderosa pine, pinyon-juniper, Mexican woodland and riparian areas of sycamores, cottonwoods and willows. Roost in caves, mineshafts, cliffs, rock outcrops or lava flows.	Potential foraging and roosting habitat present adjacent to FR 708.
Southwestern River Otter <i>Lutra canadensis sonora</i>	0/FS	Historic to the Verde River, Wet Beaver Creek, Oak Creek, and other major tributaries in Verde Valley. In 1981 and 1982, Arizona Game and Fish Department introduced a non-native otter into Fossil Creek and the Verde River near the Fossil Creek and East Verde confluences. This introduced species is successfully reproducing and is most likely the only species that remains in the Verde Valley today.	Potential foraging and breeding habitat may occur in Fossil Creek riparian corridor.
Spotted Bat <i>Euderma maculatum</i>	0/FS	In Arizona, found in dry, rough desert scrub with a few in ponderosa pine forest. Limited observations suggest that they prefer to roost singly in crevices and cracks in cliff faces.	Potential foraging and roosting habitat present adjacent to FR 708.
Western Red Bat <i>Lasiurus blossevillii</i>	0/FS	Often found in trees of fruit orchards, as well as, riparian and other wooded areas. Found at elevations between 1,900-7,200.	Potential foraging and roosting habitat present adjacent to FR 708.
BIRDS			
American Peregrine Falcon <i>Falco peregrinus anatum</i>	0/FS	Steep, sheer cliffs overlooking woodlands, and riparian areas.	Minimal nesting habitat present adjacent to FR 708. Nearest known eyrie in Fossil Creek Wilderness Area. May occur in project area while foraging.
Arizona Bell's Vireo <i>Vireo bellii</i>	0/FS	Occupy dense riparian thickets, as well as, mesquite and oak thickets near water.	Potential nesting habitat present along Fossil Creek between Irving Power Plant and bridge. Two individuals were heard during surveys.
Bald Eagle <i>Haliaeetus leucocephalus</i>	End/FS	Occupy all habitat types and elevations. Nest on cliff ledges, pinnacles or in tall trees.	Nearest nest at Verde River. Known to forage at Fossil Creek. Nesting habitat is marginal.
Brown Pelican <i>Pelecanus occidentalis</i>	End/FS	Coastal land and islands; species found around many Arizona lakes and rivers.	Potential habitat marginal at best. Occurrence incidental.

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
California Brown Pelican <i>Pelecanus occidentalis californicus</i>	End/FS	Coastal land and islands; species found around many Arizona lakes and rivers.	Potential habitat marginal at best. Occurrence incidental.
Common Black Hawk <i>Buteogallus anthracinus</i>	0/FS	Ponderosa pine and mixed conifer zone in the low elevation cottonwood/sycamore riparian type.	Potential habitat may occur in Fossil Creek riparian corridor. CNF reports the closest active nest at Fossil Springs in 2000. Not all active nests are known. Documented activity at Irving Power Plant.
Northern Goshawk <i>Accipiter gentilis</i>	0/FS	Ponderosa pine and mixed conifer types mainly above and around the Mogollon Rim.	Known PFAs are several miles away above the Mogollon Rim. May occur occasionally in area while foraging.
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i>	End/FS	Dense riparian thickets along rivers and streams. Perennial flow, surface water, or saturated soil is particularly necessary in or adjacent to nesting areas.	Small portion of Fossil Creek 50 m upstream is migratory habitat.
Western Yellow-billed Cuckoo <i>Coccyzus americanus occidentalis</i>	Candidate/FS	Streamside cottonwood, willow groves, and larger mesquite bosques for migrating.	Potential habitat may occur in Fossil Creek riparian corridor. Surveys conducted by CNF on Fossil Creek in 1999 revealed no occurrence of this species. Surveys were not comprehensive.
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	Candidate/FS	Streamside cottonwood, willow groves, and larger mesquite bosques for migrating.	Potential habitat may occur in Fossil Creek riparian corridor. Surveys conducted by CNF on Fossil Creek in 1999 revealed no occurrence of this species. Surveys were not comprehensive.
REPTILES AND AMPHIBIANS			
Arizona Night Lizard <i>Xantusia vigilis arizonae</i>	0/FS	Found in arid and semiarid lands of the chaparral-oak belt in central Arizona.	Potential habitat may exist in project vicinity.
Gila Monster <i>Heloderma suspectum</i>	0/FS	Found primarily in Sonoran Desert and extreme western edge of Mohave Desert, to about 4,100 feet elevation. They rarely need to actively search for food above ground due to their low metabolic rates, capacity to store fat within their tail and throughout their bodies.	Potential habitat may exist in project vicinity.

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
Lowland Leopard Frog <i>Rana yavapaiensis</i>	0/FS	This leopard frog prefers permanent stream pools, springs, stock tanks, and side channels of major rivers within desertscrub, grassland and oak and pine/oak woodland habitats. It is found from sea level to 4,800 feet in elevation but more commonly under 3,300 feet. Historically inhabited Sedona and Beaver Creek Ranger Districts.	Potential habitat may occur in Fossil Creek riparian corridor
Mexican Garter Snake <i>Thamnophis eques megalops</i>	0/FS	In Arizona, mostly found in densely vegetated habitat surrounding streams, or near water along streams in valley floors. Generally in open areas, rather than steep mountain canyon steam habitats.	Potential habitat may occur in Fossil Creek riparian corridor.
Narrow-headed Garter Snake <i>Thamnophis rufipunctatus</i>	0/FS	The most aquatic of the garter snakes, found near quiet, rocky pools along large streams and rivers in pinyon/juniper, oak woodlands and ponderosa pine forests. It is primarily a Mexican species, but is known historically from the Mogollon Rim near Flagstaff. Numerous sightings in Oak Creek have been reported.	Potential habitat may occur in Fossil Creek riparian corridor.
Northern Leopard Frog <i>Rana pipiens</i>	0/FS	Occurs in the northeastern quarter of Arizona, usually in montane streams and wetlands that have aquatic vegetation but also in wet meadows at higher elevations. Generally restricted to permanent waters. Known from all districts except Sedona.	Potential habitat may occur in Fossil Creek riparian corridor.
Southwestern (Arizona) Toad <i>Bufo microscaphus microscaphus</i>	0/FS	Occurs in rocky streams, canyons, and floodplains with usually dense riparian vegetation. They breed in gently flowing waters and feed on insects and snails. Generally, they occupy habitat similar to that of leopard frogs.	Potential habitat may occur in Fossil Creek riparian corridor
FISH			
Apache (Arizona) Trout <i>Oncorhynchus apache</i>	Thr/FS	Cool, clear high elevation streams and rivers. Restricted to elevations of approximately 5,780 feet and up.	Outside of known distribution range.
Bonytail Chub <i>Gila elegans</i>	End/FS	Found in mid-sized to large rivers, usually over mud or rocks. In reservoirs they occupy a variety of habitat types, but seem to prefer open water areas. Occur between 2,000 and 6,000 feet in elevation.	No suitable habitat present. Outside known distribution range.
Colorado Pikeminnow (Squawfish) <i>Ptychocheilus lucius</i>	End/FS	Prefer warm, swift, deep river channels with considerable current where crustaceans, and aquatic dipteran larvae are abundant.	No suitable habitat present. Outside known distribution range.
Desert Pupfish <i>Cyprinodon macularius</i>	End/FS	Shallow springs, small streams, and marshes. Tolerates saline and warm water.	Outside known distribution range.

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
Desert Sucker <i>Catostomus clarki</i>	0/FS	Found in rapids and flowing pools of streams, primarily over bottoms of gravel-rubble with sandy silt in the interstices. Desert sucker may be able to tolerate lower oxygen levels than other native stream fishes.	Potential habitat may occur in Fossil Creek.
Flannelmouth Sucker <i>Catostomus latipinnis</i>	0/FS	In Arizona, found in the Colorado River and its larger tributaries in Glen and Grand Canyons, as well as, the Virgin River.	No suitable habitat present. Outside known distribution range.
Gila Chub <i>Gila intermedia</i>	Proposed/FS	Occur in low gradient pools, small streams, marshes, and other quiet places where it remains in deep water near cover. Known to Santa Cruz, Middle Gila, San Pedro, Aqua Fria, and Verde Rivers.	Outside known distribution range.
Gila Topminnow <i>Poeciliopsis occidentalis occidentalis</i>	End/FS	Small streams, springs, and cienegas vegetated shallows. Historically throughout the Gila River, currently, remaining populations are in the Santa Cruz River system.	Outside known distribution range.
Gila Trout <i>Oncorhynchus gilae gilae</i>	End/FS	Only found in the upper Gila River of New Mexico.	Outside known distribution range.
Headwater Chub <i>Gila nigra</i> (formerly <i>gila robusta grahami</i>)	0/FS	Restricted to the Gila River basin, in middle to headwater reaches of middle-sized streams. Locally it is in Tonto Creek and tributaries, East Verde River, Fossil Creek, and other tributaries to the Verde River.	Potential habitat may occur in Fossil Creek.
Humpback Chub <i>Gila cypha</i>	End/FS	Found in riverine habitats, canyon areas with fast current, deep pools, and boulders. In Arizona, found in the Little Colorado River and Colorado River basin, occurring primarily in canyon bound segments of larger rivers.	Outside known distribution range.
Little Colorado Spinedace <i>Lepidomeda vittata</i>	Thr/FS	Pools with water flowing over fine gravel and silt-mud substrates. Streams can be ephemeral, but species persists in pools.	Outside known distribution range.
Loach Minnow <i>Tiaroga cobitis</i>	Thr/FS	Inhabit turbulent, rocky riffles of mainstream rivers and tributaries up to about 7,200 feet elevation. Adult loach minnow are typically found in water flowing 2 to 2.5 feet per second and 6 to 7 inches deep.	Potential habitat may occur in Fossil Creek.

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
Longfin Dace <i>Agosia chrysogaster</i>	0/FS	It is usually found in waters less than 0.6 feet deep, with moderate velocities over pebble/gravel/sand substrate. Is highly opportunistic, moving rapidly into flowing water during periods of high precipitation and runoff to travel amazing distances in relatively short periods of time.	Potential habitat may occur in Fossil Creek.
Razorback Sucker <i>Xyrauchen texanus</i>	End/FS	Occur in streams to large rivers with strong, uniform currents, sandy bottoms, eddies, and backwaters. Historically known from Colorado, Gila, Salt, Verde, and San Pedro Rivers. Currently, adult populations exist only in Mead, Havasu and Mohave Lake's.	Outside known distribution range.
Roundtail Chub <i>Gila robusta</i>	0/FS	Occupy cool to warmwater, mid-elevation streams and rivers. Cover is usually present. Very selective in their choice of pools. Spawning takes place over gravel substrate. Tolerated water temperatures range up to 80° F.	Potential habitat may occur in Fossil Creek.
Speckled Dace <i>Rhinichthys osculus</i>	0/FS	Bottom dwelling species that inhabits shallow, rocky, headwater streams. Rapid, overall responses to high runoff have been recorded, in which the fish was essentially extinct during years of low discharge, but when conditions improved enjoyed high reproductive success and became abundant.	Potential habitat may occur in Fossil Creek.
Spikedace <i>Meda fulgida</i>	Thr/FS	Occupy midwater habitats of runs, pools, and swirling eddies along gravel-sand bars. Spawning occurs in shallow sand and gravel-bottomed riffles. Physical cover in the form of instream or overhead objects does not appear to be a factor in the habitat requirements of the species.	Potential habitat may occur in Fossil Creek.
Woundfin <i>Plagopterus argentissimus</i>	End/FS	Inhabits swift, shallow, sandy bottomed, and often turbid streams. Historically present throughout the length of the lower Virgin River.	Outside of known distribution range.

Species Common/Scientific Name	Status Federal/ Forest Service ¹	Habitat Requirements	Results of Evaluation
INVERTEBRATES			
Comstock's Hairstreak <i>Callophrys comstocki</i>	0/FS	Favors dry, rocky areas of foothills and canyons of the upper Sonoran plateaus from 5,000-6,000 feet in elevation.	Potential habitat may exist in project vicinity.
Obsolete Viceroy Butterfly <i>Limenitis archippus</i> <i>obsoleta</i>	0/FS	Riparian areas generally below 4,500 feet where willows persist.	Potential habitat may occur in Fossil Creek riparian corridor.

¹ **Definitions of resource agency designations:**

0 = no status with the agency

End = federally listed endangered

Thr = federally listed threatened

Candidate = candidate for proposed listing

FS = forest service sensitive

3.7 Soils

3.7.1 Affected Environment

Soils of the project area vary between thermic semi-arid to mesic semi-arid (Hendricks 1985). Thermic semi-arid soils have a higher mean average temperature than mesic semi-arid soils. The specific soil association occurring on the project site (mostly is the west half of the corridor) is Lithic Torriorthents-Lithic Haplustoll-Rock Outcrop Association. Soils of this association are described as shallow, cobbly, and gravelly, strongly sloping to very steep soils and rock outcrop on hills and mountains. Moving south and east the soils are classified as Tortugas-Purner-Jacks Association and described as shallow to moderately deep, gravelly and cobbly medium to fine-textured, undulating to steep soils on hills and mountains. In the eastern most portion of the project corridor, the soils are classified as Cabezon-Thunderbird-Springerville Association. These soils are shallow to deep, gravelly, cobbly, and stony, fine-textured, nearly level to very steep soils on basaltic plains, mesas, and hills. These soils do not have a high erosion hazard rating. The current condition of the soils in the roadway and ditch areas is compacted due to compression by vehicular use.

3.7.2 Direct Effects

In Alternative A, trenching will disturb the soil surface up to 24 inches in width to a depth of up to 48 inches through the use of mechanized equipment. Large equipment will further impact soils in the roadway corridor and along Highway 260. Erosion during potential storm events will further impact soil integrity however; effects will be confined to the bladed road surface of FR 708 and within the previously disturbed ADOT corridor along Highway 260. Following trenching, backfill soils will be compacted to 93%.

Alternative B (no action) has no detrimental effect to soils.

3.7.3 Indirect Effects

No indirect effects from implementation of Alternative A or B are anticipated.

3.7.4 Cumulative Effects

A lack of environmental effects to the soils from Alternative A or B indicates no added cumulative negative effect when reviewed with other past, present and foreseeable future projects in greater area.

3.8 Watersheds and Water Quality

3.8.1 Affected Environment

The Qwest fiber optic cable project occurs entirely within the Fossil-Verde Watershed (pers. comm. Jack Norman, Staff Hydrologist, Coconino National Forest 2002). Several springs occur in the area and feed Fossil Creek. West Clear Creek is the major drainage occurring to the north of Fossil Creek and drains into the Verde River to the west. All drainages in the area including Fossil Creek are tributaries to the Verde River. Waters of Fossil Creek have been diverted for several years to the Childs-Irving Power Plant operation, which is accessed by FR 708. Flows in Fossil Creek have been reduced to approximately 5 cubic feet per second (cfs). Normal flows would be approximately 43 cfs without the diversion. The Childs-Irving Power Plant operation is proposed for decommissioning in the next few years. Restoring full flow to Fossil Creek is proposed. Water quality data for Fossil Creek as reported by the Arizona Department of Water Quality (ADEQ) 2002 report, states results of sampling and monitoring were "inconclusive". Additional sampling will be conducted in 2004. However, most other surface waters in the Verde Watershed attained designated use levels. Information from the Arizona Department of Water Resources (ADWR) states that waters of the Verde River and tributaries such as Fossil Creek have had increased turbidity levels due to increased erosion from grazing, off road vehicles, and other public uses (ADWR 2003). ADEQ is working with agencies to implement Best Management Practices along many surface waters in the Verde Watershed to reduce erosion and sediment loading into streams (ADEQ 2002).

The majority of runoff occurs during the fall and winter months (October to April). Snowmelt, from late February to mid-May produces most of the runoff. Occasional winter frontal storms also produce runoff from heavy or prolonged rain events. Very little runoff occurs during the months of mid-May to October, with the exception of that caused by monsoon rains. Elevation starting from Highway 260 to Fossil Creek ranges from 3300 feet amsl to 3800 feet amsl. Elevation rises abruptly to 5850 feet amsl as the road climbs Deadman Mesa as it approaches the community of Strawberry.

3.8.2 Direct Effects

Standard construction techniques, including erosion control plans, hazardous materials standards and Best Management Practices, are incorporated into Alternative A to ensure that sediment is retained within the construction area and stabilized by completion of the project. No direct effects to watersheds, or water quality are anticipated from implementation of Alternative A or B. The project will not impact any wetlands or floodplains.

3.8.3 Indirect Effects

Alternative A would not result in sediment movement during storm events because appropriate erosion control plans and mitigation will be implemented to contain sediment and to stabilize soils. Therefore there should be none or minimal effects to water quality from Alternative A. Indirect effects to

watersheds are not anticipated from either alternative. The implementation of Best Management Practices (see Appendix A) will minimize the detrimental effects of potential sediment loading into Fossil Creek.

3.8.4 Cumulative Effects

The ability to mitigate potential effects to water quality result in no cumulative effects as a result of implementation of Alternative A. No cumulative effects are associated with Alternative B.

3.9 Scenery

3.9.1 Affected Environment

Existing scenic conditions in the project area generally meet visual quality objectives (VQOs) defined in the Forest Plans. VQOs for the area range from “retention” (R-alterations to natural appearing landscape not apparent) to modification (M - alterations to natural appearing landscape can dominate but must “blend “ to extent practical) in areas unseen from roads and trails. Overall existing scenic integrity in the FR 708 corridor could be defined as “moderate” meaning that the landscape appears slightly altered but with the natural appearing landscape dominant. The Highway 260 corridor has been modified to a much greater extent but is still consistent with intended visual quality objectives of the area.

3.9.2 Direct Effects

Alternative A poses impacts to the scenery of the Highway 260 corridor. Ground cover will be removed and impacted during construction and a trench scar will remain following installation until vegetation has been reestablished. The Fossil Creek Road corridor scenery will be disrupted during construction, but will return to previous conditions immediately following construction. These impacts will be relatively short-term in nature and ultimately Alternative A will meet the current visual quality objectives designated for this area.

Under Alternative B there are no impacts, as no activities will occur.

3.9.3 Indirect Effects

There are no indirect effects to scenery caused by either Alternative A or B.

3.9.4 Cumulative Effects

Since both alternatives meet visual quality objectives in the Forests’ Plans there is not an added effect to visual quality when compared to activities in the greater area.

3.10 Recreation Opportunity and Settings

3.10.1 Affected Environment

A tool used for describing recreation settings on the Forests is Recreation Opportunity Settings (ROS). Characteristics and recreation opportunities in the Fossil Creek area consist of human presence to a mostly natural appearing area with moderate evidence of human activity, mostly roads. Primary access is via Highway 260 and FR 708. Primitive roads connect to the primary roads and provide access to within a mile or less of any place in the area. Two wilderness areas: Fossil Springs on the

CNF and Mazatzal on the TNF occur near FR 708 as it crosses Fossil Creek. Both wilderness areas can be accessed from trailheads near the project area. Other access routes are available.

ROS objectives for the area include "Roaded Natural" (RN - easy vehicle access, sights and sounds of other people are common, moderate to low opportunity for solitude and "challenge and risk", moderate scenic integrity) for areas adjacent the primary roads; and Semi Primitive Motorized (SPM - primitive roads, sights/sounds of others uncommon, moderate/high opportunities for solitude and "challenge and risk", high scenic integrity) for areas accessible only by primitive roads.

A designated wilderness area is an "area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain" (Wilderness Act 1964). Key elements in a wilderness setting are solitude and freedom. No motorized vehicles are allowed and proper backcountry techniques are required.

Overall, recreational use of the area is broad based and expanding, as people in metropolitan areas (e.g., Phoenix, California) seek wildland settings, recreation opportunities, and come to places such as this to get away from it all. Recreation activities include dispersed camping, hiking, mountain biking, fishing, swimming, kayaking, horseback riding, firewood gathering, off-highway vehicle driving, hunting, and driving for pleasure.

3.10.2 Direct Effects

There is no change to ROS objectives as a result of implementing Alternative A. This alternative will not effect access options or other recreation setting parameters to any significant extent once construction is complete. The two trailhead access points will not be closed or blocked for use during construction. Access along FR 708 may be restricted during some construction and may cause a temporary inconvenience for some recreationists but will not impact the overall recreational objectives for any of the designated opportunities in the area.

Noise caused by heavy equipment may disrupt some users' enjoyment of the area, but will diminish with increased distance from the construction zone. Again this will be temporary in nature and will vary in location as construction progresses through the roadway corridor.

Alternative B will have no direct effect on recreation settings or opportunities within the project area.

3.10.3 Indirect Effects

Alternative A or B is not expected to cause adverse indirect effects to recreation opportunities.

3.10.4 Cumulative Effects

Due to the short-term nature of construction activities (approximately 2 months) and resumption of existing conditions following construction, no cumulative effects are anticipated as a result of implementation of Alternative A.

No cumulative effects will result from implementation of Alternative B.

3.11 Cultural Resources

3.11.1 Affected Environment

The project corridor (approximately 20 meters (66 feet) in width) was surveyed by two qualified archeologists, July 23 through 26, 2002. Over thirty previous surveys for archaeological resources have been conducted in the vicinity of FR 708. Ten archeological sites have been recorded within 1/2 mile of the project corridor as a result of these previous surveys, but do not occur within the project corridor. The only previously recorded archaeological site within the project corridor is the Fossil Creek Bridge (Site No. AR-03-04-01-740). Fossil Creek Bridge is listed as a site on the National Register of Historic Places (NRHP).

Under the direction of the respective forest archaeologists, Fossil Creek Road (FR 708) on the Coconino National Forest segment was recorded as an isolated feature (IF) associated with Fossil Creek Bridge and the portion of FR 708 on the TNF was recorded as an archaeological site (AR-03-12-04-1629). The underground fiber optic cable crosses an additional seven historic era IFs. These IFs consist of two poured concrete culverts, three poured concrete bridges over ephemeral washes along FR 708, and two poured concrete road-stabilizing slabs. The seven IFs and the recorded segment of FR 708 (AR-03-12-04-1629) are not recommended as eligible for listing on the NRHP (Hasbargen 2002). The Fossil Creek Bridge, Site No. AR-03-04-01-740 was previously assessed for NRHP eligibility and was found to be eligible for listing (Fraser 1987).

3.11.2 Direct Effects

The project has been designed to accommodate the historic potential of the culverts and bridge crossings on FR 708. The Fossil Creek Bridge (the only listed archeological site) and historic bridges/culverts will be crossed on the surface by placing the fiber optic line in a fiberglass conduit and incasing the conduit in a maximum eight-inch by eight-inch concrete curb on top of the bridge deck paralleling existing interior bridge wall. Expansion joint material will be placed between the curb and the bridge wall. Deck surface will be cleaned of any residual dirt to prepare for placement of curb. The trench will avoid and parallel the road stabilizing slabs.

The bridges/culverts/road stabilizing slabs are recommended as ineligible for listing on NRHP. The proposed project will not adversely affect Fossil Creek Road or the characteristics of the Fossil Creek Bridge, which made the bridge eligible for listing originally. There would be no effect to cultural resources as a result of Alternative A.

No direct effects to recorded archaeological sites are anticipated as a result of implementation of the Preferred Alternative or the No Action Alternative.

3.11.3 Indirect Effects

No indirect impacts to cultural resources will occur as a result of implementation of either alternative.

3.11.4 Cumulative Effects

Since there is not an effect to cultural resources as a result of the project activities there is no added effect as a result of this project (Alternative A) or the No Action Alternative (Alternative B).

3.12 Air Quality

3.12.1 Affected Environment

The project area occurs in an attainment area for air quality meeting the National Ambient Air Quality Standards for six criteria pollutants as adopted by the State of Arizona. The nearest non-attainment area occurs at Payson, Arizona approximately 20 miles southeast of the project corridor. The Mazatzal Wilderness Area is a mandatory federal "Class I" area for the purposes of the visibility protection program (EPA 2003). The portion of the northern edge of the Mazatzal Wilderness Area is bordered by Fossil Creek Road.

3.12.2 Direct Effects

Localized and temporary air quality degradation will be associated with construction activities. Impacts to air quality can be controlled and mitigated through regular watering at the site of construction. Once construction activities cease air quality will return to preconstruction conditions. Increased traffic associated with fiber optic line installation will likewise degrade local air quality to a minor extent and air quality comparable to previous conditions will return upon completion of construction activities. Impacts to air quality are not anticipated to conflict with air quality regulations for the Mazatzal Wilderness Area or the air quality attainment for the project area or region.

3.12.3 Indirect Effects

No indirect impacts to air quality resources will occur as a result of implementation of either alternative.

3.12.4 Cumulative Effects

Impacts to air quality will be localized and temporary and will cease upon completion of construction activities. Mitigation in the form of watering of the site would minimize fugitive dust associated with construction. Since impacts to air quality have a finite timeframe and can be controlled to a large extent, no cumulative impacts to air quality associated with either alternative are foreseen.

3.13 Environmental Justice

3.13.1 Affected Environment

The issue of environmental equity and justice in natural resource allocation and decision-making is receiving increasing political and social attention. Following President Clinton's Executive Order 12898 (Federal Register, February, 1994) all federal land management agencies have been mandated to address environmental justice in nonwhite and/or low-income populations, with the goal of achieving environmental protection for all communities regardless of their racial and economic composition.

3.13.2 Direct Effects and Indirect Effects

Alternative A does not result in disproportionate impacts to low-income populations, nor does it impact minority populations.

Alternative B also does not result in disproportionate impacts.

3.13.4 Cumulative Effects

Alternative A does not result in disproportionate impacts to low-income populations, nor does it impact minority populations because of the project location in along existing roads in an unpopulated area.

Alternative B also does not result in disproportionate impacts.

CHAPTER 4: AGENCIES AND INDIVIDUALS CONSULTED

This project was listed on the Coconino Schedule of Proposed Actions (SOPA) and first appeared in Spring 2002 and all subsequent issues. The SOPA is available for viewing on the Coconino National Forest website. Additionally a public notice was placed in three area newspapers in August 2002.

The following list of individuals and agencies were consulted in the preparation of this EA document.

Red Rock Ranger District Staff, Coconino National Forest

Payson Ranger District Staff, Tonto National Forest

David Harlow, U.S. Fish and Wildlife Service

Sabra Schwartz, Arizona Game and Fish Department

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